



**Proceedings of the 14<sup>th</sup> International Conference  
of the Society for Global Business & Economic  
Development (SOBEDI)**

**Global Connectivity, Knowledge and Innovation for  
Sustainability and Growth: New Paradigms of Theory and  
Practice**

**Editors**

**Vidya Atal  
Ram Sewak Dubey**

**Montclair, New Jersey, USA  
June 21-24, 2016**

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# **Society for Global Business & Economic Development (SGBED): Two decades of Accomplishments**

■ **Dr. C. Jayachandran, President, SGBED**

It is my honor to present to you all the 14<sup>th</sup> SGBED conference organized at the beautiful facilities of the Feliciano School of Business in June 21-24, 2016. We are grateful to Montclair State University President Dr. Susan A. Cole for her interest in SGBED activities as reflected in her participation and presentation of keynote addresses in several of our conferences. Dr. Cole's continued support and encouragement to engage in international collaboration that advance research and teaching had a significant impact on our accomplishments. Our Provost Dr. Willard Gingerich, Feliciano School of Business Dean Dr. A. Gregory Cant and Vice-Dean Dr. Kimberly Hollister, and Dr. Robert Prezant, Dean, College of Science and Mathematics have enthusiastically supported the idea of bringing the SGBED 14<sup>th</sup> conference to Montclair and helped in crafting a theme that reflects the interdisciplinary nature of the conference. They have provided generous support in terms of financial, physical and above all the encouragement to make this possible. Almost two decades ago, thanks to a US Federal grant Dr. Philip LeBel, former dean of the MSU Business School and myself had an opportunity to meet with President Dr. Sun Weiyan and Dean Dr. Lin Guijun at the University of International Business and Economics (UIBE) in 1995 in Beijing and developed a collaborative proposal to advance academic research and scholarship at an international level and today I am happy that this initiative had matured over the years.

Driven by the above objective, SGBED had successfully implemented 13 major conferences in Beijing (1997, 1999, 2000), Guangdong (1998), Chennai (1998), Bratislava (2001, 2009), Bangkok (2003), Guadalajara (2004), Seoul (2005), Kyoto (2007), Singapore (2011), Ancona, Italy (2014). Five research symposia were implemented in Nanjing (2015), IIM Bangalore (2012), Barcelona (2010), Dubai (2009) and Bangkok (2006). These conferences and research symposiums have attracted more than 4,000 academics and generated peer reviewed publications in 20 volumes of proceedings containing more than 2,000 research papers and several special issues of peer reviewed journals, and five books of readings.

**Highlights of the 14<sup>th</sup> Conference held at the Feliciano School of Business:** The SGBED conference presented at the brand new facility of the Feliciano School of Business reflects a feeling of home coming and an accomplishment which started with an informal relationship between Montclair State Center for International Business (CIB) and UIBE, had now matured with a global reach to advance interdisciplinary research that focus on international business and development issues. The 14<sup>th</sup> conference is jointly presented by Feliciano School of Business and Montclair State PSEG Institute for Sustainability Studies along with UIBE, Curtin School of Business, EADA Business School, FOX School of Business, IIMB, Comenius University in Bratislava, University of Guadalajara, VIT University, and other partner institutions.

Unlike the earlier conferences, the 14<sup>th</sup> conference is presented in a four day format to facilitate pre-conference workshops: doctoral symposium for Ph.D. scholars and a workshop on manuscript development; besides the conference facilitates a full-day event, "Understanding Global Value Chains: How to Prepare Students for Success in an Increasingly Interconnected World" for Community College faculty and administrators from the Northeast. This event is presented by the Centers for International Business Education & Research (CIBERS) of Temple Fox School of Business, University of Connecticut and Michigan State. The main conference is organized into plenary sessions, multiple concurrent sessions and a poster session to facilitate discussion of more than 150 research submissions from 30 + countries. For the first time, the 14<sup>th</sup> conference will use Skype to facilitate such of those participants who cannot participate in person. Besides publishing the conference proceedings, the conference will facilitate publication of selected papers in five peer reviewed journals. The conference will end with a gala dinner, awards distribution and a cultural tour of New York City.

Most importantly, this conference wouldn't have been possible without the dedicated work of several colleagues. Our Co-Chairs, Drs. Yam B. Limbu and Susana Yu, proceedings editors Drs. Vidya Atal and Ram Dubey, and Dr. Amy Tuninga, Director, PSEG Institute of Sustainability Studies, along with a committed group of

50 + regional coordinators, Phil Mattia at Feliciano School of Business and Ms. Martina Brogliotti at Universita Politecnica delle Marche, Italy who managed the web support have been instrumental in making this conference possible.

**Making the Academic Conferences Affordable & Impactful:** Unlike other academic organizations, SGBED does not collect annual membership fee and largely depend on institutional support, sponsorships and the support provided by a large network of coordinators make these conferences affordable and also global. Besides our participants like the SGBED format as it provides a balance between academic scholarship and practice by presenting leaders from government and business.

**Notable Government Leaders:** Government officials who spoke at the SGBED conferences include: China: The Vice-Premier Hon. Li Lanqing, Madame Wu Yi, Ministry of Foreign Trade and Economic Cooperation, Hon. Chen Yuan, Dy. Governor of Peoples' Bank of China, Hon. Wang Guangxian, Dy. Governor of Guizhou Province; India: Her Excellency Justice Fathima Beevi, Governor of Tamil Nadu, The Tamil Nadu Hon. K. Anbazhagan, Minister of Education, The US Consulate General Ms. Michele J. Sison, Slovakia: The Charge D'Affairs of the USA in Slovakia, Mr. Douglas C. Hengel, Hon. Ivan Miklos, Deputy Prime Minister of Slovakia for Economic Affairs, Hon. Lumomir Fogas, Deputy Prime Minister of Slovakia for Legislation and Maria Kadlecikova, Deputy Prime Minister of Slovakia for European Integration.

**Nobel Laureates & Leaders from Academia:** Former President of Montclair State University Dr. Irvin Reid, and President Dr. Susan A. Cole have delivered keynote at different conferences in China, Mexico, Bratislava and Bangkok; Dr. Edmund Phelps, Nobel Laureate in Economics delivered a keynote in Bangkok; and Dr. Ferid Murad, Nobel Laureate gave a keynote on science and development in Mexico. Dr. Peter Buckley, former President, Academy of International Business (AIB) delivered in keynote in Beijing; Dr. Howard Thomas, former AACSB President and Dean of the Singapore Management University, Provost & Professor Dr. Raj. Srivastava and Dr. G. Viswanathan, Chancellor, VIT University delivered a keynote in Singapore.

**Notable Business Leaders:** Dr. Raja Mitra of World Bank, Mr. Max Qu, Chairman & CEO of HI Sun Technology Ltd, Mr. Steven Carroll, China Group Controller of Motorola, Mr. Bill Bowers, VP & Controller of Motorola, Mr. Peter O'Connor, CEO, Asia Pacific Region for CIGNA International, Dr. Michael Zipp, MD, Henkel Investment CO. Ltd, Mr. David Alstrom, VP, Ericsson (China) Company Ltd, Mr. Andy Lai, Greater China Marketing Director for HP, Mr. John Parker, Chairman, American Business Council, and Mr. Ron Sommers, CEO, Mangalore Power Co, Mr. Slaomir Hatina, Chairman of the Board of Directors of Slovnoft, Mr. Jozef Uhrík, General Manager of Volkswagen, Mr. Stefanec, President, Coca-Cola Beverages, Mr. Marian Nemeč, President, National Bank and Mr. Ludomir Slahor, President, EXIMBank were invited to deliver keynote in Beijing, Chennai, Bangkok, Seoul, Kyoto and Bratislava.

**Notable Corporate Sponsors:** Ford Operations Ltd (Thailand); Sony Corporation Ltd; Fuji Xerox Ltd; Slovnoft, a.s. Bratislava; ProCS s.r.o (Slovakia); US Steel Corporation Ltd (Slovakia); Cigna Corporation Ltd; Ericsson, China; Motorola (China) Electronic Ltd; Henkel China Investment Corporation Ltd; China Cotton Industries Ltd; Hi-Sun Technology Ltd; Henda Iron & Steel Group Co. Ltd, China; Sealed Air Corporation, NJ; Precision Custom Coatings LLC, NJ; Shinawatra Corporation Ltd (Thailand); PTT Exploration and Production Plc (Thailand); Konica Minolta, Rohlm Corp; Murata Machinery Corp; Kyocera (Japan); Sun Microsystems (Korea), S.K. Telecom (Korea), Omni Life, Sophia Laboratories, InterAmerican Investment Corp (Guadalajara), and others sponsored our conferences in different locations.

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Dr. Yam B. Limbu & Susana Yu: Feliciano School of Business, Montclair State University, NJ (2016)

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Dr. Lin Guijun: University of International Business & Economics (UIBE) Beijing (1999, 2000)  
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Dr. Sherriff Luk: Nanjing University of Finance & Economics (2015)  
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**Some thoughts for the Future:**

SGBED is soliciting institutions to sponsor the 6<sup>th</sup> research symposium in the summer of 2017 and the 15<sup>th</sup> International conference in the summer of 2018. Interested institutions or coordinators can submit a proposal. SGBED also invites proposals to establish a journal, either online or in print. Any scholar interested in taking a leadership towards this effort is invited to submit a proposal.

**Thank you for your continued support and cooperation.**

## **Preface**

The world is becoming increasingly interconnected across all fronts at an unprecedented pace; it is deemed that networks, knowledge and innovation, and entrepreneurship drive growth and development. The rise of emerging markets and growth of global supply chains are attributed to globalization and ICT; nations and firms continue to form strategic levers using the power of comparative advantage; and human capital worldwide is becoming more mobile and virtually engaged despite the national boundaries. The developments have also caused dramatic structural and organizational changes and disruption of traditional businesses and job markets. Global investments in commodities and indiscriminate exploitation of natural resources affected the sustainability of global ecosystems. Equal access to education, knowledge and health are also under the microscope. The challenges of rising inequalities in wealth and income, economic stagnation, unemployment, and the impact of globalization have also taken the center stage of public discourse. These trends bring heightened levels of responsibility to business, institutions and society.

In view of the strategic importance of these challenges, the 14<sup>th</sup> International Conference of the Society for Global Business & Economic Development (SGBED) invited academic and professional perspectives in the form of empirical research, case studies and applications on a wide range of related topics. The overwhelming response received from scholars and practitioners from around the world bear testimony to the importance of the chosen theme and currency of the conference.

The papers included in these Proceedings have been selected through a rigorous review process of over 300 scholarly papers. Both full papers, as well as selected papers in the abstract form are published here. Altogether, the selected papers and research abstracts represent over 150 universities located in 40 different countries. The sheer size and scope of the conference necessitated the publication of the proceedings in the CD-ROM format.

The full papers have been divided in broad categories of themes: Accounting, taxation and business law; Economics, finance, real estate, banking and public policy; Entrepreneurship, SMEs and NGO; Information technology and operation management; International business, MNEs and global issues; Management, organizational behavior, corporate governance, legal issues and human resources; Marketing, services, e-commerce, sports and tourism; Pedagogy; and Sustainability and environmental issues. These papers cover a broad range of issues. To name a few, the topics related to global, regional and country level trends in trade and investment, innovations and volatility in financial markets, rapid advancement of Information and Communications Technology and its influence on business delivery system, pedagogy, sports tourism, new trends in risk and resource management, cultural conflict, environmental equity and challenge of sustainable growth, choice of appropriate corporate governance system, and, enforcement of international accounting standards have received a great deal of attention in the conference contributions. Accordingly, the papers have been grouped under 9 sections representing the major topics of the conference. An additional section, section 10, has been added to accommodate all the selected abstracts with interesting ideas for future research.

Contributions from authors around the world helped make this volume an integrated, cohesive inquiry into the major drivers of global business today and the required directions for sustainable growth in business activities in the future. We express our sincere gratitude to all these authors.

We believe these proceedings offer some of the best information available in the area of global business and economic development. We hope this publication will contribute to the success of those willing to pursue scholarly research on global business trends in the context of a changing environment.

*Editors*

**Disclaimer:**

All papers and abstracts included in this volume have been formatted to ensure uniformity in style of representation. Uniform formatting could possibly modify some of the figures appearing in the papers. In view of the variations in writing styles and language proficiency of the authors, proof reading of these papers was kept confined to ensuring conformity with the APA style. Harmonization of language skill reflected across papers was beyond the scope of the editorial process. Language and grammar used in the papers, thus, remain to be the sole responsibility of the respective authors.

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**Track: Accounting, Taxation and Business Law**

## ***Implications of Corporate Tax Inversions***

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### **Abstract**

*Minimization of taxes through the use of a tactic known as “tax inversion” has now become a common and pervasive practice among large multinational corporations. Tax inversion is a strategy where a U.S. Corporation makes a deal with a foreign corporation and simply re-incorporates overseas. Hence, the U.S. Corporation changes its address and domicile to a foreign low tax jurisdiction. By doing so, the U.S. Corporation reduces its U.S. tax obligation. However, the company still maintains its material operations in the U.S. The high U.S. tax rate on U.S. Corporations is applicable to worldwide income. However, as a foreign corporation, the new corporation’s non-U.S. source earned income is no longer subject to U.S. taxes but is only subject to the low tax rate of the foreign jurisdiction. Therefore, the U.S. tax rate is only applicable to the portion of its income earned in the U.S. These practices are considered to be perfectly legal, wise and strategic business practices aimed at avoiding taxes and increasing the company’s income. Nevertheless, these inversions are seen as contributing to billions of dollars in lost revenue to the U.S. economy. Hence, it is believed that these inversions should be curtailed. This paper discusses economic, political and other considerations related to corporate tax inversion strategies. Several possible solutions to curb these tax avoidance tactics are presented and discussed and could be of significant benefit to legislators, standard setters, researchers as well as a host of other interested parties.*

**Keywords:** Multinational Corporation (MNC), repatriation, tax inversions, tax havens, tax avoidance, tax evasion, double Irish arrangement, trapped earnings, earnings stripping, skinny-down, cash-boxing and un-repatriated foreign earnings.

### **Introduction**

In recent years, there has been a proliferation of U.S. Corporations changing their legal location to a low or no tax foreign corporation’s domicile via a sale, merger or repurchase of shares. These are known as tax inversions. The major benefit of a tax inversion is avoidance of U. S. taxes on foreign source earned income. Other benefits that accrue to a corporation are synergies of operations, economies of scale, ability to release trapped cash and long-term shareholder benefits. In this paper, we discuss ways in which a corporate tax inversion is accomplished, reasons for tax inversions, the political, economic and other implications of corporate tax inversions. We also provide several examples of recent inversions. Further, we discuss the controversy surrounding these tax avoidance tactics. Finally, we explore possible strategies that can be utilized to curb corporate tax inversions. Issues examined in this paper can be useful to stakeholders, corporate managers, tax standard setters, legislators, researchers and others.

### **Background**

The U.S. has a worldwide approach to taxation. Hence, all of a U.S. Corporation’s earned income is subject to U.S. taxes, no matter whether it is from U.S. sources or from foreign sources. Hence, a U.S. Corporation’s earned income is taxed at the rate of 35% and income earned in foreign jurisdictions is taxed when it is repatriated (brought back) to the U.S. This may result in the earnings of a foreign subsidiary being taxed in the foreign jurisdiction and

also being later subject to U.S. tax. Despite the fact that the U.S. Corporation may receive a credit or a deduction on taxes paid in the foreign jurisdiction, this may still sometimes result in double taxation of some of the Corporation's income. However, a major objective of most MNCs is to minimize their costs in order to retain more of their income. Since tax is a real cost of doing business, engaging in tax avoidance strategies results in paying as little tax as possible and assists in achieving the cost minimization objective. One such tax minimization strategy is the utilization of corporate tax inversions.

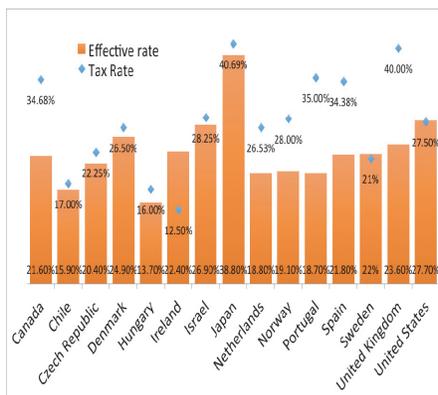
**What is a Corporate Tax Inversion?**

Generally, a corporate tax inversion transpires when a U.S. corporation makes a deal with a foreign corporation and changes its legal domicile to that of the corporation located in a low tax foreign jurisdiction or tax haven. In many cases, the foreign corporate subsidiaries of the U.S. corporations are the buyers. Thus, the U.S. Corporation's shares are sold, dissolving its existence. Shares of the company are repurchased by the foreign corporation, with the formation of a new foreign domiciled corporation. In other cases, the U.S. Corporation remains in existence but the foreign subsidiary is flipped to become the parent of the U.S. Corporation. Alternatively, the U.S. Corporation becomes the new subsidiary. Further, the inversion is sometimes accomplished by transferring ownership of the target to the new foreign corporation or merging the U.S. Corporation into a foreign corporation so the U.S. Corporation goes out of existence. Despite the method used to achieve the corporate inversion, the purpose is to achieve the tax minimization objective. Hence, the newly formed foreign corporation continues to operate as usual in the U.S. The main purpose is to avoid U.S. taxes on the corporation's foreign source income. In some cases, the two corporations may be unrelated but have similar lines of business.

**Benefits of a Corporate Tax Inversion**

While there are many benefits to corporate inversions, a Multinational Corporation (MNC) can also benefit in a host of ways. The most obvious is in terms of tax savings. The U.S. imposes taxes on a Corporation's worldwide income, hence income earned in the foreign jurisdiction are also subject to U.S. tax. Further, the U.S. has a 35% tax rate. As compared to many other countries, the U.S. tax rate is considered to be very high (See Exhibit 1). By relocating its domicile to a low tax jurisdiction or a tax haven country, the MNC can realize significant tax savings.

**Exhibit 1 – Tax Rates in Selected Countries**



(<http://home.kpmg.com>, 2015)

If the goal of the firm is to expand its operations into another continent, for example, into Europe, then the MNC may consider relocating to Ireland, the Netherlands or some other low tax or tax friendly European country. In this manner, the MNC can then benefit from reduced tax expense while at the same time having a local base from which to conduct business. Further, the new company could also use accumulated foreign earnings for future U.S. investments without having to pay any repatriation taxes. Hence the major benefit of corporate inversions is lower taxes, which equates to an increased bottom line.

One popular location for corporate tax inversions is Ireland. Unlike the U.S. that has a worldwide taxation approach, Ireland has territorial taxation. Hence, Ireland does not levy taxes on income booked in subsidiaries of Irish companies that are outside of Ireland. Its attractiveness also is the use of the English language combined with its common law traditions and attractiveness of incorporation laws. Further, of great significance, is Ireland's low corporate income tax rate. As can be seen in Exhibit 1, the Irish nominal tax rate on corporate earnings is 12.5 percent and its effective tax rate is 22.4 percent. These rates are substantially lower than many other developed countries.<sup>1</sup>

Usually, the effective tax rate in a country is lower than its nominal tax rate. However, a few countries, like Ireland, have a higher effective tax rate than its nominal tax rate. The reason for this is due to the mix of rates utilized in the calculations as well as the methodology utilized to calculate a country's effective tax rate. Further, there are many approaches utilized for the calculation of a country's effective tax rate.

Notwithstanding the methodology utilized to calculate a country's effective tax rate, due to the numerous tax incentives, credits and tax relief often provided in jurisdictions, many inverted companies pay extremely low taxes. For example, inverted companies domiciled in Ireland often pay as little as 0 to 2 percent tax on earnings to the Irish government. For example, it was alleged in the U.S. Senate hearings that Apple negotiated a 2 percent tax rate with the Irish revenue commissioners and through the use of two Irish companies, known as a '*double Irish*,' Apple pays only .05 percent tax on foreign profits. The *double Irish* arrangement is a tax strategy used by MNCs to lower their corporate tax. It is called double Irish because the arrangement uses two Irish companies. One of the companies is a tax resident in a tax haven country, like Cayman or Bermuda. This tax minimization structure was first used by Apple Inc. and other companies in the 1980s. In 2013, the Irish government stated that companies which incorporate in Ireland must be residing there. This measure to thwart the double Irish arrangement became effective in January 2015 for newly incorporated companies and will take effect in 2020 for companies with existing operations in Ireland.

Other than tax savings, there are additional reasons why corporations engage in inversions. Some of these are higher net income, synergies of operations particularly for manufacturing companies and economies of scale in the case of pharmaceutical companies. By inverting, corporations may also be able to release cash that has been trapped in foreign countries and use it to expand their business. Further, the MNC may be able to distribute cash and dividends to shareholders and realize increased stock price and long-term shareholder value. Generally, the new firm simply gets a small tax home office in the foreign jurisdiction. Hence, after inversions, the operations of most American companies remain undisturbed since their U.S. offices are not transferred to its new tax home. Further, the employees of the pre-inversion company continue to work in their U.S. home offices within the newly-formed firm just as they did in the past. Hence, it may be noted though that in many cases, tax inversions are undertaken by the MNCs without any intention of expanding the company's operations.

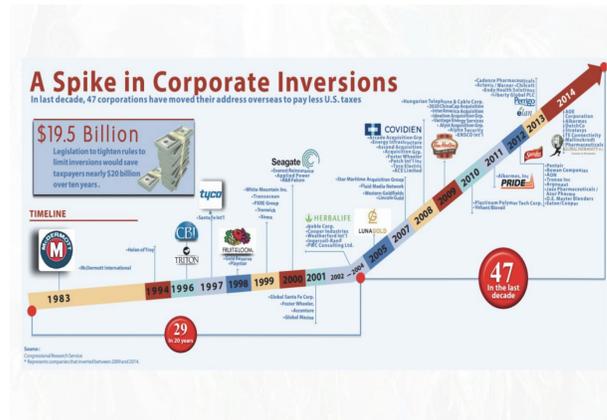
### **History of Corporate Tax Inversions**

The first documented tax inversion was McDermott, Inc., an American oil and gas company. In 1982, McDermott declared its subsidiary in Panama as the parent company and its new tax location. The U.S. Corporation remained in existence but its existing foreign subsidiary with accumulated earnings was flipped to become the parent of the U.S. Corporation. This corporate plan was challenged by the U.S. tax authorities but resulted in no

tangible effect. By flipping the corporate structure, McDermott was able to avoid paying taxes on earnings accumulated in the Panama-based subsidiary. These accumulated earnings are what are referred to today as **“trapped earnings.”** These earnings are not subject to U.S. taxes until they are distributed and repatriated back to the U.S.

The next noteworthy inversions were Helen of Troy Limited in 1994 which did the same as McDermott with a newly formed subsidiary and Tyco International in 1997, both to Bermuda, followed by Fruit of the Loom to Cayman Islands in 1998. These were also challenged by the U.S. authorities again without any effect. Subsequent inversions were accomplished either by transferring ownership of the target company to a new foreign corporation or merging the U.S. Corporation into a foreign corporation, dissolving the U.S. Corporation. Nevertheless, in either case, the transaction falls outside of the 60 or 80 percent tests in order to not still qualify as a U.S. Corporation for tax purposes. Since that time, over seventy-five (75) inversions have taken place. Further, the controversy over these transactions remains even more relevant today than the first inversion (Hwang, 2015) (See Figure 1).

**Figure 1 – Corporate Inversions (1983-2014).**



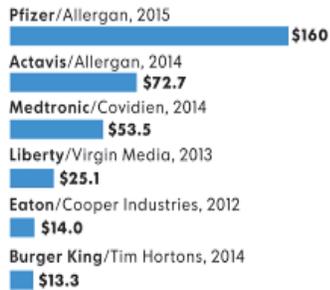
**The Pfizer/Allergan Deal**

The most recent U.S. Corporation in the headlines planning to “relocate” overseas is Pfizer, Inc. which planned to merge with Allergan plc, located in Ireland, to form Pfizer plc. At \$160 billion, the Pfizer/Allergan deal was slated to be the largest tax inversion deal in history (See Exhibit 2).

## Exhibit 2: Largest Tax Inversion Deals

### LARGEST TAX-INVERSION DEALS

Ranked by value (in billions):

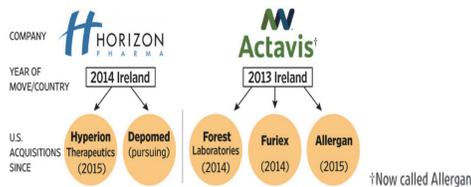


SOURCE: Dealogic  
Jim Sargent, USA TODAY



Before the proposed deal, Allergan had previously merged with a host of smaller companies (See Exhibit 3). Hence, at \$160 billion, the Pfizer/Allergan deal was considerable. After the merger, the new combined corporation's global operations were to remain headquartered in New York while its principal operations were to be operated in Dublin, Ireland, Allergan's tax home and continue to operate as Pfizer, plc. Under this deal, Pfizer expected to cut its tax rate to 17-18 percent from its current 25 percent rate.

### Exhibit 3: Previous Mergers of Allergan PLC.



WSJ.Online (11/2015)

### Pfizer/Allergan May Not Technically Have Been Classified as a Corporate Inversion

Although it has all of the characteristics of a corporate tax inversion, Pfizer contended that the deal was not technically a corporate inversion due to the way in which the particular deal was formed. The Pfizer/Allergan deal was structured with the smaller Allergan taking over Pfizer with Allergan shareholders controlling 44 percent of the combined company and Pfizer controlling 56 percent. With this controlling percentage, the deal was structured well below the 60 to 80 percent of most inversions. Therefore, while the combined Pfizer/Allergan Company was not technically structured as what is traditionally known as a tax inversion, it is clear that the Pfizer-Allergan deal achieved the same goal of lowering the Corporation's tax rate ([www.nytimes.com](http://www.nytimes.com), 11/24/2015).

### November 2015 U.S. Treasury Rulings to Crack Down on Corporate Inversions

Ironically, on November 19, 2015, just four days before Pfizer made an official announcement, the deal was renegotiated by the two companies. On that same day, the U.S. Treasury also issued new rules aimed at curtailing corporate tax inversions. One rule made it more difficult for the smaller foreign company to take over a

larger U.S. company. In the past, most inversions were structured with the U.S. Company owning 60 to 80 percent of the new merged company but still considered to be a foreign company for U.S. tax purposes. Under the Treasury's rule, the U.S. Company must own less than 80 percent of the new foreign company in order to qualify as a foreign company for tax purposes. Hence, when the former American parent's ownership is greater than 60 to 80 percent of the new company, the merger would still be allowed but with significant negative U.S. tax consequences. In other words, the U.S. subsidiary would still be subject to U.S. taxes on foreign sourced income.

In addition to the above requirement, the U.S. Treasury addressed the practice known as '**slimming down.**' This is when large dividends are paid out by a U.S. Company just prior to its inversion deal. This essentially results in shrinking the size of the U.S. Company and making it more comparable in size to the foreign company. Alternatively, sometimes steps are taken to '**fatten up**' the smaller foreign company just prior to the inversion deal. Under the new U.S. Treasury ruling, the dividends paid out by the U.S. Company will not count towards the size of ownership of the merged company. Hence, this new rule will make it more difficult to avoid the U.S. tax consequences of the merged company.

MNCs only have to pay U.S. tax on their foreign earnings when they are brought back (repatriated) to the U.S. However, inverted companies have been getting around this rule by the use of loans, known as '**Hopscotch Loans.**' This is when companies get around paying taxes on dividends by instead distributing their earnings in the form of a loan to the new foreign parent. These funds can then be utilized for capital and other projects in the U.S. with the interest being deductible on U.S. earned income. To avoid this Hopscotch loan practice, the U.S. Treasury passed a second rule that now makes these loans to be treated as dividends in the U.S. and now be taxable to the U.S. subsidiary.

### **Impact of the November 2015 Treasury Rulings on Tax Inversions**

Due to its proposed structure, the Pfizer/Allergan deal was not technically classified as a corporate tax inversion. The reason for this is that the merger is below the U.S. Treasury's requirement to be considered an inversion. Nevertheless, it is important to discuss mergers such as the proposed deal together with corporate tax inversions, because it could help to address the current tax code matters in deterring domestic corporations from fleeing the U. S. to avoid U. S. taxes. It was reported that the Pfizer/Allergan merger deal was renegotiated as late as only four days before Pfizer's official announcement on November 23, 2015 regarding the planned merger. Ironically, that was the same day that the U.S. Treasury issued rulings regarding the characteristics to qualify as a corporate tax inversion. Based upon the structure of the Pfizer/Allergan deal, there is no doubt that the MNC's team of experts, including Goldman Sachs and its many advisors including former politicians were swift to fine-tune the details of the merger in order to comply with the newly released 2015 Treasury regulations. This suggests that Corporations are quick to react to any actions and rulings taken by the U.S. Treasury in an attempt to continue their strategies of avoiding U.S. taxes.

### **New April 2016 U.S. Treasury Ruling**

Pfizer and Allergan were well positioned to execute their deal and their proposed merger caused ripples among officials, investment experts, shareholders and the general public. The deal was all set to be finalized within the next few months. However, on April 4, 2016, the U.S. Treasury Department stopped the Pfizer/Allergan deal dead in its tracks when it imposed tough new requirements on corporate inversions.

The aggressive Treasury Ruling contained two actions. The first action disregards U.S. assets acquired by such companies over the *previous three years* in the calculation of the 60 percent threshold. As discussed above, Allergan was a small company (Actavis) that had acquired a host of companies in cross-border deals in the prior three-year period. Under the new Treasury regulations, those deals would be disregarded for the purpose of determining Allergan's size under the tax law (Rubin & Hoffman, WSJ, 4/4/2016). By stripping those previous

deals/mergers out of Allergan's market capitalization of \$106 billion, the U.S. Treasury reduced the firm's size, making it too small to serve as Pfizer's inversion partner. Hence, it was impossible for Allergan to have been big enough three years prior to the deal to meet the 60 percent requirement in order to qualify for the inversion under the inversion rules.

The new ruling also would limit the financial benefits of the arrangement since to reap the full benefits of inverting, the U.S. company shareholders should own between 50% and 60% of the merged entity. The Pfizer/Allergan deal was carefully structured, so that Pfizer's shareholders would own 56 percent of the company. However, the new percentage under the new ruling would be between 60 and 80 percent. At this point, the benefits of inversions such as accessing foreign profits would be lost.

It appears as if this new April 2016 Treasury Ruling was squarely aimed at the Pfizer/Allergan transaction. The Ruling immediately resulted in the cancellation of the Pfizer/Allergan merger. The two involved corporations contend that the deal had been undertaken in compliance with the U.S. laws that were in effect at that time. However, by passing the new Rulings after the deal was in play, the U.S. had essentially changed the goalpost during the game.

The second action of the U.S. Treasury Ruling limits "earnings stripping." The practice allows inverted companies to lend money to their U.S. subsidiaries. This strategy moves deductible interest from the combined corporations to the U.S. and thus reduces the Corporation's U.S. income subject to the 35 percent tax.

#### **Impact of the Recent April 2016 Treasury Ruling Regarding Inversions**

The new Treasury Ruling became immediately effective on April 4, 2016. Hence it applied to mergers and others deals which were currently in the process as well as all intercompany debt issued after April 4, 2016. This new Ruling has numerous implications for deals that are currently in the process as well as future tax inversions. It also has implications for U.S. MNCs. It will make potential inverters and foreign acquirers think twice before undertaking inversion deals. This new Ruling is considered by many as punitive and demonstrates that the Treasury may come in at any time and change the rules. This type of action may make it more difficult for U.S. MNCs to make future plans. This uncertainty could hurt U.S. companies and discourage mergers, acquisitions and other investments. It will undoubtedly place U.S. MNCs at a competitive disadvantage. In fact, it might give foreign MNCs an advantage over U.S. MNCs in that they can enter the U.S. without having to comply with the same rules that are applicable to U.S. MNCs.

#### **Impact of Corporate Tax Inversions on Shareholders**

The question arises of whether MNCs who invert are indeed behaving in the best interest of their shareholders or are just being self-serving. When a corporate inversion is completed, the MNC is able to minimize its tax bill. Since lower taxes equates to increased income, this income can indeed indirectly pass along to shareholders in the form of increased distributions and dividends. This leads to increased shareholder value. In addition to the tax and other benefits noted above, the tax inversion deal may inject value to the company. Studies have shown that the stock price of an inverted company generally increases subsequent to a corporate inversion. This occurs as a result of the tax benefits which get reflected in the share price of the company's stock. Sutherland (2014) noted that according to data compiled by Bloomberg, of 14 companies that announced or completed deals to shift their domicile since 2010, eight have outperformed the MSCI World Index. Further, the stock prices of all but three companies in the study have gained since announcing their transactions. This suggests that shareholders of the old company may indeed benefit from the higher stock price of the new company reincorporated in the new jurisdiction under the corporate inversion deal.

Nevertheless, these corporate inversions are not treated in a favorable manner by the U.S. government. Inversions are seen as a taxable event. Hence, shareholders are treated as having sold their shares at the time of the inversion and are held liable for taxes on capital gains owed to the government, despite the fact that they continue to hold their shares of the company after the inversion takes place. This shareholder treatment might alienate or anger some investors, who might be planning on minimizing or deferring their capital gains tax liabilities. Hence, some potential investors may refrain from investing in companies that are planning to undergo tax inversions.

### **Impact of Corporate Tax Inversions on the Economy & Taxpayers**

Corporate inversions have now become a major public policy and political issue since it is resulting in substantial loss of tax revenue to the nation. Tax avoidance strategies utilized by corporations involved in tax inversion deals exempt former U.S. corporations from significant U.S. tax obligations. This shortchanges the U.S. Treasury and poses harm to the economy. They may also discourage U.S. investment. Corporate inversions encourage corporations to hire overseas and therefore have the potential to discourage hiring in the U.S. The consequences of uncollected revenues in the U.S. is that for every dollar not collected by the IRS, either taxes must rise on American citizens or budget deficits must widen. This imposes a heavier burden on members of our society and future generations to pay down the debt.

Furthermore, tax inversion is subject to abuse and in many cases manipulation may be practiced. This essentially involves shifting accounting profits from high tax to low tax jurisdictions. Thus, the amounts involved in tax inversion deals may be exaggerated in an effort to pay only minimum taxes and increase the overall income of the corporation. In effect, this translates to the movement of one nation's tax revenue to another. In many cases, the amounts involved in these tax inversion transactions may be material at not only the transaction level, but also may be significant from a global economic perspective with respect to the total amount of intra-firm transactions across national borders.

A comparison of the breakdown of federal revenues from taxes in 1952 versus 2014 is shown in Exhibit 4 below, which clearly demonstrates that the contribution of taxes to the economy from corporations has decreased significantly from 32 percent in 1952 to only 9 percent in 2014, whereas the individual income tax contribution has remained the same at 42 percent and the payroll tax contribution has increased from 10 percent to 40 percent. This clearly shows that the corporations may be shirking their responsibility while the burden is being passed on to citizens through increased payroll and other taxes. Federal Revenue is derived from many sources, including taxes. Essentially, an individual citizen is obligated to pay proportional taxes in relation to the individual's income base. Similarly, a corporation is responsible for paying taxes in relation to its income base. With the proliferation of companies avoiding U.S. tax by inverting to foreign countries and with the tax contribution of corporations decreasing from 32 percent of Federal revenue to only 9 percent, it is possible that corporations may not be paying the amount of taxes in relation to their income base. Therefore, they may not be paying their fair share of taxes to the U.S. government but at the same time, they continue to operate in the U.S. Hence, the burden of any shortfalls in the Federal budget and tax revenue are being borne by the U.S. citizens.

**Exhibit 4: Comparison of Source of (U.S.) Federal Revenue – 1952 versus 2014**

<b>Source</b>	<b>1952</b>	<b>2014</b>
Corporate tax	32%	9%
Individual income tax	42%	42%
Payroll tax	10%	40%
Other taxes	16%	9%

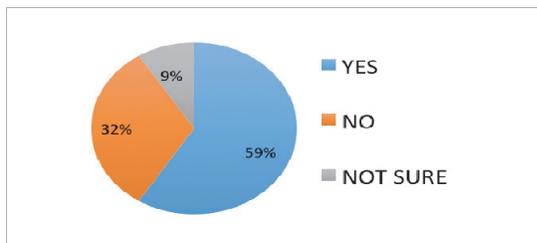
Corporate inversions present a formidable challenge to the U.S. economy in the form of an erosion of a corporate tax base and declining government tax revenue stemming from corporate income taxes. The U.S. government has been trying to minimize the number of inversions by patching up the loopholes and passing regulations intended to make the economical concept of inversion less appealing to corporations. The European Union is considering a minimum corporate tax rate. However, there is great opposition, particularly from Ireland.

Some would argue that there is a need to reduce international corporate tax rate disparities through a system of universal registration and declaration of income particularly in that while the U.S. imposes a corporate tax on all sources of corporate income earned, other countries use a regime of proportional corporate taxation based on the region in which it is earned. A question here is whether the U.S. should adopt the proportional corporate income earned standard or look to universal adoption of its universal tax rate system.

### Political Reaction to Corporate Tax Inversions

The marked decrease in tax revenue and the proliferation of corporations renouncing their citizenships through corporate inversions has been under significant scrutiny from politicians and citizens alike. The question arises of whether or not Congressional action should be taken. According to the results of one public policy poll of registered voters (See Exhibit 5 below), approximately 59 percent of registered voters nationwide believe that Congress should act to ‘penalize and discourage companies’ from engaging in inversions (Zarht, 2015). It is evident that Americans believe that corporations should be discouraged or penalized from the practice of corporate inversions.

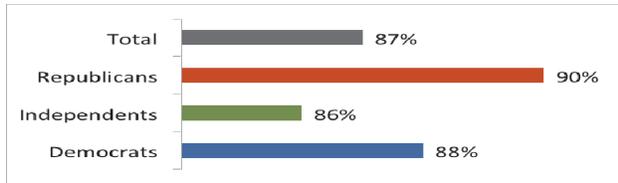
#### Exhibit 5: Question – Should Congressional action be taken to curb Corporate Tax Inversions?



Treasury Secretary Jacob Lew stated that the aim of the Treasury is to further reduce the benefits of inversions and to make them even harder to achieve, ultimately reducing their attractiveness to corporations. However, the strategy may be flawed since it does not appear to be curbing corporate inversions.

Based upon the huge current political debate, it is evident that the majority of Republicans and Democrats agree that there needs to be some legislative action to address inversion tactics. House Speaker Paul Ryan’s view is that a broad corporate tax reform is needed. He states that the corporate tax rate needs to be lowered and the U.S. needs to tax corporations on a territorial basis with only the income earned in the U.S. territory being subjected to U.S. taxation. Also, the majority of Republicans and Democrats agree that a legislative action needs to be taken in order to prevent corporate inversions. In addition, the general consensus is that the current U.S. tax code needs to be updated. A survey of respondents of politicians to this question is shown in the chart below:

## Exhibit 6: Question of Politicians - Should the U.S. Tax Code be updated?



A review of Exhibit 6 above clearly demonstrates that most of the politicians also agree that the U.S. tax code needs to be updated. However, there is no agreement of the solution between the Democrats and Republicans. Hence the political debate continues. In the meantime, the current tax system which deprives the government of needed tax revenues continues to prevail. By inverting, corporations are basically just manipulating the U.S. tax system and eroding the nation's tax base. Hence, it is evident that it is urgent that action needs to be taken in order to address the growing wave of inversions and the erosion of the nation's tax base.

To date, the government has undertaken several measures but only enjoyed modest success in curbing corporate inversions and other corporate tax saving tactics. It is apparent that their measures are not working. It is evident that extensive research needs to be undertaken regarding the practice of corporate inversions, the reasons for inverting as well as the corresponding impact on levels of investment, economic growth and per capita income. Only then can educated and effective strategies be undertaken and policies enacted to address the negative effects emanating from corporations inverting to foreign corporations in order to avoid U.S. taxes. However, proper identification and solution to this problem must be undertaken in concert with corporations, standard setters, academics, citizens and other interested parties. Failure to include all interested parties will continue to result in a patchwork of ineffective measures.

### Actions Taken By the U.S. Treasury to Curb Corporate Tax Inversions

Over the years, there has been a host of patchwork measures taken by the U. S. Treasury to curb several practices utilized in corporate inversion strategies. Some of these measures relate to “earnings-stripping,” “cash box” and “skinny down” strategies (Fact Sheet: Treasury Actions to Rein in Corporate Inversions, 2015).

**One** of the activities the U.S. Treasury wants to deter is “**earnings stripping.**” “Earnings stripping” is an act of loading up the former U.S. parent (which is now a subsidiary) with debt and stripping it of earnings through the payment of high amounts of interest to the new foreign parent. Since the interest payments are considered tax deductible for U.S. purposes, the inverted U.S. Corporation is able to reduce its U.S. taxable income and its related U.S. income tax. Additionally, it appears that there is a trend being utilized by inverted firms in which some of the American firms are attempting to strip nearly all of their income and is currently trying to implement measures which would reclassify the U.S. subsidiary's debt as equity, effectively transforming the deductible interest payments into non-deductible dividends. To solve this issue, the U.S. Treasury is reclassifying such debt as equity and transforming the tax-deductible interest payments made to a foreign parent into non-tax-deductible dividend payments.

A **second** tactic often used by U.S. companies during corporate inversions involves a “**cash box**” concept. “Cash boxing” involves inflating the value of the stock attributable to a foreign “acquirer” through the use of passive assets (cash and marketable securities) in order for the U.S. parent to meet the 80% threshold. Under current rules, if an inverted corporation conducts less than 25 percent of its business in the home country in which its foreign home is located, and the U.S. shareholders continue to have 80 percent or more ownership in the new foreign parent, the newly inverted company is treated as an American firm by the U.S. Treasury. In order to be able to successfully perform an inversion, the firm must reduce the value of the U.S. firm in the newly formed foreign firm to 79 percent

or less of the combined MNC, with the foreign “parent” holding the remainder. In order to do so, the firm inflates the value of the foreign “acquirer” by using passive assets such as cash and marketable securities. These assets are generally not being used in the daily operations of the company and thus create a misleading picture as to the true value of the firm. In order to discourage “cash boxing,” the U.S. Treasury has implemented a measure attempting at curbing corporations from renouncing the U.S. as their tax jurisdiction. The measure is an imposition of an 80 percent threshold requirement and states as follows:

- 1) *If an inverted U.S. firm conducts less than 25% of its business in the foreign country of its new home office, and***
- 2) *The U.S. shareholders continue to have 80% or more ownership in the new foreign parent then the inverted company is treated as a U.S. company for tax purposes.***

The goal of this U.S. Treasury measure was to force corporations to disregard the value of stock of the foreign parent attributable to passive assets. It is an attempt to keep the value of the U.S. firm’s holdings above the 80th percentile threshold, hence keeping the merged corporations still classified as a U.S. firm for tax income purposes. Hence, the U.S. Treasury’s requirement would result in the U.S. government disregarding the value of the stock of the foreign parent attributable to passive assets.

A *third* strategy utilized by U.S. Corporations just prior to inversions is the payment of extraordinary dividends. This is known as “**skinny down**” dividends and done in order to reduce the size of the corporation and be able to remain below the 80 percent ownership threshold in order to meet the U.S. Treasury’s requirement to qualify for inversion. To curb this practice, the U.S. Treasury issued a new ruling that would disregard the skinny-down dividends in computing the size of the U.S. parent relative to the foreign subsidiary.

### **Corporations Response to U.S. Treasury Measures**

In response to this 80 percent Treasury requirement, firms like Pfizer/Allergan immediately restructured their inversion deal to fall below the 80 percent requirement so as to still qualify as a foreign corporation and not to still be classified as a U.S. Corporation and subject to U.S. corporate taxes on foreign source income. This is a clear demonstration that Corporations are trying to quickly adapt their strategies in response to the U.S. Treasury’s patchwork measures. However, it is clear that there was no way for Pfizer/Allergan to adapt their strategies for actions taken in the prior three years. Hence, the U.S. Treasury succeeded in killing their inversion deal in its new Ruling.

### **President Obama’s Proposed Solutions**

Undoubtedly, cross-border mergers are generally good for the corporation as well as the country in that it allows U.S. to invest overseas and encourage foreign investments to flow into the U.S. This Foreign Direct Investment activity results in making the U.S. economically stronger. It is therefore clear that genuine cross-border mergers are good for the economy. President Obama has declared Corporate Inversions as unpatriotic (Fact Sheet: Treasury Actions, 29 Nov, 2015). Corporations, in turn, responded by pointing out that the high corporate income tax rate in the United States makes them less competitive on the global scale. They argue that inversions have nothing to do with patriotism but serve to protect the interests of shareholders, (Hiltzik, 2015). In 2014, President Obama offered suggestions that were supposed to help curb the practice of corporate inversions. One of his proposals involved ending the right for corporations to defer the taxes paid to the U.S. government until the profits are repatriated to the U.S. The aim of this action was to force the companies to make business decisions based on the business location factors as opposed to tax rates. In other words, he wants to make the domicile of a corporation to be based on other business factors as opposed to tax rates.

Another one of President Obama's proposed solutions was to reduce the corporate tax rate from 35 percent to 28 percent and close the loopholes that offset any U.S. losses. This suggestion was quite controversial, since the lower corporate tax rate would reduce the tax revenues by \$840 million over the following ten years (Pozen, 2015). The president, however, argued that if the government will be able to close some of the loopholes within the corporate tax law, these losses from the lower tax rate could largely be offset.

One of his most innovative proposals was to issue a minimum global tax rate of 19 percent. If this proposal were enacted into a law, an MNC paying 15 percent in taxes to a foreign government would have to remit an additional 4 percent in taxes to the IRS. This strategy would generate approximately \$206 billion over ten years and could discourage multinational corporations from moving to tax havens (Pozen, 2015).

Obama has also proposed to impose a 14 percent tax on previously earned but un-repatriated (income held overseas) foreign earnings.

While many of President Obama's suggestions could play a role in discouraging U.S. Corporations from inverting, the dysfunction and bickering in Congress has unfortunately resulted in the bills being considered "dead on arrival" (International Tax Review, 2015).

### **Possible Solutions to Curb Corporate Tax Inversions**

There are a host of proposed solutions to end the flow of capital out of the country resulting from the proliferations of U.S. corporations that are relocating to lower tax or no tax jurisdictions. However, this problem is not new. It was an issue that was previously experienced by the United Kingdom (U.K.) and tax reform had to be undertaken to address the problem.

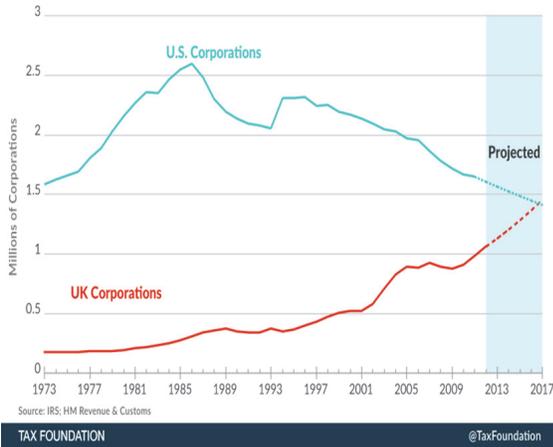
### **The United Kingdom (U.K.) Tax Inversion Experience**

While there may be no direct solution, we can look to U.K., which has recently reformed its tax code. There were many similarities between the U.S. and the U.K. before an overhaul of the U.K. tax system took place. Both countries imposed a worldwide approach to taxing its constituents. Both had the highest corporate tax rates in 1980 with the U.K. imposing a corporate tax rate of 52% and the U.S. imposing a 46% rate. When the U.K. imposed a corporate tax rate of 52 percent in 1980, it has suddenly experienced a rush of companies inverting to more tax friendly countries. By 2015, tax reforms made by the U.K have reduced the corporate tax rate to only 20 percent. That is 15 percent lower than the current corporate tax rate in the U.S., which is a great improvement. The U.K. also replaced the worldwide tax system with a territorial one. These measures developed a more competitive and favorable market for corporate activity in the U.K and allowed it to reduce the number of corporations undergoing inversions, thus helping its corporate sector to expand and reverse the tide of corporate inversions. It is possible that the U.S. can benefit from similar changes, as well as from the broadening of its tax base, which has been shrinking over the past few decades.

The reforms may have allowed the U.K. to remain competitive since the number of corporations domiciled in the U.K is rising, while they are falling in the U.S. (See Figure 2 below).

Following the U.K's lead, one solution for the U.S. would be to lower the corporate tax rate from 35 percent to 20 percent. This may possibly stop the erosion of the corporate tax base and reduce incentives for corporate inversions. It may also make the U.S. more competitive with tax haven countries, reduce the amount of indefinitely deferred overseas revenue, increase the volume of corporate tax revenue and make the U.S. tax system resemble that of other countries. It is possible that if the rate differential were removed, it may not be worth the effort for U.S. corporations to invert.

Figure 2. Number of Corporations Falling in the U.S., Rising in the UK



### Should the U.S. Corporate Tax Rate Be Lowered?

Many parties suggest that the easiest solution to preventing corporate inversions would be to simply lower the income tax rate. The question then arises of whether the U.S. should follow the lead of the U.K and lower its corporate tax rate. It may be noted that most corporations do not pay the 35 percent tax rate anyway. Further, due to various tax credits and incentives, some corporations do not pay any tax at all. In fact, the average effective income tax rate paid by U.S. corporations is about 28 percent. Since corporations that invert must still pay tax on income earned in the U.S. their effective tax rate could be greater than the marginal tax rate of their new home country depending on the tax laws of the new countries in which they operate.

Lowering the tax rate could be quite costly for the U.S., since as shown in the Figure below, for every percentage point the tax rate is lowered the U.S. could potentially lose approximately \$100 billion over a 10-year period (Migdail, 2015) (See Exhibit 6 below). This is largely the main reason why it may be unrealistic for the U.S. to significantly reduce the corporate rate and compete with those of other countries, especially tax haven countries.

Another proposal is to restructure the U.S. corporate income tax rate to match its foreign rivals. Having one worldwide tax consolidation at a fair rate would result in shutting down corporations' efforts to play one country's tax regime off against another.

Other proposed solutions to curb corporate inversions are to impose an exit tax on corporations that invert and tax all un-repatriated earnings when an MNC renounces its U.S. residence.

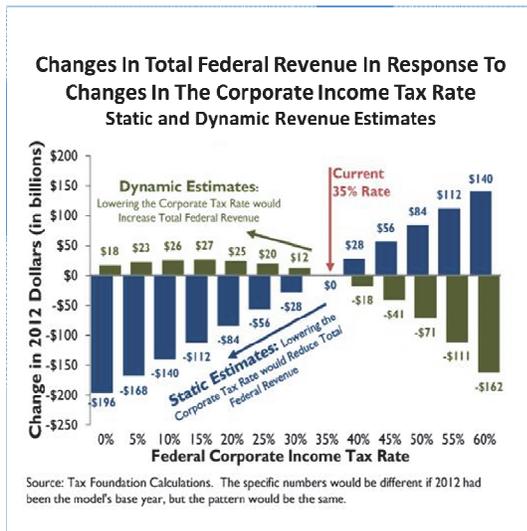
Others have also come forward with other suggestions. One proposal involves barring inverted companies from receiving any kind of government contracts.

Lastly, corporations could also be taxed based on its residence, with the home residence being considered as one in which most of its assets are stored and employees located. This would prevent the firms from simply changing their address to minimize tax liabilities.

It is apparent that most of these proposals will make it more complicated for corporations to relocate their business to another country since their operations would have to move as well. These proposals will make inversions less appealing to corporations instead of banning them outright.

It is important that any comprehensive initiatives to address corporate inversions be taken with caution or else the initiatives could accelerate the very conditions that they are trying to avoid. According to Senator Hatch, any measures taken to deter corporations from inverting “must be prospective, cannot be punitive, must help lower the corporate tax rate and shift to a territorial system” (Migdail, 2015).

**Exhibit 6: Impact of Lowering Tax Rate on Federal Revenue**



**Implications of Corporate Tax Inversions**

So what can we learn from our mistakes? How can we correct our tax inversion problem? A majority of Americans agree that a tax reform is needed to address this practice. Also, the majority of Republicans and Democrats believe that a legislative action needs to be taken in order to prevent corporate inversions.

The U.S. Treasury has issued three rulings aimed at curbing corporate inversions. However, their approach to curbing U.S. Corporate Tax Inversions is questionable. The measures undertaken to date are essentially an attempt at patching up the loopholes in the existing regulations. However, by patching up one loophole, the government is only encouraging the U.S. corporations to find new ones. It has been suggested that this matter can only be resolved through legislative action. However, these actions must be taken in concert with legislators, U.S. citizens, and other stakeholders including Corporations. It is therefore apparent that a complete corporate overhaul of the U.S. tax code is needed in order for the U.S. to be able to curb corporate inversions and raise more tax revenue from corporations.

**The Way Forward**

If the corporate income tax rate were lowered to approximately 20 percent, corporations will have less of an incentive to move their operations overseas. By taxing corporations at a lower rate, the U.S. government will

likely benefit more from the volume of corporate taxes collected (even if the per-corporation amount received will be smaller) than it currently does by allowing firms to keep billions of dollars in indefinitely deferred revenue overseas.

The question remains, what should be done to reduce the number of corporations that are moving their tax domicile to a foreign jurisdiction and eroding the U.S. tax base? The U.S. government is using a “patchwork” approach to resolve the corporate migration problem. Further, as can be seen, the Democrats and Republicans believe that legislative action needs to be undertaken to curb corporate tax inversions but are currently in a gridlock as to how it should be accomplished. Without a doubt, it is evident that the only thing that can be done is to have a complete overhaul and reform of the U.S. tax code in order to lower the corporate income tax rate in the U.S. and to institute other measures that will make the U.S. more competitive with the other tax-haven countries. However, this is easier said than done and would require a commitment from politicians, the public sector, corporations as well as other stakeholders alike. This overhaul of the tax code would be a gargantuan task and will have to be tackled expeditiously.

## Conclusion

The billions of dollars lost in tax revenue from the host of Corporations inverting to low tax jurisdictions has become a bone of contention in many circles. The corporate leaders believe that by inverting, they are acting in the best interest of their stakeholders, while politicians and many others believe that these corporations are placing an undue tax burden on the citizens of the U.S. Unquestionably, something must be done to curb these inversions. It appears that the best solution is to have a complete overhaul of the U.S. tax code so as to keep MNCs from inverting to foreign jurisdictions while still enjoying all of the benefits of operating in the U.S.

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<sup>1</sup> The effective tax rate of a country depends on the methodology utilized, the sum of all taxes imposed by local, provincial/state, national and foreign governments during the year. It is the tax burden as a proportion of the tax base or income taxes divided by pretax income. This effective rate is calculated on Net Operating Surplus from the National Income Accounts which are produced by the Central Statistics Office, and the tax due as a proportion of Taxable Income from the Corporate Tax Distribution Statistics produced by the Revenue Commissioners. Hence, the effective tax rates in a country is partly the result of differences in the geographic mix of income and the country-specific and industry specific tax rates that apply to such income. Ireland has different rates for different activities: 12.5 percent tax rate on profits from trading accounts, 25 percent for investment, rental and non-trading activities, petroleum, mining and land dealing accounts and 33 percent on capital gains. Hence, this mix results in the effective tax rate of 22.4 percent for Ireland being higher than the nominal corporate tax rate of 12.5 percent on trading activities.

## ***International Taxation: Tax Equity Concerns***

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### **Abstract**

*Though competitive forces are beneficial on one hand, the problems of international taxation have led to flight of domestic capital. Some of the problems of international taxation include the effects of international tax differentials on the volume, location and form of foreign investment due to different national and local tax rates applied to capital. Low tax regions act as 'tax havens' to multinational corporations. However, many countries secure a certain degree of tax neutrality by providing foreign tax credit (for example, Australia and China's new tax policy). Moreover, foreign-source income is treated differently compared to domestic source income, leading to inequity. Tax payers' equity depends upon equal treatment of corporate profits, irrespective of the place of origin, home or abroad. This calls for equal total tax burden on income earned from domestic and foreign sources and tax cooperation between countries.*

### **Introduction**

At the 69th Congress of the International Fiscal Association (IFA) in Basel, the differences between legal systems between common-wealth countries, such as Australia, India, with regard to expert evidence in international taxation were discussed (Debelva, Pagone, Cortot-Boucher, Drüen, Rip, Kothari, 2016). The IFA reiterated the fact that fiscal or tax rate changes have long term consequences in the global economy and affects trade, investment and wealth creation.

The international tax cooperation or competition will have significant implications on domestic and global economy, both directly and indirectly. There has been an attempt for universal direct tax reform and tax competition between countries had led to reduction in marginal income tax rates (Nash, non-cooperation) and preferential tax treatment given to promote foreign investment. With globalisation there is also an erosion of national tax systems due to tax competition and therefore there is a need for proper international taxation.

Global corporations and high profile investors use all available mechanisms including tax loopholes and tax havens to maximise gains. It is ironical that the powerful international corporations pay less and less tax while the small and medium domestic enterprises and local shareholders pay more. This implies that there exists permanent structural crisis in international public finances. Further more powerful economies would be able to maintain global public goods like environment, education, health, etc. while poorer economies would struggle for additional financial resources. International taxes can play a major role in promoting interjurisdictional equity and also regulating and shaping ecological sustainability.

This paper draws on the theoretical and empirical literature on international taxation and examines the non-cooperation of taxation issues (tax competition) in developed countries and contrasts them with the growing economies such as China and India. This paper is divided into 4 sections. The next two sections deal with theoretical

and empirical literature on international taxation followed by international taxation issues of developed economies such as Australia and New Zealand, the Trans-Tasman triangular tax. Section 4 examines the international taxation issues of developing economies of Asia such as China and India and finally the concluding remarks.

### **Theoretical and empirical literature on international taxation**

The concept of interjurisdictional equity and tax cooperation in company taxation deals with taxing companies carrying out its profit generating activities in two or more jurisdictions. The principal objectives of interjurisdictional equity are as follows:

- tax neutrality with respect to investment among the member countries where the company is carrying out its activity;
- the attainment of interjurisdictional equity;
- economy in administration among member states; and
- compatible with the principle of subsidiarity.

Tax economists believe that there is a need for cooperation among states not only in setting common rules to promote interjurisdictional equity; but also to protect themselves against destabilizing their own tax systems. Interjurisdictional equity is difficult to achieve due to the following reasons: The problem of attribution of profits is not simple, especially for a corporation that is economically interdependent. Treating each subsidiary as a separate entity and determining profits by a separate accounting system is only an arbitrary procedure, since profits can be easily shifted when there is buying and selling between them. A country's tax share of the profits depends not only on its rate of tax but also on its share in the tax base. Niemann (2001), Hines (2007), Peter & Kerr (2003), Peter (1998a) examine the pros and cons of tax systems in different countries and if there is cooperation between countries. Some of the advantages of cooperation include setting common rules to promote interjurisdictional equity and cooperation to protect the country against destabilizing their own tax systems.

Some of the OECD economies and Asian tigers in the last few decades had a speedy economic growth. One of the reasons for high growth rate is the tax reform. Developed countries tax policy reflected the economic and political environment for promoting domestic and foreign investment. The average growth rate of GDP is around 3%. Even developing countries like China and India have begun to move into the path of liberalization and tax competition. The encouragement of competitive forces has made government policy more purposeful, selective and efficient. However, international tax competition is public welfare inferior compared to cooperation, Atkinson & Stern (1974) Brennan & Buchanan, (1977).

International tax competition has the following consequences:

- Non-cooperative tax policies and international tax competition lead to lower tax rates and under provision of public goods due to lower tax revenues.
- According to Musgrave (1964) the objective of promoting domestic growth and employment is difficult to achieve if there is tax competition.
- Government would tax domestic and foreign companies at the same rate which would reduce resources for financing public good for the welfare of the nation.
- Since the basic goal of any corporation is to maximise profit and not public welfare, there would be movement of subsidiary profits from one country to another in order to maximise gains with regard to taxation gains and other reasons.
- Further, the decision of a multinational corporation to invest abroad instead of its domestic country due to tax and commercial reasons adversely affects the interests of domestic workers and investors.
- Thus, foreign investment displaces domestic investment and may results in unemployment when whole plants close down and moves abroad. Real wages reduce due to the loss of capital.

- Tax cooperation between countries are generally good in order to minimise flight of capital and for providing public and welfare types of resources but not efficient for future private investment and future private consumption.

The second loss to domestic economy may occur if the capital outflow leads to deterioration in the terms of trade. Foreign investment may replace export sales abroad, leading to fall in net exports (exports-imports). But this may not be the case if there is an increase in both foreign investment and export sales, which is true in many countries in recent years.

The third question that arises, Will there be a loss in tax revenue and lower growth in investment income? There may be revenue losses either in the form of lower production locally leading to lower taxes paid by multinational corporations to the parent country. Several American economists state that there is an overall national income loss due to the transfer of production units from US to other countries (investment abroad).

The problem of tax competition is that it promotes tax avoidance with multinational corporations while tax cooperation between countries reduces tax evasion and avoidance. Though avoidance is legal, it reduces the tax base and results in inefficiency. Though there are international tax treaties that are available for reciprocal reporting arrangements, it is difficult to enforce 'arm's length' accounting procedures to prevent profit shifting into low-tax jurisdictions.

These problems can be corrected through a system of centralization of tax (cooperation), by source taxation of primary profits at reciprocally equal rates (to promote interjurisdictional equity). For example in the case of European Union, international equity can be promoted by applying residence principle to profits earned by EU investors outside the union and source principle within the union members. Finally, tax evasion can be prevented by providing administrative cooperation in tax matters. This is not impossible, since the members of European Union have already shown cooperation with respect to monetary and financial issues.

#### **Flat tax or a consumption/expenditure global tax**

Using a general equilibrium framework, Shoven & Whalley (1992) examined a variety of tax policy options for the US economy. Their model evaluated the possibility of changing the US federal personal income tax to a progressive consumption tax. It considers eight different rate structures while adopting the consumption tax. The results of the study showed an economic gain of \$1431.6 billion for a pure consumption tax with integration compared to \$236.8 billion for a pure income tax with integration. These two proposals, however, eliminated corporate income tax completely. Shoven & Whalley failed to examine the effect of their tax proposals on different sections of the society. Altig et al. (1997) filled this gap for the US economy.

Altig et al. using a general equilibrium model showed that replacing the existing income tax system with a proportional consumption tax would raise the output of the US economy by 11 per cent in the long-run. However, the older generation and low-income individuals will lose their life-time resources as output growth would not benefit them. The X tax proposal is a hybrid of consumption tax and progressive wage-tax. Their proposals of the X tax and flat tax were preferred methods of consumption tax reform since it would make all sections of society better off. The flat tax modified the basic consumption tax by exempting housing wealth from taxation and provided a wage-tax deduction to the low-income individuals. The X tax reform would make all sections of society better off, with an output gain of 6 per cent. This tax would benefit all sections of society, except the rich older generations on whose wealth an implicit tax is imposed. However, it would raise the output of the economy by 7.5 per cent in the long-run. Thus, the economy would grow at a faster rate under the consumption tax regime and aids capital formation.

Another argument advanced in favour of expenditure tax is that the inflationary pressures in the economy create serious problems for the corporate income tax payers. Income tax reduces the flow of funds into the corporate

sector by imposing a heavy burden on nominal incomes through the levy of additional capital gains tax on spurious income created by inflation. The Meade Committee maintained that its recommendations would result in economic efficiency — higher return on savings, distributional equity, simplicity and better tax compliance. They suggested expenditure tax be introduced first in the form of a surcharge at higher levels of income. They also recommended that the present progressive income tax be converted into a proportional one. Similar suggestions were made for a developing economy, India, as early as 1958. The expenditure tax was first introduced in India on April 1, 1958 on the recommendations of Kaldor (1956). However, it was repealed due to administrative and other economic reasons.

The Australian tax reform measures undertaken recently were to improve Australia's international competitiveness were not through expenditure tax but through reduction of corporate income tax, from 34% to 30%, the abolition of stamp duty on most share transactions - put an end to the Financial Institutions Duty (FID), a 50% cut in CGT for individuals on assets purchased after October 1st 1999 and an effective CGT rate of 10% for complying superannuation funds and some trusts. Other measures included the new rules governing the franking of corporate dividends, transfer pricing and thin capitalisation . This is explained further in the next section.

### **Australia and New Zealand: the Trans-Tasman triangular tax**

The question that arises, “Is there a tax competition between OECD countries such as Australia and New Zealand?” If Australian government or New Zealand government reduces their direct tax rates such as corporate income tax and other personal income taxes, “how does the income of a multinational company with operations in both these countries be affected by these changes?” The international taxation regime for businesses was improved in July, 2004, when the Australian government relaxed Controlled Foreign Company (CFC) rules as they apply to countries possessing broadly similar taxation regimes, such as New Zealand, US, the UK, Germany, France, Canada, and Japan. Australian multinationals in the major commercial centres in these countries do business with an aim to maximise after tax profit and minimize costs.

Tax measures include the new rules governing the franking of corporate dividends, transfer pricing and thin capitalization and new capital allowances regime .

- Foreign distributions (equivalent to frankable distributions) for foreign withholding tax paid are allowed a franking credit of up to 15% of a gross distribution received by an Australian corporate entity.
- If the withholding tax was by its foreign subsidiaries on the foreign distributions they received, an additional franking credit may be allowed to a resident corporate tax entity provided the withholding tax on the distribution received by the entity is less than 15% of the gross distribution.
- Following the Ralph report, a set of transfer-pricing regulations was put in place in 2001.
- Tax reforms of 2001 are designed to prevent multinational taxpayers from allocating a disproportionate amount of debt to their Australian operations in order to maximise interest deductions against Australian income. However, recently the safe harbour debt to equity ratio of 2:1 for general investors was amended to 3:1.
- Also, a new capital allowances regime came into effect in 2001, replacing the previous 37 separate capital allowance regimes with a uniform system. – a set of general rules to calculate the deduction for the notional decline in value of most depreciating assets.
- As stated earlier, the Controlled Foreign Company (CFC) rules was relaxed to countries having broadly comparable taxation regimes, such as New Zealand, Canada, the US, the UK, Germany, France, and Japan in effect exempting income derived from outside such countries but passing through them (and therefore taxed in those countries).

If we compare the personal income tax rates of New Zealand and Australia, we observe the highest marginal income tax rate for New Zealand is lower at 39% for income above \$60,000 compared to 47% in Australia. Though the company tax rate is lower in Australia, 30% as compared to 33% in NZ, since the highest marginal personal income tax rate is 47% an Australian investor pays a higher effective tax on the total income earned.

Effective tax rate in case of a cash dividend for a New Zealand investor is therefore lesser, 43.6%, while for an Australian investor it is 48.9% after the tax reform.

Let us consider the mechanics of a pro rata allocation of imputation and franking credits to provide relief to Australian and New Zealand shareholders who invest in their home country through a company resident in the other jurisdiction and receive dividends from that company. Under the current rules, only the Australian franking credits are attached to the dividends to shareholders. Under the proposed reform, however, New Zealand imputation credits could also be attached in proportion to the shareholding. This means that a dividend could have both franking credits and imputation credits attached and could, in fact, be both fully franked and fully imputed. Although shareholders would receive imputation and franking credits, they would be able to redeem only the credits relating to their country of residence. Because the New Zealand shareholder owns 50 per cent of the company, she can receive up to 50 per cent of the tax paid, which is not enough to fully impute the dividend. Sufficient tax is paid, however, for the Australian shareholder to receive a fully franked dividend. No Australian dividend withholding tax is deducted from the dividend to the New Zealand shareholder as it has been fully franked.

Table 1 shows what would happen under the proposed reform to the tax payable on the dividends received by the New Zealand shareholder. In this situation there would be no change to the position of the Australian shareholder.

**Table 1: Before and after the tax reform of triangular investment by a New Zealand investor**

	<b>Before reform</b>	<b>After reform</b>
Cash dividend	\$700	\$700
Imputation credits	Nil	\$225
Gross income	\$700	\$925
Tax due @ 39%	\$273	\$361
Imputation credits	Nil	\$225
Tax payable	\$273	\$136
Net dividend	\$427	\$564
Effective tax rate[17]	57.3%	43.6%

The effective tax rate is still not just the highest marginal income tax rate of New Zealand, 39%, even with triangular relief. This is appropriate, as the dividend is not fully imputed, having been partially generated by Australian income with Australian tax paid.

Table 2 then illustrates what happens under the proposed reform to the tax paid by the Australian shareholder if the company had a New Zealand parent company instead of an Australian parent. In this situation there would be no change in the position of the New Zealand shareholder. The effective tax rate, however, is reduced to 48.5% for the Australian shareholder because the dividend is fully franked.

**Table 2: Before and after the tax reform of triangular investment by an Australian investor**

	<b>Before reform</b>	<b>After reform</b>
Cash dividend	\$700	\$700
Supplementary dividend[18]	\$81	\$81
Less New Zealand NRWT[19]	-\$117	-\$117
Net cash dividend	\$664	\$664
Foreign tax credit	\$117	\$117
Imputation credits	Nil	\$219[20]
Assessable income	\$781	\$1,000
Tax due @ 48.5%	\$379	\$485
Foreign tax credit	\$117	\$117
Franking rebate	Nil	\$219[21]
Tax payable	\$262	\$149
Net dividend	\$402	\$515
Effective tax rate[22]	59.8%	48.5%

As we are aware, the movement of a major building materials group James Hardie Industries base to the Netherlands in July, 2001 shocked Australian economy. The government has since taken steps to improve and minimise capital flight due to tax competition between countries. According to the chief executive of James Hardie Industries Peter Macdonald, "Higher rates of foreign tax are imposed on our foreign income when it is repatriated to Australia to pay dividends to shareholders. Under the current structure, this problem will increase as international demand for our products grows ". Moving to a Dutch base will cut dividend withholding tax from a minimum of 15 per cent under Australian regulations to a maximum of 5 per cent, said the company. However, the high standard of living, modern telecommunications and transport networks, wide variety of investment opportunities, and generally very well educated and trained workforce all contribute towards making Australia potentially a very rewarding place in which to do business.

Add to this the fact that Australia and New Zealand are in a very favourable position to access emerging Asian markets, and the combination of federal and state incentives for those prepared to locate their regional headquarters in these countries, becomes even more appealing. All exchange controls have now effectively been abolished in Australia and the government generally welcomes foreign direct investment (FDI) which will be of national interest.

### **Tax sparing provision to developing countries**

Where a country taxes its residents on their worldwide income such as Australia and New Zealand, the reduced tax liability in these countries providing the tax incentive, is offset by the tax imposed in the taxpayer's country of residence. Assume, for example, that the country A tax rate is 33%, the country B tax rate is 30% and country B grants a five year tax holiday for manufacturing operations established in a special economic development zone. Assuming that country A taxes its residents on their world-wide income and grants a credit for foreign taxes, a resident of country A who establishes a manufacturing operations in country B will pay tax to the country A revenue at a rate of 33% on any income derived from these operations. The tax incentive offered by country B is therefore effectively removed by country A.

'Tax sparing' is designed to eliminate this problem and in this example, country A would grant a credit for the 30% tax foregone by country B, thus reducing the tax payable in country A on the country B income to three per cent. The objective of tax sparing is to preserve tax incentives granted by developing countries. The country granting the tax sparing credit thus accepts that foreign tax incentives may attract investment from its own nationals. For example, the Australia – Vietnam double tax agreement in 1997 enables an Australian investor to take advantage of certain tax concessions in Vietnam, deemed to have paid the tax actually foregone by Vietnam. In this way, the Australian investor will be entitled to a foreign tax credit even though no tax has actually been paid to the Vietnamese government.

If we compare Trans-Tasman tax reform with US tax reform, it is far from appealing. The Bush administration's plan for tax reform is likely to reduce the highest marginal income tax rate to 25%. Another option proposed is a flat tax or a consumption tax, a radical reform with the more political resistance it will face from tax avoider groups on the losing end.

### **Developing Asian Economies: Cases of India and China**

Is there a pattern between Asian economies with regard to tax competition? There is a stark contrast between Western developed economy and Asian economies when we compare the tax systems. As far as the developed countries like US, Australia and New Zealand are concerned the main source of tax revenue is through direct taxes. This is not the case for Asian growing economies such as India and China. Developed countries depend on tax on income and profits as the major source of government revenue at the age of 'high mass-consumption' (For further details see Peter & Kerr (2001)). Economies, such as China, is a special case in that it is a country in transition from centrally-planned, socialist economies to decentralised, market-based economies. Chinese economy face special problems in tax policy and tax reform, given that some types of tax do not exist (e.g. property tax) and given that this economy had historically occupied the opposite end of the public/private sector ownership spectrum from the other developing economies. In recent years there has been a trend among fiscal experts in China, toward recommending more administrable taxes on products, such as value added taxes. The major tax reform of China in 1994 was purposed to strengthen the tax system.

The first national tax law of the People's Republic of China was implemented on January 1, 1994. The tax system of China comprises of a mixture of one or more categories of taxes including tariffs on imports, export taxes, income or gross receipts taxes on enterprises, and taxes on goods and services. The structure of China's tax system combines the characteristics of developing countries and transition economies, as well as of industrial countries. In terms of the share of income taxes in GNP, China is comparable to middle-income developing countries. However, the corporate and individual income taxes are low in China compared to other middle income countries.

China is a signatory to a Treaty for the Prevention of Double Taxation with many countries all over the world and this treaty offsets tax paid in one of two countries against the tax payable in the other, in this way preventing double taxation. According to the Chinese Finance Minister, "It is of the utmost importance to stress that the Double Taxation Prevention Treaty takes precedence over the Chinese Income Tax Ordinance. In other words, if certain income is taxable under the Chinese Income Tax Ordinance but there is an exemption (reduced tax) under any Taxation Treaty, the income is taxed, if at all, but only according to the provisions of the Taxation Treaty."

Recently there was a reduction in individual's dividend income tax for domestic listed companies. The new tax rate is 20% on 50% of the dividend income. China's corporate income tax would be at a rate of 25% for foreign and domestic companies alike in 2008. The tax system in China prior to the reforms was complex, inefficient, and highly inelastic and the tax burden was distributed unequally. The tax reform was aimed to improve the buoyancy and efficiency of the tax system and is more suitable to meet the needs of a market-based economy.

Enterprise and Personal Income Tax: State owned enterprises (SOEs), collective enterprises, private enterprises, joint-ownership enterprises, joint-stock enterprises, foreign investment enterprises and foreign enterprises and any other organization that derive income from production and business operations and other income defined by law, including income from sources both within and outside China, are subject to the enterprise income tax. The coverage include the transfer of property, interest (except from government bonds), leasing, royalties and license fees, dividends, and other income.

Before the middle of 1980s, the chief characteristic of enterprise taxation in China was to tax various forms of enterprise ownership differently, based on their economic importance and social desirability. The state-owned enterprises paid three different taxes: the enterprise income tax, special levies on profit and the "income adjustment tax". With the tax reforms of 1994 there has been a rationalisation of enterprise income tax and the rates range from 18 per cent for taxable income below 30,000 Yuan to 33 per cent for taxable income above 100,000 Yuan per year. The enterprise income tax for all foreign investment enterprises in Special Economic Zones was reduced from 30% to 15%. The Personal Income Tax is levied on the income of all individuals who reside in China or have stayed in China for more than one year, Naughton 1997, Peter & Yao (1999).

Taxation in China's special investment areas: Generally, creating a favorable tax climate in the host country is seen as the key to achieving greater foreign capital inflows. One of the important ways the government adopted was to apply the preferential tax rules to the foreign funded enterprises to attract the foreign investment. The Chinese government provided for the foreign business established in the Special Economic Zones, a variety of tax and investment incentives including lower land costs and more flexible labor policies. In general, the SEZ tax rules provided for exemptions from or reductions in taxes normally not applied to enterprises outside the SEZs under China's national tax legislation. For example, as one of the earliest Special Economic Zone, Zhuhai provided favorable conditions allowing for massive reduction or/and exemption of tariffs for the imported equipment, and for selected industries.

Also, a productive enterprise with an operation period over 10 years was able to have a first-two-year exemption and a 50 per cent reduction within the following three years counting from the first profitable year. There were also varied tax exemptions given to the enterprises with investment over USD 50 million, and construction and financial institutions. Through tax planning, foreign invested enterprises, FIEs were paying an average income tax rate of only 5% in the special economic zones, 9% in other open coastal zones, and 15% in inland areas, all substantially less than the statutory rate that applies to SOEs. Moreover, it should be noted that the various tax incentives provided to foreign investors helped in multiplying the growth of direct foreign investment in China. China had developed a regional policy such as Special Economic Zones, New Development Zones and Free Trade Zones to attract foreign investment. Guangdong province is one of the largest recipients of FDI.

### **Indian tax system**

We have observed while examining the tax mix in various developing economies that as the economy grows, the revenue share of tax on goods and services (indirect taxes) declines, while the share of tax on income (direct tax) increases. In such a situation, how should the direct tax system be designed to promote domestic and foreign investment in a developing economy? Tax competition between nations yielded beneficial results in terms of reduction in marginal rates of income tax, corporate income tax and abolition of tax on interest earned. High income tax on productive income is detrimental to private capital formation. If the increases in tax revenue are from taxing productive enterprises, then this will result in a lower rate of private capital formation. Peter & Kerr (2003) showed that a one per cent increase in direct tax per capita resulted in a 0.4 per cent decline in savings per capita in India.

There are serious difficulties in defining an individual's income for tax purposes. In order to promote welfare there is also a suggestion to consider consumption expenditure as the base of direct tax instead of income. Taking expenditure as the tax base can be justified on equity grounds since it taxes what a person takes out of the

economic production system rather than what he puts into it. It is justified, more so, on the grounds of higher return on savings and investment. Further, it should be noted that expenditure tax is a powerful tool to combat evasion internationally.

In order to promote international tax equity the existing Indian tax system was revamped and there were various measures taken to promote saving and investment (both domestic and foreign). One of the options for tax reform examined in this section was to promote equity through the introduction of a personal expenditure tax and an expenditure-based business tax. The major problem facing the direct tax system in India is the evasion of income taxes (the burden of tax on the rich is less compared to the poor). It is envisaged that expenditure based tax would reduce the magnitude of tax evasion and avoidance and thus promote equity.

### **Concluding remarks**

The present study summarized the existing theoretical and empirical literature on the pros and cons of international direct tax competition. International tax cooperation promotes higher tax revenues which are necessary for the provision of public goods. The study stated that frequent capital flight led to distortion and inefficiencies which were detrimental to the domestic economy in terms of stability and employment. To overcome the difficulties including capital flight, it was suggested that profits may be allocated among countries by a common international tax administration and thus promote interjurisdictional equity.

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## *Abuses And Penalties Of A Corporate Tax Inversion*

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### **Abstract**

*There is a serious problem in international taxation today. Many United States (U. S.) multinational corporations have moved abroad to take advantage of a lower tax rate in a foreign country. As a consequence, the tax base in the U. S. has been seriously eroded. This practice is known as “corporate tax inversion.” This paper discusses the abuses and penalties of this phenomenon. It is rooted in some deficiencies in the U. S. tax law. This paper points out that the U. S. has the highest corporate tax rate in the world. It imposes tax on worldwide income. It permits deferral of tax on foreign-source income until dividends are repatriated back to the U. S. As a consequence, it creates tax loopholes. This paper reveals six actual cases of corporate tax inversion. This practice has triggered the U. S. Treasury Department and the Internal Revenue Service to issue new regulations under Section 7874, IRS Notice IR 2014-52 and IR 2015-79. This paper investigates some details of these penalties. This paper further demonstrates an example in determining the amount of tax savings by engaging in a corporate tax inversion. It also offers many strategies.*

**Keywords:** Corporate Inversion, Controlled Foreign Corporation, International Taxation, U.S.-source Income, Foreign-source Income, Merger, Worldwide Income, Territorial Income.

### **Introduction**

In the arena of international taxation, there is an earth-shaking crisis going on in the U. S. today. Many U. S. multinational corporations are moving abroad resulting in an erosion of the tax base in the U. S. The detriments to the U. S. treasury are astronomical and devastating. Worse yet, it is happening only in the U. S., not in other countries. This strategy is known as a “corporate tax inversion.”

What is a corporate tax inversion? Why is it so popular nowadays? What are the purposes behind this rather disastrous tax practice? This paper will point out the fundamental deficiencies in the U. S. tax law that causes this epidemic. It will reveal the real intention for a U. S. multinational corporation to engage in such a tax strategy. This paper will also investigate the history of corporate tax inversion. In addition, it will demonstrate an example to show how to determine the amount of income tax that a corporate tax inversion strategy can expect to save. Further, this paper will also scrutinize the recent U. S. Treasury Department actions on the Internal Revenue Code (IRC) §7874 and the Internal Revenue Service (IRS) Notices 2014-52 and 2015-79 against the abuse of corporate tax inversion. These aspects sustain the substance of this paper.

### **What is a Corporate Inversion?**

Many U. S. multinational corporations are engaged in transactions in multiple foreign countries. The tax laws can be quite different between any two countries. This creates complications. More often than not, it also offers tax planning strategies.

In the past ten years, corporation inversion was a technique employed by U. S. multinational corporations to take advantage of the differences in tax law between the U. S. and other countries. The purpose is to minimize the U. S. tax liability.

The most popular strategy is the case where a U. S. multinational corporation is merged with a foreign corporation in a lower-tax rate country. The former is moved to the latter by only changing its tax domicile; whereas, its operations remain intact. Its productions, sales, employees and management still stay in the U. S. as they were before. The only thing changing is the address of its headquarters and the place of incorporation. By doing so, it is no longer a U. S. corporation, but a foreign corporation. As a consequence, it is beyond the tax jurisdiction of the U. S. government. There are more different strategies, such as creation of a controlled foreign corporation.

There must be some deficiencies in the U. S. tax law that leads to the phenomenon of corporate inversion today. The next section will discuss them.

### **Benefits of a Corporate Inversion**

Without a doubt, a U. S. multinational corporation earns income from not only from within the U. S. itself but also from many other foreign countries. Similarly, a foreign corporation may also derive income from within both its own host country but also from within the U. S. If these two different corporations are combined, it raises the question as to how these two different sources of income are taxed. The problem becomes more complicated because it concerns two different corporations in two different countries. The solution will touch on many elements, such as tax rate, taxable base, tax authority, taxing entity, etc. Maneuvering among these aspects is the basis of a corporate inversion.

#### **1. Changing the Tax Rate**

The maximum corporate federal tax rate in the U. S. is 35%. This is the highest tax rate among developed countries. The lowest tax rate is 12.5% in Ireland. In between, the tax rate is 34.4% in France, 34% in Brazil, 25% in China, 21% in the United Kingdom, and 15% in Canada, among others.<sup>1</sup> In one another extreme, the tax rate in many tax haven countries is even zero (0)% such as the Bahamas, Bermuda, the Cayman Islands and the British Virgin Islands.

The differences in tax rates indicate that a shift of income from the U. S. to Bermuda, as an example, can save as much as 35% (35% - 0%). A shift of income to Ireland can save 22.5% (35% - 12.5%). Even a shift of income from the U. S. to Canada can save as much as 20% (35% - 15%).

The strategy of a corporate inversion is to shift income from one country to the other. The difference in tax rates between two countries certainly motivates a U. S. multinational corporation to seek tax shelter with a lower tax rate in another country.

#### **2. Changing the Taxable Income**

On the one hand, a U. S. multinational corporation invariably derives income not only from U.S. sources, but also from abroad. However, both are eventually taxable in the U. S. this is known as “worldwide income tax.”<sup>2</sup> On the other hand, other foreign governments impose tax only on their domestic-sourced income, but not the foreign-sourced income. This is termed “territorial income tax.” This indicates that the foreign-sourced income is tax-free in a foreign country.” It leads to the result that a corporation in a foreign country may be treated more favorably than its counterpart in the U. S. This treatment creates unfair competition.

For instance, if a U.S. corporation earns income from Ireland, it is taxable in the U. S. In contrast, if an Irish corporation earns income from the U. S., it would not be taxable in Ireland. The amount of difference in tax liability can be quite significant because of globalization of business today. The U.S. and the Irish corporations definitely derive income from each other’s country of incorporation.

The difference in taxable income is certainly one of the incentives that motivate a U. S. multinational corporation to move abroad. A corporate inversion provides a technique to accomplish this purpose.

### **3. Changing the Taxing Authority**

If a U. S. multinational corporation has income from a foreign country, who has the taxing authority - the U. S. government or a foreign government? The tax rates are, more often than not, different between these two countries. For example, Burger King is a U. S. corporation, but it also earns income from Canada. How should it be taxed? It depends on Burger King's tax domicile. If it is the U. S., the tax rate is 35%; whereas, if it is Canada, the tax rate is 15%.

How to change the tax rate? If Burger King simply renounces its corporate U. S. citizenship and moves its tax domicile to Canada, the income from Canada is no longer subject to the taxing authority of the U. S. government. Instead, the Canadian income now belongs to the authority of the Canadian government. Better yet, if the Canadian government does not impose tax on foreign-sourced income, the Canadian income would be completely tax-free. This is precisely the benefit of a corporate inversion.

In other words, Burger King's Canada-sourced income has an opportunity to be taxed at only 15% in Canada by means of corporate inversion. In contrast, Burger King's U.S.-sourced income has no such an opportunity. It can only be taxed in the U. S. at 35%. In that sense, Burger King's Canada-sourced income is more flexible and maybe more beneficial than its U.S.-sourced income.

### **4. Changing the Taxing Entity**

A U. S. parent corporation may own a controlled foreign corporation (CFC) in a foreign country. The earnings from the CFC are generally not taxable in the U. S., unless the earnings are distributed as dividends to the U. S. parent corporation. The taxing entity is still the U. S. parent corporation. How can the taxing entity be changed?

The U. S. parent corporation may change its tax domicile from the U. S. to any foreign country. If it does so, it is no longer a U. S.-registered corporation, but a foreign corporation registered in a foreign country. Any earnings distributed from the old CFC to this new foreign corporation are no longer subject to the U. S. taxation, because the new foreign corporation is not a U. S. corporation. This is another use of a corporate inversion.

This strategy shows that the taxing entity of foreign-sourced income is changeable. It has changed the status of income from taxable to nontaxable. A corporate inversion is the vehicle to carry out this mission.

### **5. Changing the Source of Income**

The strategy of a corporate inversion offers still another advantage. A U. S. multinational corporation may have U.S.-sourced income as well as foreign-sourced income. The former is immediately taxable in the U. S.; whereas, the latter is not taxable in the U. S. until the dividends are repatriated back to the U. S.<sup>3</sup> Evidently, the latter is more preferable than the former. Can income be changed from a U.S.-sourced income to a foreign-sourced income? The answer is affirmative. How is it accomplished?

For example, K-mart sold merchandise from the U. S. to customers in China. The profit is immediately taxable in the U. S. If K-mart sets up a controlled foreign corporation in China and makes it purchase the same merchandise from the same supplier and sell it to the same customer in China, the income is treated as foreign-

sourced income and not taxable in the U. S. until the dividends are distributed to the U. S. The strategy of a corporate inversion has changed the seller from the U. S. to China. As a result, it has also changed the same amount of income from the U.S.-sourced income to foreign-sourced income.

Again, only an international transaction can render such a benefit; a U. S. domestic transaction cannot. All these benefits may explain why a corporate inversion has become so popular nowadays. There can certainly be more advantages.

In the next section it would be interesting to know how a corporate inversion actually works. More importantly, how much tax savings can it really derive? It would be useful to demonstrate an example. It will involve two different corporations operating in two different countries. If they merge what is the total tax liability. It concerns the aspect of foreign tax credit. If the same income is taxed in two different countries, the U.S. allows a foreign tax credit to the extent of the tax liability attributable to the foreign-sourced income.<sup>4</sup> The subject will become more complicated, as will be illustrated below.

### Example for a Corporate Inversion

U.S. Corporation has \$60,000,000 U.S.-source income and \$40,000,000 Irish-source income. Irish Corporation has \$20,000,000 U.S.-source income and \$80,000,000 Irish-source income. The U.S. adopts the “worldwide income tax” policy at a rate of 35%. Ireland adopts the “territorial income tax” policy at a rate of 12%. What is the total tax liability for these two corporations together without and with a corporation inversion, respectively? What is the amount of tax savings by engaging in a corporate inversion in this scenario? All data and results are summarized in TABLE 1 below:

TABLE 1 - Tax Without and With Inversion

	Income	Tax Without Inversion	Tax With Inversion
<b>U.S. Corporation:</b>			
(a) U.S. Source	\$60,000,000	21,000,000(35%) (a)	21,000,000(35%) (e)
(b) Irish Source	40,000,000	14,000,000(35%) (b)	4,800,000(12%) (f)
<b>Irish Corporation:</b>			
(c) U.S. Source	\$20,000,000	7,000,000(35%) (c)	7,000,000(35%) (g)
(d) Irish Source	80,000,000	9,600,000(12%) (d)	9,600,000(12%) (h)
<b>TOTAL</b>	<b>200,000,000</b>	<b>51,600,000</b>	<b>42,400,000</b>

### 1. Without Corporate Inversion

(a). Without a corporate inversion, U.S. Corporation pays \$21,000,000 ( $\$60,000 \times 35\%$ ) tax to the U.S. government for its \$60,000,000 U.S.-source income.

(b). Without a corporate inversion, U.S. Corporation pays \$4,800,000 ( $\$40,000,000 \times 12\%$ ) tax to the Irish government for its \$40,000,000 Irish-source income. Since the U.S. government adopts the “worldwide income tax policy,” U.S. Corporation must pay \$14,000,000 ( $\$40,000,000 \times 35\%$ ) tax to the U.S. government for its \$40,000,000 Irish-source income. However, U.S. Corporation can claim the \$4,800,000 tax paid to the Irish government as a “foreign tax credit” against the \$14,000,000 tax liability to the U.S. government, resulting in a net tax payment of \$9,200,000 ( $\$14,000,000 - 4,800,000$ ). The total tax payment for the U.S. Corporation is still \$14,000,000 ( $\$9,200,000 + 4,800,000$ ) for the \$40,000,000 Irish-source income.

(c). Without a corporate inversion, Irish Corporation pays nothing to the Irish government for its \$20,000,000 U.S.-source income, because the Irish government adopts the “territorial income tax policy.” However,

Irish Corporation must pay \$7,000,000 ( $\$20,000,000 \times 35\%$ ) tax to the U.S. government for its \$20,000,000 U.S.-source income.

(d). Without a corporate inversion, Irish Corporation pays \$9,600,000 ( $\$80,000,000 \times 12\%$ ) tax to the Irish government for its \$80,000,000 Irish-source income. However, Irish Corporation pays no tax to the U.S. government, because it is not U.S.-sourced income.

The total tax payment for these two corporations together without a corporate inversion is \$51,600,000 ( $\$21,000,000 + \$14,000,000 + \$7,000,000 + \$9,600,000$ ).

## **2. With Corporate Inversion**

(e). With a corporate inversion, the combined corporation pays \$21,000,000 ( $\$60,000,000 \times 35\%$ ) to the U.S. government for its \$60,000,000 U.S.-source income under the old U.S. Corporation.

(f). With a corporate inversion, the combined corporation pays \$4,800,000 ( $\$4,000,000 \times 12\%$ ) tax to the Irish government for its \$40,000,000 Irish-source income under the old U.S. corporation.

(g). With a corporate inversion, the combined corporation pays \$7,000,000 ( $\$20,000,000 \times 35\%$ ) to the U.S. government for its \$20,000,000 U.S.-source income under the old Irish Corporation.

(h). With a corporate inversion, the combined corporation pays \$9,600,000 ( $\$80,000,000 \times 12\%$ ) tax to the Irish government for its \$80,000,000 Irish-source income under the old Irish Corporation.

The total tax payment for these two corporations together with a corporation inversion is \$42,400,000 ( $\$21,000,000 + \$4,800,000 + \$7,000,000 + \$9,600,000$ ).

## **3. Tax Savings by Corporate Inversion**

The difference in total tax payment between without and with a corporate inversion is \$9,200,000 ( $\$51,600,000 - \$42,400,000$ ) in favor of a corporate inversion. That is the amount of tax savings by engaging a merger between U.S. Corporation and Irish Corporation and moving its tax domicile from the U.S. to Ireland. It exactly comes from the \$40,000,000 Irish-source income under the old U.S. Corporation. It was taxed at 35% without a corporate conversion because of the U.S. government's "worldwide income tax policy." However, it is now taxed at only 12% after a corporate inversion because of the Irish government's "territorial income tax policy." The difference in tax rates is 23% ( $35\% - 12\%$ ) and the amount of tax savings is \$9,200,000, i.e.,  $\$40,000,000 \times 23\%$ .

This example points out one important principle. U.S. Corporation may have both U.S.-source income and Irish-source income. Similarly, Irish Corporation may also have U.S.-source income and Irish-source income. Not all these four categories of income can save income tax. Any U.S.-source income is always taxed at a U.S. tax rate of 35%. There is no tax savings opportunity. The Irish Corporation's Irish-source income cannot save income tax either because it is not subject to the U.S. taxation. Only the U.S. Corporation's Irish-source income can give rise to tax savings. This category of income was subject to the U.S. taxation without a corporate inversion, but it is beyond the jurisdiction of the U.S. government with a corporate inversion. In this sense the true tax savings by a corporate inversion may be limited. Any taxpayer contemplating a corporate inversion must be aware of the source of tax savings.

## **Objectives of a Corporate Inversion**

In fact, the phenomenon of corporate inversion is not new. It started three decades ago in 1982. Only after 1994 did it become more popular. By 2014, according to the Congressional report, seventy-six corporations had inverted causing \$19.5 billion of loss in tax revenue.<sup>5</sup> In the last decade alone forty-seven were inverted.<sup>6</sup> In 2012 and 2013, twenty have followed suit.<sup>7</sup> In 2014 ten inverted. In 2015 six have done so as well.<sup>8</sup> The most recent case on November 23, 2015 was an announced merger between Pfizer and Allergan.<sup>9</sup> The trend seems to be accelerating. Why has it become so rampant today? More importantly, what has motivated the movement? By investigating many of the actual cases of corporate inversion in the past history, two objectives appear to be paramount. The first objective is to avoid the U. S. taxation on foreign earnings. The second objective is to avoid the high U.S. corporate tax rate for the foreign-sourced earnings repatriated to the U.S., as will be elaborated below.

### **1. Avoiding Tax on the Distribution of Foreign Earnings**

As noted above, the U. S. tax law adopts the so-called “worldwide income” tax policy, while a great majority of other industrialized countries employs the “territorial income” tax policy.” The former imposes tax on both the U.S.-sourced income and the foreign-sourced income, but it allows a corporation to defer the tax liability on the undistributed foreign-sourced income. On the other hand, the latter imposes tax only on the domestic-sourced income, not the foreign sourced income. In other words, in many other countries, the foreign-sourced income is tax-free. Obviously, there is a disparity between the U. S. and a foreign country.

That discrepancy causes unfair competition between the U. S. multinational corporations and other foreign corporations. In order to reduce the U. S. tax liability many U. S. multinational corporations made strenuous efforts to generate foreign-sourced income and also shun dividends distributions from earnings of a controlled foreign corporation. As a result of these efforts, by 2014, the U. S. multinational corporations had accumulated a huge amount of untaxed earnings in many foreign countries. It amounts to \$2 trillion that causes a loss of \$20 billion in tax revenue.<sup>10</sup>

From the viewpoint of these U. S. multinational corporations there is a burning desire to distribute these foreign earnings without triggering the U. S. taxation. This was actually the first objective of corporate inversion in its early years.

**McDermott Case:** In as early as 1982 McDermott, Inc. was a U.S.-registered corporation in Louisiana in the construction business. It also earned income from Panama. If the Panamanian subsidiary corporation distributed dividends to its parent corporation of McDermott, Inc., it would have triggered U. S. corporate taxation at the McDermott, Inc level. In order to avoid the corporate tax, McDermott, Inc. sets up McDermott, International, as a Panama-registered corporation in Panama. McDermott, International, issued stock to the shareholders of the old McDermott, Inc. in exchange for their stock and also to the old Panamanian subsidiary corporation. McDermott, International, became the parent corporation of the old McDermott, Inc. and the old Panamanian subsidiary corporation. The parent-subsidiary relationship between the old McDermott, Inc. and the new McDermott, International, was thus flipped around. Now the old Panamanian subsidiary corporation can distribute dividends to McDermott, International. It is hence not taxable in the U. S., because the new McDermott, International, is not a U. S. corporation. Nevertheless, the dividends received by the shareholders of McDermott, International, is still taxable in the U. S., but these dividends would have been taxed to U.S. shareholders anyway under the pre-inversion set-up anyway. This was known to be the first case of corporate inversion. The main purpose was to be able to distribute the future earnings of a controlled foreign corporation without paying U. S. tax at the corporate parent level.

**Helen of Troy Case:** There was a similar case in 1993. Helen of Troy was a U.S.-registered corporation in Texas in the cosmetic business. It owned many subsidiary corporations in many foreign countries. Again, if these foreign subsidiary corporations distributed dividends to the parent company of Helen of Troy in the U. S., it would trigger U. S. taxation at the Helen of Troy corporate level. In order to escape it, Helen of Troy set up a corporation in Bermuda.

As in the case of McDermott, the new Bermuda corporation issued stock to the shareholders of the old Helen of Troy in exchange of their stock and to all other Helen of Troy's CFCs. The new Bermuda corporation became the parent corporation of both the old Helen of Troy and all other CFCs. Those CFCs can distribute dividends to this new Bermuda corporation. It would not be taxable in the U. S., because the new Bermuda corporation is not a U. S. corporation. Better yet, Bermuda is a tax shelter country where there is no income tax at all. The new Bermuda corporation can transfer these distributed dividends to Helen of Troy. As a result, Helen of Troy now can use the earnings from all CFCs without paying the U. S. tax. It has accomplished the same objective as the case of McDermott, Inc. This case further demonstrates the usefulness of a corporate inversion.

The above two cases occurred in the early stages of the corporate inversion technique. The real purpose was not so much to take advantage of a lower tax rate in a foreign country, but rather the avoidance of the entire U. S. corporate taxation on the distribution of earnings from a controlled foreign corporation.

In the next section, this paper will point out the cases where the primary purpose was to avoid the U. S. taxation on the foreign-sourced income. In fact, the most corporate inversion cases in recent years belong to this situation.

## **2. Avoiding Tax on Foreign-sourced Income**

During past decade many European countries cut their tax rates. For example, Ireland reduced its tax rate to as low as 12.5% , and Canada to 15% . It motivated the U.S. multinational corporations to take advantage of the tax rates that were lower than the U.S. If a U.S. corporation's foreign-sourced income is taxed in the U. S. at as high as 35 percent, the best strategy is to move the corporation's tax domicile to a lower-tax foreign country. This is the real purpose of a corporate inversion. The following prominent and shocking cases substantiate this intention. They are Burger King, Medtronic, and Pfizer.

***Burger King Case:*** In as recently as 2014 Burger King was a U.S.-registered corporation in the fast-food restaurant chain business around the world. It earned income from Canada that was taxed in the U. S. at a rate of 35%. It sounds unfair. Tim Hortons was a Canada-registered corporation in the same line of business in Canada. Burger King and Tim Hortons are almost equal in size. They have now merged to become Restaurant Brands, International, with headquarters in Canada. They became a giant in their field of business with \$23 billion in sales revenue a year from 18,000 restaurants in 100 countries serving 11 million customers a day. The profit and its associated tax liability are gigantic. Unfortunately for the U.S. Treasury, Burger King moved its tax domicile from the U. S. to Canada. The U. S. government thus lost its tax authority over Burger King. Although the portion of income from within the U. S. is still subject to taxation in the U. S., the income from foreign countries is no longer taxed in the U. S. The amount of loss in tax revenue is tremendous. The portion of income from Canada is still taxed in Canada, but the tax savings amount to up to 20% (35% - 15%).<sup>11</sup>

The motive of the Burger King case is not much of tax-free distribution of earnings from a controlled foreign corporation. Burger King did not own Tim Hortons in the first place. Instead, it is the ill-effect of imposing the U. S. tax on Burger King's income from Canada that motivated Burger King to move. This is the consequence of a corporate inversion.

***Medtronic Case:*** In as late as 2015 Medtronic was a U.S.-registered corporation specializing in the research and production of medical devices, such as pacemakers. It sold its products around the world through many foreign subsidiary corporations. It had accumulated as much as \$13 billion of untaxed profits still sitting overseas.<sup>12</sup> If these funds were distributed back to Medtronic headquarters in the U. S. they would be taxed at a rate of 35%. It should be noted that the medical research efforts need a great amount of funds and the U. S. is still the best medical incubator in the world. Medtronic could not afford to leave the research facilities in the U. S. Ireland

offers a tax at as low as 12.5%. Medtronic was merged into Covidien in Ireland to become a new Medtronic as an Ireland-registered corporation. Both are pharmaceutical firms. Medtronic moved its tax domicile from the U. S. to Ireland, but it continues to operate in the U. S. as usual. Now the new Medtronic in Ireland can send funds to the old Medtronic in the U. S. to engage in medical research without triggering the U. S. taxation.

The Medtronic case shoots two birds with one stone. It saves the U. S. tax on both fronts: the foreign-sourced income and the undistributed earnings from controlled foreign corporations. The strategy of corporate inversion is indeed multifaceted.

**Pfizer Case:** Most recently on November 23, 2015 an earth-shaking merger was announced. Pfizer in the U. S. is to acquire Allergan in Ireland for a whopping price of \$150 billion that will create one of the biggest pharmaceutical firms in the world with \$300 billion in market share.<sup>13</sup> This will be so far the biggest merger in history. Pfizer will move its tax domicile from the U. S. to Ireland. The motive is the same as the Medtronic case. Pfizer has accumulated \$74 billion of untaxed profits overseas.<sup>14</sup> If Pfizer distributes these profits back to the U. S. it will trigger a huge amount of tax liability. The strategy of a corporate inversion can avoid it. A corporate inversion can also avoid the U. S. tax liability on its foreign-sourced income. It will yield tax savings of \$2 billion a year.<sup>15</sup>

The above five cases are only a tiny portion of corporation inversion. In fact, there are seventy-six (76) cases in total. Other notable cases include Tyco International to Bermuda, Aon to the United Kingdom, Noble to Switzerland, EnSCO to the United Kingdom, Perrigo to Ireland, Omnicom to the Netherlands, Chiquita to Ireland, Ingersoll to Bermuda, Fruit of the Loom to the Cayman Islands, etc.<sup>16</sup>

All these cases are pursuing the same objectives: distributing foreign earnings without paying U. S. corporate level tax and reducing tax on foreign-sourced income. Are they legal? Ironically, the answer is affirmative. It is the deficiencies of the U. S. tax law that is to blame. It is now the government's turn to fix it. In the next section this paper will scrutinize the new tax regulations that attempt to curtail the abuse.

## **Penalties of a Corporate Inversion**

In the arena of international taxation, corporate mergers and acquisitions with foreign entities are normal and ordinary business operations that promote economic efficiency. Unfortunately, in the past decade the strategy has been abused to become a tax avoidance scheme. It has caught the attention of the U. S. Treasury Department. Since then Congress enacted has §7874<sup>17</sup> in 2004 and the Treasury Department and the Internal Revenue Service issued Notice IR 2015-52<sup>18</sup> in 2014 and Notice IR 2015-79<sup>19</sup> in 2015 that are intended to impose penalties on those who abuse the tax law. The new regulations concern the tax on undistributed foreign earnings, size of the new combined foreign corporation, and the post-inversion intercompany loans, as will be explored below.

### **1. Capital Gain on the Exchange of Stocks**

The best strategy of a corporate inversion is to create a foreign corporation in a foreign country which in turn issues stock to the shareholders of the old U. S. parent corporation in exchange for its stock. Should the gain on the exchange be taxable on the part of the shareholders? The answer was negative because stock is not property. It happened in the McDermott case in 1982. The same situation happened again in the case of Helen of Troy in 1993. At that time it caught the attention of the Treasury Department which in turn issued new regulations that make it taxable under the authority of §367(b).<sup>20</sup> That was the first action by the government. In fact, the penalties were not that severe at all.

## **2. Distribution of Untaxed Foreign Earnings**

In an ordinary relationship, the U.S. parent corporation owns an old controlled foreign corporation (CFC). Any dividend distribution from the old CFC to the U.S. parent corporation would be taxable in the U.S. There is one way to avoid it. The U.S. parent corporation may create a new CFC which in turn issues stock to the U.S. parent corporation and also to the old CFC. The new CFC becomes the parent corporation of the U.S. parent corporation and the old CFC. The old CFC now can distribute dividends to the new CFC. The distribution is not taxable in the U.S. because the new CFC is not a U.S. corporation. Code §7874(c)(2)(A) provides that, if the scheme is intended to avoid U.S. taxation, the issuance of the said stock is deemed void for tax purposes. It does not count. The old CFC still legally owns the U.S. parent corporation, But for tax purposes any dividend distribution from the old CFC to the new CFC is treated as a distribution from the old CFC to the U.S. parent corporation and thus taxable in the U.S.<sup>21</sup>

In another situation, if the new CFC utilizes the funds from the old CFC to purchase stock or property from the U.S. parent corporation, it is treated as a dividend distribution from the old CFC to the U.S. parent corporation, and it is hence taxable in the U.S. as well.

These new regulations attempt to prevent diversion of the taxable earnings to a nontaxable entity. There are more.

## **3. The New Foreign Corporation as a U.S. Domestic Corporation**

Code §7874 concerns the ownership of the new foreign corporation. It is true that the status as a foreign corporation is treated more favorably than a U.S. domestic corporation, as mentioned before. After the inversion, if the combined new foreign corporation still has at least 25 percent of its business volume from the foreign country of incorporation, it is indeed treated as a “foreign corporation,” per se. If the U.S. shareholders own at least 60 percent of the stock, it is treated as a “surrogate foreign corporation” where all restrictions in §7874 shall apply. On the other hand, if the U.S. shareholders own at least 80 percent of the stock, the combined new foreign corporation shall be treated as a “U.S. domestic corporation” where it is subject to worldwide income tax. It completely denies the benefits of a corporate inversion.

This 80 percent ownership criterion is extremely important. It determines the status of the combined new foreign corporation. A taxpayer should make every effort to avoid it. Therefore, under the new regulations, the size of ownership of the combined new corporation becomes a major concern, as will further be elaborated below.

## **4. Determining the Ownership of the New Foreign Corporation**

As mentioned above, the 80 percent ownership is a red-line not to cross over. The U.S. parent may intentionally make an effort to circumvent it. There can be many ways. For example, it may distribute a rather large amount of dividends to the U.S. shareholders before the inversion. On one side of the equation, this action will shrink its assets value. As a result, it will reduce the relative size of ownership of the U.S. shareholders in the new foreign parent corporation.

The foreign corporation may also intentionally inject a huge amount of nonessential assets, such as cash, marketable securities or passive assets. On the other side of the equation, the action will boost the assets value of the foreign corporation. As a result, it will also reduce the relative size of the ownership of the U.S. shareholders.

The actions like these are intentional to circumvent the percentage tests. IRS Notice IR 2014-52 renders them void. In other words, they do not count in determining the relative ownership of the U.S. shareholders. This is another penalty on corporate inversion under the new tax regulations.

## **5. Intercompany Loans**

There is still another strategy to distribute the earnings of a CFC to the U.S. parent corporation without paying the U.S. tax. Before the inversion, if a CFC makes an intercompany loan to the U.S. parent corporation, under Section 956 the amount of loan is treated as a dividend distribution from a CFC to the U.S. parent corporation and thus taxable in the U.S. After the inversion this old CFC may no longer be the U.S. parent corporation's CFC. If the above mentioned intercompany loan happens again, it will still be treated as a taxable income in the U.S.

Later, when the U.S. parent corporation pays interest to the CFC, it is otherwise treated as interest expense on the part of the U.S. parent corporation and reduces its taxable income. The interest received by the CFC is otherwise treated as income and thus increases its taxable income. This amount of interest has actually shifted the U.S. parent corporation's taxable income to the CFC. Better yet, the CFC's income is not taxable in the U.S.

If this is the intention of income shifting, IRS Notice 2014-52 renders it void again. Interest expense is not deductible on the part of the U.S. parent corporation. Similarly, interest income is not taxable on the part of the CFC.

This is yet another penalty of a corporate inversion. There can be more. These restrictions are intended to discourage the use of corporate inversion. Those taxpayers who have a legitimate reason to use a corporate merger are encouraged to do so. However, those who attempt to abuse it shall face stiff penalties.

## **Conclusion**

This paper deals with the problems of a quite tumultuous subject today - corporate inversion. It reveals many abuses and penalties that are associated with it. This paper points out that a U. S. multinational corporation may derive income from not only the U. S. itself but also from many foreign countries. Unfortunately, the tax treatments are quite different between them. The income from the U. S. is taxable immediately, but the income from a foreign country is not taxable until cash dividends are received. The tax rate in the U. S. is much higher than that of a foreign country. Further, the taxing authority of the U.S.-sourced income is always the U. S. government, while the foreign-sourced income may be a foreign government. In addition, the taxing entity of the U.S.-sourced income is always the U. S. multinational corporation; whereas, the taxing entity of the foreign-sourced income may be a foreign corporation. This paper explores all of these differences. It points out that the disparities between the U. S. and a foreign country give rise to a corporation inversion.

This paper cites many actual cases of a corporate inversion. It illustrates that each case has different purpose. This paper also demonstrates one example to show how to determine the amount of tax savings by using a corporate inversion.

Furthermore, this paper points out that the technique of corporation has become so abusive today that it has triggered the Congress to enact §7874 and the Internal Revenue Service to issue Notices 2015-52 and 2015-70 in an attempt to impose many restrictions on the use of a corporate inversion. This paper investigates some details. It concerns the size of a combined corporation, the distribution of untaxed earnings from a controlled foreign corporation, the intercompany loan, etc. This paper also explains the reasons for these restrictions.

Finally, this paper offers a note of precaution. The technique of a corporate inversion is highly popular today in the arena of international taxation. It can indeed derive a great deal of tax benefits. Unfortunately, it has caught the attention of the U. S. Treasury Department. Many more restrictions are about to be issued in the very near future. Any taxpayer who attempts to take advantage of the loopholes in the U. S. tax law must be aware of the possible consequences and pitfalls.

## End Notes

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- <sup>2</sup> Internal Revenue Code (IRC) §862(a)(2).
- <sup>3</sup> Ibid.
- <sup>4</sup> Ibid §904(a).
- <sup>5</sup> *The United States House of Representatives Ways and Means Committee, Congressional Research Service report on “New CRS Data: 47 Corporate Inversions in Last Decade,” July 7, 2014.*
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- <sup>17</sup> IRC §7874.
- <sup>18</sup> Internal Revenue Service, IRS Notice 2014-52 “*Rules Regarding Inversion and Related Transactions*,” October 14, 2014.
- <sup>19</sup> Internal Revenue Service, IRS Notice 2015-79 “*Additional Rules Regarding Inversion and Related Transactions*,” December 9, 2015.
- <sup>20</sup> IRC §367(b).
- <sup>21</sup> Ibid §7874(c)(2)(A).

**Track: Economics, Finance, Real Estate, Banking and Public Policy**

## ***Working for the Elephant or the Dragon: Indian and Chinese Investment in U.S. firms and the Challenge to Retain and Attract Managerial Talent***

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### **Abstract**

*This study investigates talent worker factors relating to outbound direct investment (ODI) strategies of Indian and Chinese firms entering the United States. Chinese investments into the United States increased 233% between 2014 and 2015, while Indian investment into the United States increased 47% in 2014. The topic of retention and attraction is therefore imperative to a successful acquisition or greenfield strategy. The researchers found, however, American workers are more likely to leave when the acquiring firm is Indian or Chinese, and Chinese and Indian firms are found to be less attractive than American or European firms to work for. The paper will also address possible reasons and strategies to reduce some of the risk associated with acquisitions or direct startups by Indian and Chinese multinational firms in the U.S.*

**Keywords:** mergers & acquisitions, outbound direct investment (ODI), liability of foreignness, organizational attraction, international employee retention, emerging market multinationals

### **Introduction**

During 2014, foreign-sourced acquisition and greenfield investments into the United States were remarkable due to the fact that for the first time, Chinese-owned companies became the number one source of greenfield investment in the American market. Outbound direct investment (ODI) by Chinese companies into the United States saw a striking increase in 2014 of 233% totaling over US\$ 9 billion (Loewendahl, 2015). A recent noteworthy example of Chinese greenfield activity in the U.S. is Shangdong Tralin Paper Company's planned US\$ 2 billion investment in a paper and fertilizer plant in Virginia that is projected to create 2,000 new jobs by 2020 (Robertson, 2015). Examples of Chinese led acquisitions include the purchase of the mega-American pork producer Smithfield Foods for a record US\$ 4.7 billion by Chinese-owned Shuanghui International. Also notable is Dalian Wanda Group's high-profile US\$ 2.6 billion acquisition of the American movie theater giant AMC Entertainment Holdings in 2012.

There have also been several large-scale cross-border acquisitions made by Indian-owned pharmaceutical firms such as Dr. Reddy, Sun Pharma and Ranbaxy. In July of 2015, the Indian pharmaceutical firm Lupin Ltd. highlighted this trend by completing its fifth foreign acquisition in 18 months when it agreed to purchase the U.S. drug manufacturer GAVIS for US\$ 880 million (Gupta, 2015). Indian IT firms led by Infosys and Wipro are following a similar strategy as Beerannavar (2013) states, "Many [Indian] software companies have been establishing facilities in developing countries such as the USA ('reverse outsourcing') in order to acquire domain knowledge of clients and seek out new business opportunities" (p. 4). This statement is clearly supported by Infosys' 2015 acquisition of the California-based technology firm Panaya for US\$ 200 million (Crabtree, 2015). Other well-known Indian multinational companies conducting outbound international investment activities include the giant conglomerate Tata Industries (steel, automobiles, communications, beverages, hotels, etc.), Hindalco (metals) and Suzlon Energy (wind power) (Pradhan, 2009).

One of the challenges with acquisition-based ODI is the proper managing and staffing of the target firm following the acquisition. One of the major success predictors of an acquisition is the retention of key management talent throughout the implementation of acquirer's acquisition strategy. In the event that the ODI is realized through

greenfield investment, Chinese and Indian firms entering the U.S. market will need to attract (and subsequently retain) key human resource talent to the new startup companies if they are to succeed. Therefore, the purpose of this paper is identify whether U.S. talent workers are more likely to leave if a Chinese or Indian-owned company acquires their firm, and secondly, will also determine if these foreign-owned companies are seen as attractive organizations to work for by U.S. managers. After a thorough review of the literature and development of the hypotheses, the authors will perform data analysis pertaining to retention and attraction of U.S. talent workers into U.S.-based Indian and Chinese firms, and then provide discussion, analysis, and suggestions for practical applications of this research.

## Literature Review

According to the U.S. Department of Commerce (2012), net U.S. assets owned by foreign affiliates totaled \$3.9 trillion. The United States consistently ranks as one of the top destinations in the world for foreign direct investment (FDI), with inflows totaling \$1.5 trillion since 2006. In 2014, China became the third largest source of global ODI reaching U.S. \$64 billion, with U.S. \$9 billion of that sum being invested in the United States (Loewendahl, 2015). Considering that ODI from China averaged slightly less than \$1 billion per year from 2010 to 2012 (Department of Commerce, 2013), Chinese investment into the U.S. has increased some 200% in 2014 (Loewendahl, 2015).

While the sheer dollar amount of investments into the U.S. by Indian firms is much lower than that of China, Indian ODI has still seen a significant increase over the last decade. Since 2000, when India's total outward FDI was US\$ 0.5 billion, Indian FDI outflow in 2012 had increased by a factor of 17 times reaching a total of US\$ 8.6 billion (OECD, 2012). The literature review will address why the United States is an attractive destination for Indian and Chinese ODI, the importance of key management retention after an acquisition, reasons for turnover, and the role of organizational attractiveness in recruiting human resource talent.

## ODI into the United States

As stated above, numerous Indian and Chinese companies have invested billions of dollars acquiring assets in the United States, and are already employing thousands of American workers (Gammeltoft, Pradhan & Goldstein, 2010; Gupta, 2015). Research indicates that many Indian and Chinese multinationals are investing in developed markets in order to *acquire* strategic assets rather than exploit *existing* competitive advantages as has traditionally been the case with foreign direct investment from developed market firms (e.g., Child & Rodrigues, 2005; Deng, 2007; Luo & Rui, 2009; Rugman & Li, 2007). The latter is particularly the case in brand acquisitions such as Lenovo's purchase of IBM's ThinkPad or Tata's acquisition of Land Rover and Jaguar.

No one factor explains why the United States is an attractive destination for foreign investment. It should also be noted that Chinese and Indian ODI can often differ in both method and motivation (e.g. Beerannavar, 2013 and Hattari & Rajan, 2010). There are however, several common factors that can be attributed to both Indian and Chinese ODI into the United States. As suggested by Friedman, Gerlowski and Silberman (2006) and U.S. Department of Commerce (2015) some of the reasons may include:

- Open investment policies
- A large economy
- Diverse and robust consumer markets
- Skilled labor force
- The world's top research universities
- Stable regulatory policies, including intellectual property protection
- High rates of innovation
- New sources of energy

Additionally, as pointed out by Kumar and Steenkamp (2013), while it is the long term strategy for many Chinese and Indian firms is to establish their own brands in Western markets, they are nevertheless taking short term advantage of their strong capital holdings and the relatively weak status of many Western firms to simply purchase well-known Western brands.

All of these investment opportunities combine to make the United States an attractive place for ODI. Because of the rapid growth and strategic nature of these acquisitions, understanding the primary factors that make them successful, more specifically, key talent retention and attraction, will be the focus of the next sections.

### **Defining ‘Talent Workers’**

Turban and Greening (1996) propose that the success of multinational companies regardless of their country of origin depends upon their ability to retain and attract high-quality talent. Ironically, there is much debate over agreement on a single definition for the term ‘talent worker.’ One of the first publications to use the term ‘talent worker,’ after stating more than once that ‘talent’ is hard to define, provided the following definition: ‘managerial talent is some combination of a sharp strategic mind, leadership ability, emotional maturity, communications skills, the ability to attract and inspire other talented people, entrepreneurial instincts, functional skills, and the ability to deliver results.’ (Michaels, Handfield-Jones and Axelrod, 2001: xiii). Therefore, talent workers are defined as those managers, engineers and technical specialists capable of functioning in a global environment that possess highly sought after key skills, knowledge and/or capabilities deemed critical by their company or industry (Gordon, 2009; Ooi, 2010). Because talent workers are a key component in motivation to acquire companies in the United States, understanding turnover of talent workers after acquisition is imperative.

### **Management Turnover in Acquired Companies**

One of the reasons international acquisitions fail is lack of successful completion of an implementation strategy. Often success depends on the American target-firm management team acting as the champions for development and implementation of such a strategy. However, top executive talent of the acquired firm are often lost within a few years of acquisition, creating lack of follow-through for effective implementation process and strategy (Krug & Hegarty, 1997; Walsh, 1988.; Walsh & Ellwood, 1991). As a result, the most successful acquisitions that retain top target-firm talent workers tend to have more successful outcomes than those that do not (Cannella & Hambrick, 1993; Krishnan, Miller & Judge, 1997). A study by Krug and Nigh (2001) indicate the odds that executives will leave increase significantly when a firm is acquired by a foreign multinational, causing alarm for foreign-owned companies.

Unwanted turnover of key talent following an acquisition by a foreign company often leads to the loss of managerial knowledge and social capital (Kiesling, Harvey, & Heames, 2008) as well as “*leadership continuity*” (Krug, 2003). The loss of these critical organizational resources can create a domino effect by causing retention challenges throughout the various ranks of target company employees. Often, this domino effect means additional stress and anxiety among lower level employees thus prompting them to also leave the acquired company (Krug & Nigh, 2001). As a consequence, this post-acquisition loss of managers and other key talent is very likely to disrupt the subsequent integration process thereby jeopardizing the overall success of the acquisition (Buono & Bowditch, 1989; Butler, Perryman, & Ranft, 2012).

When considering unwanted post-acquisition turnover, literature dealing with the phenomenon known as the “*liability of foreignness*” (Zaheer, 1995) should be strongly considered. The term liability of foreignness refers to the inherent challenges or increased costs of doing business that foreign firms may face as a result of a lack of familiarity with the myriad of social, political, legal and economic institutions faced when entering a foreign market.

To fully comprehend the impact of liability of foreignness, one must compare this factor with the general risk of post-acquisition turnover faced by all acquiring firms regardless of nationality. Post-acquisition turnover of managers in domestic (*i.e.*, non-international) acquisitions is significantly higher than ‘normal’ non-acquisition related management turnover rates often reaching as high as 60% within the first five years (Walsh, 1988). When dealing with cross-border acquisitions, however, the likelihood of target-firm managers leaving goes up to 75% in the first five years following the acquisition by a foreign company (Krug & Nigh, 2001; Krug, 2003). This liability represents a major risk to any firm considering cross-border acquisitions.

In the case of American firms being acquired by Indian or Chinese investors, another major element of the liability of foreignness is highlighted in the form of cultural differences. Differences in culture are often a major contributing factor in the high turnover rates associated with the liability of foreignness (Chatterjee, Lubatkin, Schweiger, & Weber, 1992; Krug & Nigh, 2001; Larsson & Lubatkin, 2001; Schweiger & Very, 2003). National cultural differences and more generally psychic distance (Buckley, Forsans, & Munjal, 2012; Forsgren, 2002; Johanson & Vahlne, 1977), can be viewed as drivers of negative talent worker perceptions towards acquisitions conducted by foreign companies, resulting in stated turnover. Some of the cultural differences may also be a result of pre-conceived management perceptions, which will be addressed next.

### **Cultural differences and Liability of Foreignness**

One of the major contributors to the liability of foreignness often revolves around cultural differences (real or perceived). For example, Western managers may lack awareness and be distrustful of foreign owned companies, their acquisition experience, their acquisition success rate, and their post-acquisition management practices (Klossek, Linke, & Nippa, 2012). This lack of familiarity enhances the liability of foreignness of the acquiring firm thus resulting in potential retention issues of target-firm management once a Chinese or Indian firm acquires a U.S. company. For many Western managers, emerging economies such as China and India are perceived as fast growing markets but also as environments with a high degree of corruption, underdeveloped market mechanisms, strong government intervention and insufficient legal and regulatory conditions (Chang, Mellahi, & Wilkinson, 2009; Hoskisson, Eden, Lau, & Wright, 2000; Khanna & Palepu, 2010; Thite *et al.*, 2012). These negative stereotypes, both real and perceived, can also contribute to the retention issues and resulting challenges, as mentioned in the last section.

Another phenomenon relating to liability of foreignness is related to how information about the acquiring firm is shared amongst management when lack of actual information about the acquirer exists. Western managers may use rumors, words of mouth, “the grapevine,” and stereotypical perceptions to communicate to one another about the acquirer, based upon their own mentioned stereotypes. As a consequence, they often equate the acquisition and post-acquisition integration practices with their corresponding national stereotypes, resulting in acquisition failures. Besides negative national stereotypes, some Chinese-owned companies may suffer additionally from an adverse perceptual bias as a result of a general lack of transparency, a perceived failure to establish corporate legitimacy, the aggressive nature of many of their high-profile acquisitions, and an internationalization strategy being mostly driven by national interests (Bangara, Freeman, & Schroder, 2012; Klossek *et al.*, 2012).

As pointed out by Luo and Tung (2007), “when global stakeholders harbor stereotypes about poor governance of firms in emerging markets, even some well-governed EM MNEs [Emerging Market Multinational Enterprises] could fall victim to such negative images” (p. 494). In a recent study on the attractiveness of Chinese multinational firms they were shown to have a lower level of organizational attractiveness (as defined by Highhouse *et al.* 2003) for U.S. employees than developed market firms (Alkire, 2014).

These negative stereotypes and images may result in the loss of talent workers, resulting in a failed acquisition strategy. This is not an ideal end state, as Chinese and Indian acquirers need the highly sought after U.S.

managerial and other key talent to remain with the acquired firm. Conversely, in the event that they do experience unwanted turnover, they will also need to effectively attract new talent to their newly purchased firms in order to replace the loss of critical knowhow.

### **The Importance of Keeping U.S. Managerial Talent**

As has been established, emerging market firms entering into developed markets will have a critical need for managerial talent to run their foreign operations. A study by Cui and Jiang (2009) highlights this need by summarizing the comments of a Chinese manager as follows: “with full ownership of the acquired business, his firm obtained not only the technological patents, licenses and production lines, but also the entire research and development team, management personnel, and well-trained and experienced employees” (p. 314).

A common weakness shared by many emerging market multinationals is their lack of a globally experienced senior management team (Bartlett & Ghoshal, 2000; Rugman & Li, 2007). Traditionally, developed multinationals have relied heavily on the use of expatriate staffing policies to provide the key management talent in their foreign subsidiaries especially in the earlier stages of internationalization (Suutari, 2003). However due to the rapid growth and intense competition with developed nation multinational firms for management talent within their home markets, Chinese and Indian firms have tended to rely more on host country nationals to manage their foreign subsidiaries with the sending of expatriates being the exception rather than the rule for emerging market multinationals (Luo & Tung, 2007). This dilemma creates an obvious gap—Chinese and Indian firms need to retain their American talent workers to avoid the challenges associated with expatriate staffing policies, but this begs the first research question of this study: How likely is it that the key American workers will stay following an acquisition?

### **The Importance of Attracting U.S. Managerial Talent**

Because emerging market firms may lose talent workers when acquiring companies in the United States, understanding how to attract new talent workers is also imperative. Organizational attractiveness has been broadly defined as the degree of attitude or general positive mind-set towards a firm which leads to viewing said organization as an enviable employer, thus inspiring a job applicant to seek the organization as an employer (Turban and Greening, 1996; Aimen-Smith, Bauer and Cable, 2001). Rynes (1991; 1993) suggested that the attraction and selection process is a two-way street which should also include the perspective of the applicant. This shift of emphasis reinforced the concept that organizational characteristics may influence potential job applicants' perception of the firm as well as their attraction to it (Turban and Keon, 1993). One of the key findings in the literature on organizational attractiveness is that perceptions of person-organization fit (PO-fit) are considered one of the strongest predictors of successful attraction outcomes (Ployhart, 2006). PO-fit theory (Kristof, 1996) proposes a model in which individuals are attracted to those organizations which seem to share the individual's values and norms as well as providing opportunities for achieving the individual's objectives (Jones, Willness & MacNeil, 2009). The uncertainty of whether American talent workers will stay following an acquisition by a Chinese or Indian firm (research question one) leads to the second research question which asks: Will Chinese and Indian firms operating in the United States be seen as attractive employers by American talent workers?

### **Hypothesis Development**

“Perhaps the single most important challenge that emerging market MNEs face relates to their human resources. Building a successful, integrated international production network is a formidable challenge, to do so through the successful integration of acquired firms amplifies the difficulties,” (McAllister & Sauvart, 2013, p. 31). Because of this difficult challenge, emerging market firms acquiring American companies must understand how to

retain and attract talent workers. This section will address how the authors developed the hypotheses, based on the literature presented in the last section.

### **Conflicting Cultures' Effect on Retention and Attraction**

Whereas corporate culture has been defined as the beliefs and assumptions held in common by the employees of a firm including all of the various subcultures that typically exist within most organizations (Nahavandi & Malekzadeh, 1988); national culture is defined as the collection of values, beliefs and norms held by diverse societies or as Hofstede (1980) described it, 'the collective programming of the mind' that distinguishes various societies or nations. In the case of cross-border acquisitions, the clash of organizational cultural differences can often become exasperated by conflicting national cultures (Chatterjee *et al.* 1992). Although the literature has shown mixed results on the overall effect of cultural distance, key management turnover and subsequent post-acquisition success (e.g., Morosini *et al.* 1998; Slangen, 2006 Teerikangas, 2012), a large number of merger and acquisition failures have nevertheless been attributed to a collision of cultures (e.g., Buono & Bowditch, 1989; Kiessling *et al.* 2008; Weber & Camerer, 2003).

Research indicates that managers prefer mergers with firms from 'similar' cultural societies (Cartwright & Price, 2003; Krug & Nigh, 2001). When strong cultural incompatibility between parties is present in an acquisition, resistance develops in the target firm and turnover of talent workers may increase regardless of other acquisition related variables such as the proposed mode of integration, prior relationships, and whether or not the acquiring firm and its management have previous acquisition experience (Schweiger & Very, 2003). Weber and Drori (2008) suggest that to "the extent that cultural distance produces a 'culture clash,' such a clash may be strongest where the contact between the adherents of the opposing cultures is greatest, i.e., where the acquiring executives determine goals, strategic choices, and other operations for the acquired company" (p.126). Even in the event that two firms involved in an acquisition actually have similar corporate cultures, the impact of national culture conflict, especially if the cultures are more distant from one another, may still impede the success of the venture since culture clash can lead to low morale, loss of productivity and high talent worker turnover (Chatterjee *et al.* 1992; Cartwright & Cooper, 1993; Cartwright & Price, 2003).

The level of trust afforded to the talent workers by the acquiring firm may also vary depending on the cultural distance between the two parties. Hofstede (1980) found that in countries where there is relatively low power distance such as is the case of Americans, target firm managers and professionals tend to favor acquiring firms with organizational control systems that incorporate relatively high levels of subordinate trust, whereas the opposite organizational structures, i.e. no trust in subordinate managers and professionals, are more often found in high power distance cultures such as is the case with China<sup>1</sup>. Due to the combination of nationality-based cultural conflict and distinct organizational cultures, when pondering the effects of an impending acquisition, each employee of the target firm must make decisions on the degree of acculturation they are willing to accept. Acculturation has been defined as "the process by which members from one culture adapt to another culture" (Schoenberg, 2000, p. 46). In the case of a cross-border acquisition, acculturation is further defined as the product of a cooperative course of action within which the cultures (i.e. the values, norms and beliefs) of two previously autonomous firms form a single organizational culture (Larsson & Lubatkin, 2001). Very and colleagues (1996) discussed a phenomenon linked with cross-border acquisitions that they called 'acculturative stress,' the psychological impact associated with adaption to a new culture. They found that acculturative stress was responsible for lower target firm employee commitment and cooperation and increased dysfunctional turnover of key target firm talent. A fundamental criterion that influences the willingness of the target employees to acculturate is the perceived distance between the national and organizational cultures of the acquirer and the target firms (Very *et al.*, 1996).

Although corporate and national cultural differences can be viewed as potential drivers of negative perceptions towards acquisitions conducted by foreign firms, other factors related to the nature of foreign acquirers may also negatively influence target firm management perceptions thus increasing the likelihood of post-acquisition turnover. The combination of cultural distance, negative country of origin image and the liability of foreignness, may result in talent workers perceiving Chinese and Indian-owned firms as undesirable employers. It is thus hypothesized that the combination of these various cultural factors interpreted herein through the variable of country of ownership will be significant to the respondent's turnover decision. The first hypothesis therefore states:

*H1: Retention will be lower when an American firm is purchased by a Chinese or Indian-owned entity than if the acquiring firm is from the U.S. or of European origin.*

In the case of greenfield investments or simply replacing lost talent in the wake of an acquisition, Chinese and Indian firms operating in the U.S. market must not only compete with domestic-based U.S. companies to attract the best and the brightest talent, but they will also find themselves competing head-to-head with perhaps better known global corporations from a variety of other nations (Shenkar, 2006). In an era when more and more firms are becoming dependent on their human resource capital (Bartlett and Ghoshal, 2002), the ability to attract the necessary number of talent workers will be a key determinate of subsequent success for emerging market firms wishing to enter the U.S. marketplace (Rugman and Li, 2007; Gammeltoft, 2008). Based upon the above arguments, the second hypothesis assumes that:

*H2: Attraction perceptions of American talent workers towards Indian and Chinese-owned multinational firms operating in the U.S. will be lower than an equivalent American or European firm.*

## **Methodology**

Given the focus of this study is on retaining and attracting American talent workers the research was comprised of two separate studies which will be discussed in this section.

### **Retention Study**

The retention study was based on a policy capturing-based judgment criteria model. Respondents were given scenarios and faced with a choice of remaining with their firm or quitting as a consequence of an acquisition of their current employer by another company. Through the use of the policy capturing method, researchers are able to analyze judgments or decision making behavior through the implementation of realistic scenarios that tend to be more relevant to the decision at hand than the more generic questions that are typically found in opinion surveys (Dülmer, 2007; Patzelt & Shepherd, 2008). The policy capturing method allows for the collection of the participant's real time decision making data, resulting from the various decision criteria presented to them (Cooksey, 1996; Priem & Harrison, 1994).

The survey instrument used was comprised of manipulated scenarios where the primary manipulation was based on the country of origin of the acquiring company which was randomly switched from one of four possibilities: Chinese, Indian, European or American owned. Due to the complex nature of international acquisitions, the influence of additional acquisition related factors such as a prior relationship between the two parties, acquirer's previous experience with the U.S. market, the acquiring firm's management acquisition experience and the intended post-acquisition integration of the target firm was also measured.

To avoid respondent fatigue and enhance the response rate, a simulated experiment was designed using a fractional factorial survey. Following suggested protocol, an optimal number of scenarios were generated by using the *orthogonal design* function of the software program IBM SPSS Statistics 20.0; a function designed specifically

for fractional factorial designs (Dülmer, 2007). The *orthogonal design* software calculated 26 scenarios for this study plus two duplicate test-retest scenarios for a total of 28. The two test-retest scenarios were placed randomly throughout the survey as a control for respondent fatigue and consistency of respondent decision making. Test-retest scenarios are not included in data analysis. The final study contained 26 scenarios per participant, which resulted in a total of 3,692 decisions nested within 142 respondents.

### **Respondents and Procedure**

Data was collected from a representative base of American executives, middle managers, and professionals employed in a variety of industries that an acquiring firm might find valuable for post-acquisition retention. In all, a total of 142 respondents from some 114 different companies involved in ten primary industries were surveyed. Participation was completely voluntary and confidentiality and anonymity was guaranteed in the survey cover letter.

Initially, approximately 1,350 managers and working professionals were asked to participate in the study. A total of 526 (39%) managers and professionals responded that they were interested in receiving a copy of the survey. From this group, a total of 196 (37%) surveys were received of which, 54 of the responses were eliminated due to inconsistencies or missing data which resulted in a final number of 142 complete and useable surveys (27%). Since the subjects shared similar profiles and were all chosen at random from the same professional networking site, there appears to be no discernible respondent bias as those who chose to participate were not in any quantifiable way different from those who chose not to respond. The sample population contains a broad selection of individuals varying in industrial sectors, gender, age, job level, experience with mergers and acquisitions.

The focus was to determine if acquisition by a Chinese or Indian-owned firm would result in a higher intention to quit on the part of the respondents than an acquisition by a European or a locally owned U.S. firm. Given the large numbers of workers that have been affected by mergers and acquisitions (Brannen & Peterson, 2008), it is safe to say that the majority of American working professionals are familiar with the multitude of personal and professional issues surrounding most mergers and acquisitions even if they have not personally experienced one. Thus asking managers and working professionals how they would respond to a hypothetical acquisition is not that far removed from their real-world reality. Therefore, the majority of the participants in this experiment fall into Cooksey's (1996) top two categories of qualified judgment analysis participants: "Familiar and Experienced" and "Familiar but Inexperienced" (p.99).

The combined survey sample's overall average time with their current employer was 4.9 years (SD=6.6). The average age of the combined sample was 33.3 years old (SD=10.9). With regard to gender, approximately one third of respondents were female. Participants in this survey represent ten major industrial sectors classified in the questionnaire as follows: Manufacturing (13%), High Technology and Communications (12%), Finance and Banking (12%), Service (26%), Engineering and Construction (9%), Food and Beverage (4%), Aerospace (9%), Energy (2%), Medical and Pharmaceutical (5%) and Retail and Clothing (8%). Additional demographic control data asks respondents their current job responsibility level, firm size as represented by number of employees and whether or not their firm was privately held or traded on a stock market.

### **Attraction Study**

The focus of this portion of the study was on attracting American talent workers. The attraction hypothesis needed to be tested on those potential job seekers either already in or soon to be moving into the workplace. Therefore data was collected from two primary respondent groups. These groups were selected as an accurate representation of the potential pool of talent workers that Chinese or Indian firms entering the U.S. might actually draw upon for their human resource needs. The first respondent group (60%) is comprised of final year bachelor's and master's level students majoring in professional areas of specialization. The second group (40%) is comprised of working professionals from a variety of professional business fields.

## **Respondents and Procedure**

The main survey instrument used in this study was a web-based survey based on the organizational attractiveness questionnaire developed by Highhouse, Lievens and Sinar (2003). Following demographic questions, the survey participants were asked to read one of three job descriptions. In order to avoid any potential bias due to name brand identification of a particular corporation, the job descriptions were contrived so as to appear to be provided by a hypothetical executive search company acting on behalf of a multinational client firm. The job descriptions were identical except for the country of origin of the supposed parent company. The home country of the hypothetical firm was highly manipulated so that it was very clear where the company was from (either American, Chinese, Indian or European). In order to avoid any type of brand bias, only the name of the executive search firm was used (Allen, Mahto and Otondo, 2007).

In order to assure initial equivalence of participants in each condition on all variables, the manipulation was randomly assigned to participants. The descriptions included the organizational attributes as well as a list of various positions that were available at the company. In addition to highlighting the nationality of the parent company, they also emphasized that there were openings in several large metropolitan areas within the participant's region. Compensation was not mentioned.

After reading the job description, participants were asked five questions regarding their overall perceived attraction to the firm. The scale, based on respondent attitudes towards the company as a potential place to work, is focused on overall organizational attractiveness. The questions are taken directly from Highhouse and colleagues (2003) who in turn relied heavily upon established organizational attraction studies in their development (e.g., Fisher, Ilgen & Hoyer, 1979; Turban & Keon, 1993). For example, the first item the respondents are asked to rate is: *'For me, this company would be a good place to work.'* Consistent with previous research this instrument yielded adequate internal reliability ( $\alpha = .92$ ).

In all, there were 209 participants in this survey. The gender breakdown across respondents was 40% female and 60% male. The majority of the participants (70%) fell into the 21 to 34 age category resulting in an average age of 29 years.

Initially, approximately 1,150 survey invitations were sent out to students and working professionals. Of the requests, 204 surveys were returned of which 79 had to be eliminated due to incomplete or missing data. In all, 336 surveys were received of which 124 were eliminated due to incomplete or missing data resulting in a total of 209 usable surveys.

## **Results**

### **Retention**

Table 1 includes the descriptive statistics and correlation data for the retention portion of the study. It should be noted that an inherent feature of the orthogonal design is the assumption of zero correlation between the primary variables, (Dülmer, 2007)

**Table 1. DESCRIPTIVE STATISTICS AND CORRELATION MATRIX FOR RETENTION STUDY**

	Mean	Std Dev	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Intention to Chinese-	4.5	1.68	1																
Indian-owned	-	-	0.07	1															
European-	-	-	-	-	1														
U.S.-owned	-	-	-	-	-	1													
Prior alliance	-	-	0.1	0	0.00	.00	0	1											
Exp. w/local	-	-	0	0	0	0.0	0	0.0	1										
Integration	-	-	-	0	0	0.0	0	0.00	0	1									
Mgt	-	-	0	0	0	0.0	0	0	0	0	1.0								
Gender	-	-	0	0	0	0.0	0	0	0	0	0	1.0							
Age	33	0.47	0.1	0	0	0.0	0	0	0	0	0.00	-	1.0						
Years in firm	0.1	0.40	0.0	0	0	0.0	0	0	0	0	0.00	-0.01	0.6	1.00					
Job level	-	-	0	0	0	0.0	0	0	0	0	0.00	-	0.4	0.2	1.0				
Years in job	3.3	4.97	-	0	0	0.0	0	0	0	0	0.0	0.0	0.50	0.58	0.1	1			
Industry	-	-	-	0	0	0.0	0	0	0	0	0	0.03	-	-	0.06**	-	1.00		
Size	-	-	0	0	0	0.0	0	0	0	0	0.0	0.06*	-	-	-	-	0.3	.00	
Stock/Private	-	-	-	0	0	0.0	0	0	0	0	0.00	-	-	-	0.11**	-	-	-	1.00

\*. Correlation is significant at the 0.05 level (2-tailed),

\*\*. Correlation is significant at the 0.01 level (2-tailed), n= 3,692 decisions nested within 142 managers.

Table 2 displays the main findings of the study in terms of regression models. Unstandardized coefficients ( $\beta$ ) along with their corresponding standard error values are included for the various decision criteria of the study. The various statistical significance levels are indicated by asterisks. In order to differentiate between the various countries of origin, four dummy variables were created; Chinese-owned, Indian-owned, European-owned and US-owned firms. The various unstandardized coefficient values of the four different countries of origin of the acquiring firms are located in the upper portion of Table 2. The middle section of Table 2 includes the regression values of the Level II acquisition-related control variables and the lower section of the table indicates the corresponding values for the Level III demographic and firm specific control variables.

**Table 2. HLM REGRESSIONS FOR COUNTRY OF ORIGIN EFFECT ON KEY TALENT RETENTION** <sup>A, B, C</sup>

Level I variables	Model 1	Model 2	Model 3	Model 4
Intercept for direct effects	4.30*** (0.04)	4.53*** (0.03)	4.67*** (0.03)	4.76*** (0.03)
Chinese	0.65*** (0.05)			
Indian		0.30*** (0.07)		
European owned US firm			- 0.44*** (0.07)	- 0.89*** (0.07)
Intercept for Level II Variables	3.21*** (0.16)	3.05*** (0.17)	3.32*** (0.17)	3.47*** (0.16)
Prior alliance	0.28*** (0.05)	0.38*** (0.07)	0.34*** (0.05)	0.32*** (0.05)
Experience w/local market	0.32*** (0.05)	0.37*** (0.05)	0.35*** (0.05)	0.34*** (0.05)
Integration (Preserve culture)	- 0.47*** (0.05)	- 0.42*** (0.05)	- 0.44*** (0.05)	- 0.45*** (0.05)
Mgt. experienced w/M&A	0.65*** (0.05)	0.70*** (0.05)	0.68*** (0.05)	0.67*** (0.05)
Intercept for Level III variables	2.40*** (0.24)	1.94*** (0.23)	2.51*** (0.24)	2.67*** (0.24)
Age	0.02*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	0.02*** (0.00)
Gender	0.59*** (0.06)	0.59*** (0.06)	0.59*** (0.06)	0.59*** (0.06)
Years in firm	0.02** (0.01)	0.02** (0.01)	0.02** (0.01)	0.02** (0.01)
Job level	0.17*** (0.04)	0.17*** (0.04)	0.17*** (0.04)	0.17*** (0.04)
Years in job	- 0.04*** (0.01)	- 0.04*** (0.01)	- 0.04*** (0.01)	- 0.04*** (0.01)
Industry	- 0.05*** (0.01)	- 0.05*** (0.01)	- 0.05*** (0.01)	- 0.05*** (0.01)
Size	0.12*** (0.03)	0.12*** (0.03)	0.12*** (0.03)	0.12*** (0.03)
Stock/Private ownership	0.16* (0.07)	0.16* (0.07)	0.16* (0.07)	0.16* (0.07)

<sup>a</sup> Regression coefficients are unstandardized and numbers in parentheses are standard errors.

<sup>b</sup> Positive coefficients indicate that increases in the value of independent & control variables increase the likelihood of turnover, and conversely.

<sup>c</sup> \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$ ,  $n = 3,692$  decisions nested within 142 managers.

The results from Model 1, shown in the first column of Table 2, indicate the talent workers surveyed in this study showed a significantly higher likelihood of quitting their jobs following an acquisition by a Chinese firm ( $\beta = .65, p < .001$ ). The results from Model 2, in the second column, although not as strong as the first model, also showed that respondents indicated a significantly higher likelihood of quitting their jobs following an acquisition by an Indian firm ( $\beta = .30, p < .001$ ). The results from third model show when the acquiring firm is of European origin, and therefore has a lower perceived cultural distance, there is a significant lowering of the likelihood of key talent turnover. In this case, the negative sign indicates a lower intention to quit. In further support of this premise of this paper, the results for Model 4, shown in the fourth column of Table 2, strongly indicate that acquisition by a U.S. firm has the greatest effect on reducing key talent turnover ( $\beta = -.89, p < .001$ ). Hypothesis 1 which predicted that retention of key target-firm personnel will be lower when the acquiring firm is Indian or Chinese-owned versus an acquiring firm of U.S. or European country of origin is therefore fully supported.

As might be expected, while significant, the country of origin of the acquiring firm is not the only factor that target-firm employees will be considering when faced with a cross-border acquisition. Further examination of

the data revealed that all four acquisition-related control variables were also significant. Of the four control variables, the two strongest effects were found in the integration variable and management's prior experience with acquisitions variables. The level of integration was either full assimilation or relatively full autonomy. The negative sign on the results of this regression ( $\beta = -.47, p < .001$ ) for the full autonomy option shows that those companies that remain autonomous after an acquisition will experience a lower intent to quit by its managers. The variable controlling for the acquiring firm's management's prior experience with acquisitions had an average value of  $\beta = .66, p < .001$ . This was the only control variable to have as high a value as the country or origin effect and was the most significant predictor of variance among the four acquisition-related decision criteria. The four acquisition control variables had a significant  $\Delta R^2$  of .07,  $p < .001$  across all four country of origin test models. The level III demographic variables added additional significant albeit minimal explanatory value to the model with a  $\Delta R^2$  of .05,  $p < .001$ .

### Attractiveness

Prior to analyzing the data for the organizational attractiveness portion of this study, the original scales of the dependent variable 'attraction' were reduced into an aggregated variable by calculating a composite score for based on the mean value of the factor's combined items. Although the scales used in this study were taken from well-established works, in order to further corroborate their validity, a confirmatory factor analysis (CFA) was performed using MPlus Version 3.01 software. The results of this CFA revealed adequate factor analytic fit in accordance with Hu and Bentler's (1999) recommended cutoff values. Please refer to Table 3 for the means, standard deviations and item correlations of the study's variables.

**Table 3. DESCRIPTIVE STATISTICS AND CORRELATION MATRIX FOR ATTRACTION STUDY**

	Mean	Std.dev.	1	2	3	4	5	6	7	8	9
Org.	4.07	1.14	1.00								
Chinese-	-	-	- 0.11	1.00							
Indian-owned	-	-	- 0.11	- 0.34**	1.00						
European-	-	-	- 0.02	- 0.34**	- 0.31**	1.00					
U.S.-owned	-	-	0.24**	- 0.36**	- 0.33**	- 0.33**	1.00				
Gender	-	-	- 0.04	- 0.03	- 0.15*	0.12	0.08	1.00			
Age	29.43	7.61	- 0.07	- 0.07	- 0.02	- 0.01	0.10	0.12	1.00		
Occupation	-	-	- 0.08	- 0.15*	- 0.05	0.04	0.16*	0.18*	0.58**	1.00	
Industry	-	-	0.08	- 0.01	- 0.09	0.03	0.06	0.22*	- 0.06	0.02	1.00

\*. Correlation is significant at the 0.05 level (2-tailed),

\*\*. Correlation is significant at the 0.01 level (2-tailed), n=209.

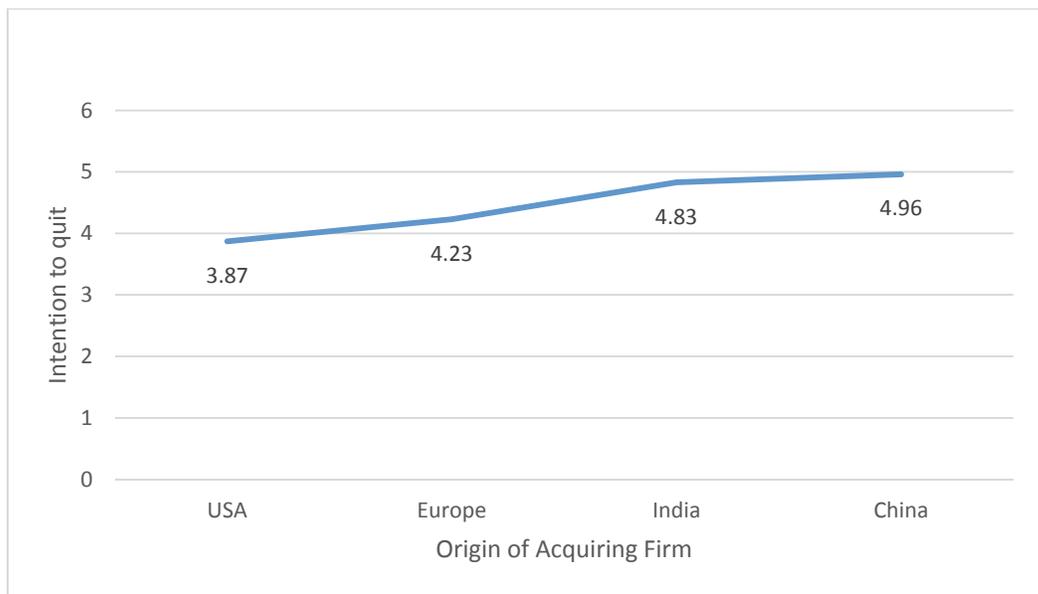
Hypothesis 2 predicted that the perception of organizational attractiveness would be lower for Chinese and Indian-owned firms than for an equivalent American or European-owned company. In order to test for significance, a one-way between group analysis of variance (ANOVA) test was run in order to explore whether or not there was an overall difference in the perception of organizational attractiveness based on the country of origin of the firm. The firms were divided into four countries of origin: Chinese, Indian, European and American. As shown in Table 4, there was a statistically significant difference at the  $p < .01$  in the perceived level of organizational attractiveness between the four countries with  $F(205) = 4.34, \eta^2 = .06$  and  $p < .01$ .

**Table 4. ATTRACTION STUDY: ANALYSIS OF VARIANCE**

<b>Organizational Attractiveness</b>	<b>N</b>	<b>df</b>	<b>F</b>	<b><math>\eta^2</math></b>	<b>P</b>
<b>H2 ANOVA (209) Indian &amp; Chinese MNCs less attractive than European or USA.</b>	<b>209</b>	<b>205</b>	<b>4.34</b>	<b>.06</b>	<b>**</b>
Post Hoc: Comparisons of countries from USA	N	an	Mean Difference	P	
China	56	3.87	.65	*	
India	49	3.83	.69	*	
Europe	50	4.03	.49	-	
USA	54	4.52	<sup>a</sup> From USA		

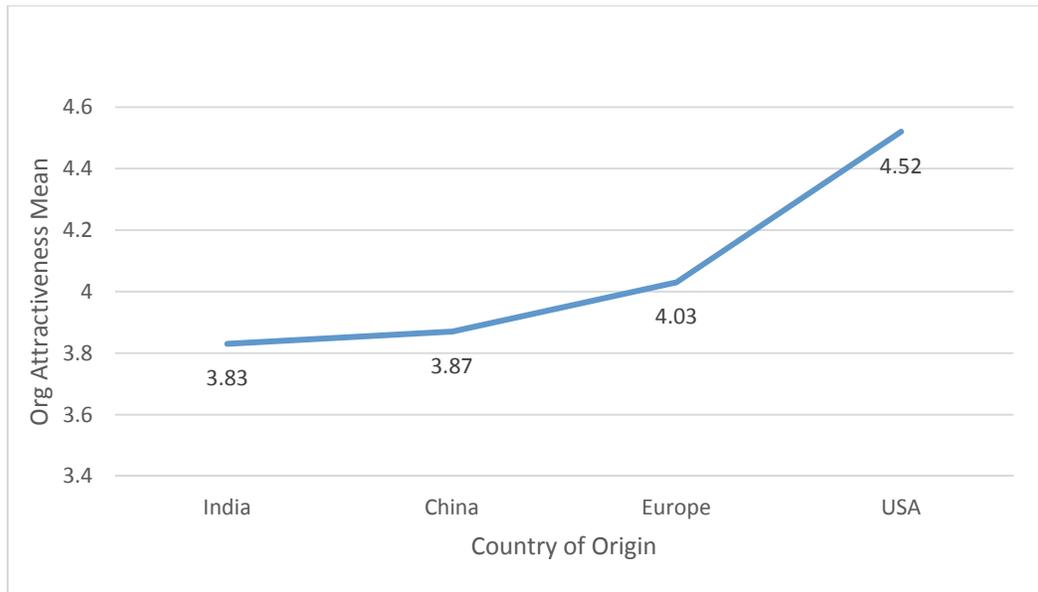
Full Sample Size: N= 209, \* p < .05, \*\* p < .01

A further post hoc examination (Tukey HSD) of the between country differences indicated that there was not a significant difference in the perception between European and American-owned firms. There was however a statistically significant difference between American and both Indian and Chinese-owned firms (see Table 4). Figure 1 below refers to the retention portion of the study and contains a plot of the mean of the respondent's intention to stay or quit their firm as a function of country of origin of the acquiring firm.



**Figure 1: Retention: Intention to Quit Based on Country of Origin of Acquirer**

Figure 2 stems from the attraction portion of our analyses and contains a plot of the mean of the respondent's perception of the organizational attractiveness of the firm also as a function of country of origin.



**Figure 2: Attraction: Perceived Organizational Attractiveness Based on Country of Origin**

When we compare the slopes of the lines contained in Figures 1 and 2, we get a simple but informative graphic visualization of the results of our study. The line in Figure 1 shows that as the country of origin moves from U.S. to European, then China and finally to India, the intention to quit rises correspondingly. Similarly, Figure 2 shows a reversed steep curve with perceived organizational attractiveness going up at the option of the U.S. firm is reached. Therefore, hypothesis two is fully supported.

## Discussion and Recommendations

Because of the major increase of outbound direct investment from China and India into the United States, perceptions by U.S. employees of Chinese and Indian acquirers, and the fact these firms need managers from the U.S. to remain with the acquired firm in order to achieve a successful acquisition, the practical implication of this study is imperative. Because the study shows American talent workers are more likely to quit when acquired by an Indian or Chinese firm, and Chinese and Indian firms are perceived as less attractive employers by American talent workers, understanding how these firms can retain and attract talent workers in the U.S. will be the focus of this section.

Communication is a major factor when considering strategy around an acquisition. Inkpen, Sundaram and Rockwood (2002) cite lack of communication as a major reason for failed cross-border acquisitions. Nikandrou, Papalexandris, and Bourantas (2000) have suggested frequent communication before and after the acquisition can be an important first step in a smooth transition. Also, communicating the vision with key target firm talent before the acquisition occurs can eliminate some of the anxiety managers and workers may feel when first faced with a large change (Inkpen et. al., 2002). Therefore, the authors believe deep and prolonged pre-acquisition communication with key target company talent may eliminate some liability of foreignness issues as addressed in this paper.

Besides communication, trust development is an important factor. Previous interactions and/or collaborations between talent workers and the acquiring firm can be particularly helpful to reduce such a suspicion and develop trust between the acquirer's management team and the target company's talent workers (Stahl & Sitkin,

2005). To this end, information gathering and trust building are important factors (Klossek *et al.*, 2012). They can contribute to reducing the origin, newness, and latecomer status based costs often incurred by emerging market multinationals, thus reducing some adverse effects.

Besides communication and trust, other strategies may prove worthwhile to eliminate some of the challenges associated with retention and attraction of talent workers. First, it is suggested (Inkpen *et al.*, 2002) firms entering the U.S. market should provide greater managerial autonomy to the target firm, at least at first, to strengthen trust and avoid major disruptions to employees' every day work-lives.

Chinese and Indian firms must avoid assuming that successful managerial techniques used in the acquisition of one foreign firm will automatically work with future acquisitions of unrelated firms in the United States or other countries (Guillén and García-Canal, 2009; Halebian & Finkelstein, 1999).

Efforts should be made both pre- and post-acquisition to identify potential cultural issues and thus gain the capability of incorporating higher levels of cultural sensitivity as a means of resolving post-acquisition integration issues (Dikova & Rao Sahib, 2013; Morosini *et al.*, 1998; Very *et al.*, 1997). This heightened sense of cultural sensitivity can be applied to both retention and attraction.

Creating local market legitimacy can also assist in retention and attraction of American nationals by Chinese and Indian companies. Making cumulative investments in the U.S. market can reduce the likelihood of cultural collisions by bringing experience and knowledge to the Chinese and Indian acquirers.

For attraction purposes, it is important to understand some basic motivational and compensation differences between Chinese employees in China, Indian employees in India and U.S. employees working at home in the USA. For example, a study by Fisher & Yuan (1998) states Chinese employees rank good wages first, followed by good working conditions, and personal loyalty from the boss and from the organization. This is somewhat juxtaposed from United States factors, which include higher ranks for appreciation of work done well, promotion/growth potential, and interesting work over just salary scales alone. In addition, setting a compensation system that doesn't negatively affect the talent workers, and is in line with standard pay for work done in the United States, is imperative (Inkpen *et al.*, 2002). Differences in work culture and employee expectations for their organizations are beyond the scope of this study—but the fact extreme differences exist should be noted, as it can be an important factor in the future retention and attraction of U.S. nationals by Chinese and Indian firms.

## **Conclusion**

This paper has explored ODI by Chinese and Indian firms and has addressed the concerns associated with post-acquisition retention and attraction. The study also determined that Chinese and Indian firms tend to be less attractive to talent workers than European or domestic firms. In addition, talent workers are more likely to leave if acquired by Chinese and Indian firms. Because talent workers are major contributors to the success or failure of an acquisition strategy, reducing some of the challenges associated by utilizing strategies in this paper should be considered.

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<sup>1</sup> According to Hofstede's dimensions; Americans (PD = 40) have significantly lower power distance levels than those found in China (PD = 80). (Source: <http://geert-hofstede.com/countries.html>).

# ***Optimizing Discount Rates: Expressing Preferences for Sustainable Outcomes in Present Value Calculations***

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## **Introduction**

The objective of this paper is to demonstrate how the discount rate used in present value calculations expresses the preference for sustainability in decision making, and its implication for sustainable economic growth. In essence, the lower the discount rate, the greater the regard for the future, and the more likely we choose behaviors that lead to long-term sustainability. The theoretical framework combines behavioral economics and holonomics. Sustainability describes a feedback mechanism between resources and behavior that is stable and enduring. Without those two characteristics, an economy (or ecosystem) would either collapse before our eyes, or at best change so dramatically that it is as if we no longer lived in the same world. The resources available underlie which behaviors are feasible. Behaviors influence what resources will be available. From an economic viewpoint, behavior is an expression of the decisions and choices we make. Behavior is understood as the outcome of preferences given the constraints/opportunities/feasible alternatives faced. However, the resources available also influence how we make decisions. This includes not only our capacity to make decisions (such as information and information technology available) but also who we are as decision makers. Since sustainability has a similarity to survival processes based on allocation of resources, a preference for it can be expressed by a utility function with survival time as one of its arguments. It also shows up in the intertemporal discounting and time horizons used in cost-benefit analysis.

Some economists argue against using discount rates below market interest rates. Podenza (2011) wrote that, “A good case can be made that market rates used to settle private financial matters already incorporate intergenerational welfare considerations through the inherent, multi-generational perspective of the human family ... this justifies extending the revealed-preference approach to discounting to matters in the public realm as well.” However, the revealed-preference approach is limited by the alternatives available. It also implies that the discount rate should vary as interest rates do. This is problematic since one would have to both forecast future interest rates, as well as deal with a plan that is not self-consistent. If the time preferences of consumers influence interest rates, then the intertemporal discount rates policy makers use will also affect future interest rates. Furthermore, when individuals have greater wealth and/or working capital, their time horizons increase. Rachid Laajaj (2012) demonstrated this when studying the impact of small investments on the planning time horizons of farming households in Mozambique. Also of importance, Borrisov and Dubey (2015) suggest that entities using lower discount rates will, over time, tend to accumulate more of the economic capital of an economy. Clearly, imagining the long-term benefits of a sustainable project must capture the essence of sustainability, which means using low enough discount rates, and a long enough time horizon, to even bother to be aware of those benefits.

## **Holonomic Framework**

While the term “holonomics” has been used for a while in mathematics and psychology, it is a relatively new term for discussing economic well-being. One conception of it is presented in the book *Holonomics* (Robinson and Robinson, 2014). Well-being is presented as an outgrowth of how we perceive the world. They suggest three major distinctions; mechanistic (objects), systems (relationships), and holonomic (meaning). The important contrast for them is that while traditional economics has profits as the goal of business activity, a holonomic approach has profits as a means to a greater good (similar to the Naïve/Sophisticated distinction discussed by Gigliotti (1988)). The framework we will use focuses on the nature of constraints and preferences. It is a recognition that our preferences over, and choices of, who we are being as decision makers deeply influence the commitments we keep, as well as what attracts our attention and shapes our priorities. These issues can be summed up in the catchphrase, “Coulda-Shoulda-Woulda.”

## Of Constraints and Preferences

Maybe the most foundational concept in economics is feasibility. When we say an outcome is **feasible**, it means that outcome could actually happen. It “coulda” happened if only we had chosen to make it so. Economists tend to avoid considering policies or goals that are not feasible. When one attempts to achieve something that is not feasible, there is both a failure to achieve that outcome, and depletion of the time, energy and other resources that might have been used to achieve another, more feasible, goal. Occasionally attempting the infeasible means harm or death (like trying to fly off a mountain with no equipment or special gear). Moreover, feasibility changes over time. When someone says, “I coulda” it means she could have done it then, and cannot do so now. Feasibility is about the **exogenous constraints** we face in making choices. They are exogenous in that it is as if such a constraint was determined outside of ourselves. When people say, “get real,” they are telling someone to recognize what is actually feasible.

When we say we “shoulda” done something, it means we could have benefitted from constraining our own behavior. If we had chosen differently, a better outcome might have occurred. Should is about how we focus and limit ourselves. It is about **acceptable** outcomes. These are a decision maker’s **endogenous constraints**. However, it is a balancing act. Typically, the benefits from endogenous constraints show up in the future. For example, becoming proficient at a sport, or playing music, requires practice. Sometimes people must constrain what they choose to do to assure that they get the time to practice. Exercising is another example. For many people exercising is not very enjoyable, and there are many other things they would rather do. However, by consistently exercising they expand what is feasible for them to do in the future (such as staying strong and healthy longer). The distinction between feasibility and acceptability is akin to the distinction between positive and normative economics often presented in introductory economic classes.

When we say we “woulda” done something, it means we would have done it if not for the constraints we faced. I would have visited Chicago, if I had the money; or I would have gone hiking, if my leg wasn’t injured; or I would have gone out to the buffet, if I wasn’t fasting. These are about **external preferences**. They are a statement about what I would have preferred to have, or do, if it was feasible (coulda) and acceptable (shoulda). They summarize the goals, aspirations and priorities over outcomes about the world external to the decision maker. Such preferences describe what is **desirable** to the decision maker.

In contrast are **internal preferences**, which are over characteristics of the decision maker herself. They are about who we are as decision makers, and are expressed through the endogenous constraints and external preferences we use to make decisions. If external preferences drive economic choice, internal preferences drive economic choice. They describe what is **inspirable** within us. This is the “Wasa” extension of “Coulda-Shoulda-Woulda.”

The preceding can be expressed mathematically as follows:

B = Behavior

R= Resources

$F$  = Feasible alternative set (exogenous constraints)

$A$  = Acceptable alternative set (endogenous constraints)

$E$  = External preferences

$I$  = Internal preferences

Letting  $U$  be the utility function over  $B$  given  $E$ , the decision process becomes,

**Max  $U(\mathbf{B}; E(I,R))$  s.t.  $\mathbf{B} \in F \cap A(I,R)$**

**This provides us with a cute mnemonic; UBE BeFAIR. E can also be understood as a set of parameters that specify the external preferences. In the case of sustainability, we can also use the term well-being instead of utility, and we shall represent that by  $W(\mathbf{B};E)$ .**

The holonomic framework we use recognizes that how we make decisions is part of the well being generated from decision making. In the case of intertemporal decision making, the sum of all weights into the future is a measure of the consideration one takes of the future. While the discount rate quantifies the external preference over future events, it also expresses something about who we are as decision makers. For some, sustainability is a moral issue, and is part of their endogenous constraints, of what they must do (e.g. “I always recycle”). For others, it is an ethical issue and derives from their internal preferences to be concerned, in a pragmatic way. Since sustainable outcomes require future decision makers to continue to choose with similar regard for the future (an issue of self-consistency in planning), part of setting the discount rate is based on whether resource usage and behavior maintain the long view. A robust plan would incorporate enough resources to sustain the psychological and spiritual requirements of decision makers to keep that view.

This framework allows us to consider economic activity as an outgrowth of the spirit (preferences), religion (establishment of endogenous constraints) and science (study of exogenous constraints) of the people of an economy, as well as their resources available. One could also relate this to the law: the spirit of the law, the letter of the law, and the long arm of the law. When seen in the light of the above, what we do in the economy, and even how we understand economics, is entangled with the scientific, the religious, and the spiritual. Economies do not just produce goods and services while making money. Economies produce people and ecologies that experience life, including spiritual expression, religious meaning, and scientific curiosity (see endnote 1).<sup>1</sup>

### **Discounting, Time Horizon and Preference for Sustainability**

The discount rate and time horizon used in present value calculations are an expression of the preference for sustainability. Lower discount rates and longer time horizons can increase the calculated benefit from enduring farther into the future. As such, the propensity for sustainable outcomes is dependent on parameters that are set by the policymaker. Businesses, including corporations, as economic actors, also have preferences. Typically they are “for-profit”, and tend to use measures of profit as the utility function that quantifies their preferences. How expected profits are estimated is, in essence, the spirit of a for-profit corporation. The endogenous constraint that expected profits should be positive is, in essence, the morality of a for-profit corporation. This is in contrast with “for-survival” entities (like most humans) where retirement still has value, even if it decreases net worth. When faced with the question of sustainability, a traditional “for-profit” only considers duration to the extent that it increases that measure of profit. Likewise, sustainability tends to be conceived as a characteristic of the products they sell, or how they market their brand, rather than a priority to be expressed. Non-profits, not-for-profits and governmental agencies are more likely to consider the duration of an ecosystem, socioeconomic system or nation as part of their objectives, and not just a strategy or tactic.

To clarify the importance of the discount rate to implementing sustainable solutions, consider how economists model intertemporal decision making. The simplest version (Fisher, 1930) involves a two-period model, using a utility function of the form

$$U(C_0, C_1) = U(C_0) + wU(C_1) \tag{1}$$

where  $C_0$  = consumption now,  $C_1$  = consumption in the future, and  $w$  = the weight of future utility. Typically, it is assumed that  $w$  is between 0 and 1 to indicate that future consumption is considered, although not as important as

consumption now. The solution suggests,  $w = (1/1+r)$  where  $r$  is the interest rate. More sophisticated models will have multiple discrete periods, or continuous time, using a different weight for each moment. Typically, such intertemporal models will assume a declining series of weights, to indicate the farther out into the future, the less of consideration by the decision maker. The sum of all these weights is a measure of the consideration of future consequences. To avoid confusion with the term used as a personality trait by Stratham et al. (1994), and for succinctness of exposition, we will use the term **regard** for the sum of these weights. In essence, one characteristic of the internal preference for sustainability is to have the greatest regard for the future, given the resources available to express regard. Mathematically, the definition will be

$$\mathbf{Reg}(T) = \sum_{t=1}^T w_t \text{ if discrete periods, or } \int_0^T w_t dt \text{ if continuous time} \quad (2)$$

where  $w_t$  is the weight at time  $t$ , and  $T$  is the time horizon (the distance into the future considered). Note that in the two period model, regard would equal  $w$  and be less than 1. In the multi-period model, the sum of the weights can be more than 1.

In present value calculations, and many economic models, these weights are assumed to decline exponentially with a discount rate  $\rho$ . It provides a self-consistency described by Strotz (1956). Mathematically, we shall define this as

$$\mathbf{Reg}(\rho, T) = \sum_{t=1}^T \exp(-\rho t) \text{ if discrete periods, or } \int_0^T \exp(-\rho t) dt \text{ if continuous time} \quad (3)$$

Thus, the greater the regard for the future, the more influential future outcomes are in decisions made today.

Because of its similarities to decay rates, one can also associate the discount rate with the half-life of weighting the future. This is the point where half of regard occurs before, and half after. Estimates of personal discount rates, such as Hausman (1979) suggests a rate of about 25%. That is a half-life of three years. Using the 10% discount rate mandated in 1981 by U.S. presidential executive order 12291 for cost-benefit analysis back in the early 1980's gives a half-life of seven years (about the length of a two-term presidency). Using the 2.5% rate of a recent mix of treasury bonds, gives a half-life of 28 years. It would require a discount rate of no more than 0.5% to express the intertemporal preferences of the "seventh generation" principle described by Lyons (1980), assuming a generation is about twenty years. Even if the technology was immediately available, without the decision maker having a high regard for the future, the investments will not be made or maintained. Only at very low discount rates would substantial regard toward intergenerational sustainability (i.e. 50 years or more) be expressed. This is graphically presented in Fig. [1]. The lightest shade represents a regard  $\leq 5$ . Shades darken at intervals of 5.

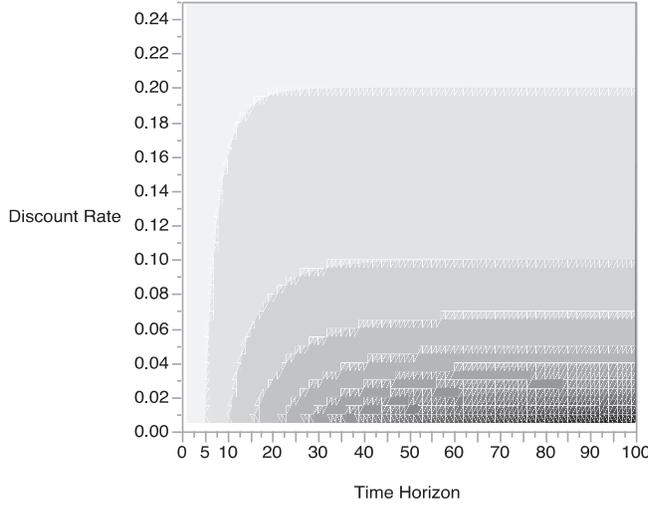


FIG. [1] REGARD, BY TIME HORIZON AND DISCOUNT RATE

### Behavioral Framework

The behavioral economic component of the paper concerns the finite capacity of decision makers to process uncertainty. Here it is formalized as a “certainty principle.” This is represented mathematically as either:

$$\sum w_t * \sigma_t < \sigma_c \quad \text{or} \quad \int w_t * \sigma_t * dt < \sigma_c, \quad (4)$$

where  $w_t$  is the weight in decision making of an event at time  $t$ ,  $\sigma_t$  is the uncertainty of an event at time  $t$ , and  $\sigma_c$  is the capacity of the decision maker to process all uncertainty. In essence, uncertainty is a cost of considering an event. It also suggests an important distinction between emotional and rational decision making. Emotional decision making requires feelings as the processing medium, where  $w$  would represent the strength of feeling, and  $\sigma_c$  the available emotional resources to process it. Rational decision making is not constrained by the capacity to feel, but by the capacity to analyze. This shows up as the quantity and quality of data, uncertainty to the facts of the matter, and information technology. While the focus of our paper is setting discount rates and time horizons for cost-benefit analysis, the full human cost to choose and implement sustainable policies should not be ignored.

Assuming self-consistency, the weights will exponentially decline with time and are associated with a discount rate (Strotz, 1956). However, such perfect self-consistency would be limited by (4). It has been shown that under such constraints, the weights will decline until a point in time after which the weights fall to zero and stay at zero thereafter (Axelrod, 1990). This leaves us with a special case for the continuous time model:

$$\int_0^T e^{-\rho t} * \sigma_t * dt \leq \sigma_c \quad (5)$$

where  $T$  is the time horizon, after which the weights fall to zero. In essence, the decision maker eliminates more uncertainty by ignoring outcomes beyond the time horizon. Given an evolution of uncertainty (path of  $\sigma_t$ ), it provides an interesting tradeoff. As the discount rate is lowered, so is the maximum  $T$  available. The implication is that to induce lower discounting **and** extended time horizon, one must either decrease uncertainty through time, or increase the capacity to process uncertainty. Viewed in another way, given finite decision making resources, we either reduce our focus on the future, or we must censor the distant future out of consideration altogether.

The next step is to express the nature of uncertainty through time. A simple first approach is to assume uncertainty to grow exponentially through time. This is similar to the propagation of waves. It also captures the notion that the further we attempt to look into the future, the foggier it becomes. Letting  $\sigma_0$  be the uncertainty at  $t=0$ , we have the following:

$$\sigma_t = \sigma_0 * e^{vt} \quad (6)$$

Substituting into (5) :

$$\int_0^T e^{-\rho t} * \sigma_0 * e^{vt} * dt \leq \sigma_c \quad (7)$$

$$\int_0^T e^{(v-\rho)t} * dt \leq \sigma_c / \sigma_0 = N \quad (8)$$

where  $N =$  capacity of uncertainty in units of uncertainty at time 0. Continuing with the derivation,

$$\frac{1}{(v-\rho)} (e^{(v-\rho)T} - 1) \leq N \quad (9)$$

Internal preferences for sustainability suggest maximizing regard given decision making resources  $N$ . In the special case of an infinite time horizon, this implies using the minimum possible  $\rho$  that satisfies

$$\frac{-1}{(v-\rho)} \leq N \rightarrow \rho \geq v + \frac{1}{N} \quad (10)$$

So, the minimum possible  $\rho$  is  $v + 1/N$ .

Let us now consider optimizing  $T$  if we specify  $\rho$  above this minimum. Solving (9) for  $T$  gives us,

$$T \leq \frac{1}{(v-\rho)} \ln(1 + (v-\rho) * N), \quad \text{if } v > \rho$$

$$T \leq N, \quad \text{if } v = \rho \quad (11)$$

$$T \leq \frac{1}{(v-\rho)} \ln(1 + (v-\rho) * N), \quad \text{if } v + \frac{1}{N} > \rho > v$$

This means that present value calculations that assume an infinite time horizon (for tractability), would use a discount rate of  $v + 1/N$ . In the other direction, when  $\rho = 0$ , the optimal  $T$  is  $(1/v) * \ln(1 + vN)$ . This is displayed in Fig. [2], where the area below, and on, the solid line are attainable combinations of  $T$  and  $\rho$  given  $N$ .

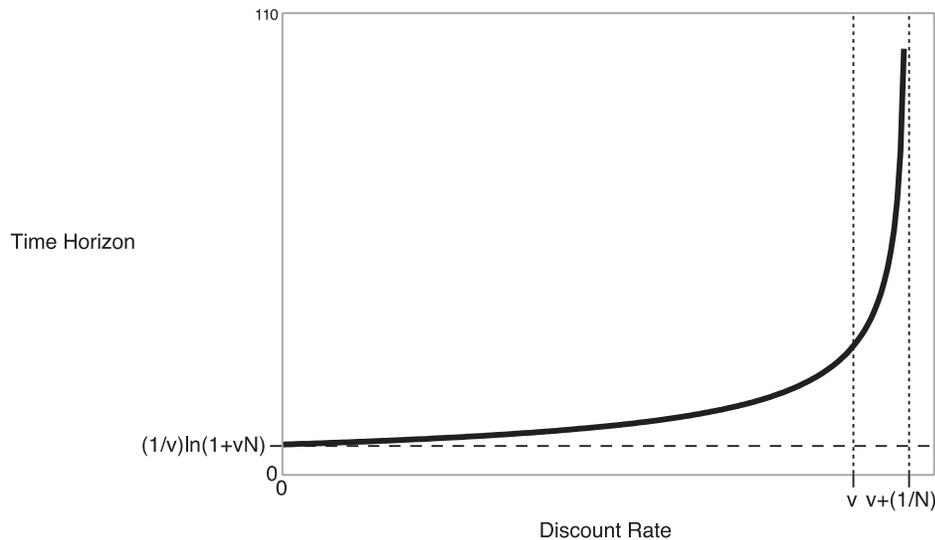


FIG. [2] T- $\rho$  FRONTIER UNDER FINITE DECISION MAKING

While the above is an oversimplified model of the nature of bounded rationality in decision making, it does capture some important insights. First, there is a distinct tradeoff between how much we can weight the future in our plans, and how far into the future we are planning. Second, there is a tradeoff between using resources for making decisions, and using them for implementing them. We can increase our regard for the future, but it might be at the cost of fewer resources to express that regard.

### The Myopic Trap

Since the uncertainty over the future is influenced by the choices made by those living in the present, there is a recursion. This leads to a potential “myopic trap,” a vicious cycle of increasing shortsightedness. In this situation an event occurs (either natural or anthropogenic) which decreases expectations or increases uncertainty about future well-being, leading to increased weighting toward the near term, and thus decreased investments toward the sustainability into the far term. This change reinforces behavior that makes the future less desirable to consider, thereby reinforcing an even more myopic view. For example, how we weight the future influences whether a clean water system is built. Whether that system is built influences how long a community will survive. The expectations of survival influence the uncertainty of the community’s future. The greater the uncertainty, the less the future is weighted, and the more myopic the decision making. This can be derived from the model above by noticing that if  $v$  increases then either  $\rho$  increases,  $T$  decreases or both. Avoiding this trap requires valuing, even inspiring, the long-term view. This could necessitate investing resources to increase regard for the future.

### Valuing Sustainability

One way to account for a preference for sustainability is to include a constant, which is not discounted, to each moment in the present value calculation. It is the value of survival, distinct from the net economic benefit. Another way is to further discount the net benefit by the survival probability of the system. One example would be a well-being function of the form:

$$W = \int (\alpha + \pi_t e^{-\rho t}) S_t dt \quad (12)$$

$$= \int \alpha S_t dt + \int \pi_t e^{-\rho t} S_t dt \quad (13)$$

$$= \alpha ET + PV(S\pi; \rho) \quad (14)$$

where  $\alpha$  is the existential value of the system,  $\pi_t$  is the net economic benefit at time  $t$ , and  $S_t$  probability of the system surviving through at least  $t$ .  $ET$  is the expected survival time of the system,  $S\pi$  is the stream of expected net benefit discounted by survival rates and  $PV$  is the present value of  $S\pi$  given discount rate  $\rho$ . In other words, well-being is the weighted sum of expected duration plus the survival-weighted economic present value. Setting the value for  $\alpha$  is inherently subjective. One possibility is to use population. However, even if policy makers were to use some version of GDP or other measure of economic activity for  $\alpha$ , this approach still includes a preference for sustainability in a more substantial way.

We continue our example by assuming a current lump sum investment  $I$  that generates a constant net benefit  $\pi(I)$ . This is similar to buying a perpetual bond. This means that  $\pi_0 = -I$ , and  $\pi_t = \pi(I)$  for all  $t > 0$ . If the survival function is a simple exponential with hazard rate  $\lambda$ , also dependent on  $I$ , we derive the following:

$$W(I; \alpha, \rho) = \int \alpha e^{-\lambda(I)t} dt + \int \pi(I) e^{-\rho t} e^{-\lambda(I)t} dt - I \quad (15)$$

$$= \frac{\alpha}{\lambda(I)} + \frac{\pi(I)}{\rho + \lambda(I)} - I \quad (16)$$

Note that the lower  $\lambda$  is, the higher probability of survival, and thus the greater expected duration. Again, this is a very simplified model, but it does capture a preference for sustainability through adding value for duration, and for reducing present value of economic benefit if it negatively affects the probability of survival.

As noted before, in the case of finite regard for the future, an infinite time horizon is associated with  $\rho = v + 1/N$ . What happens if the investment is not toward infrastructure or other tangible elements of the system, but rather toward regard for the future? In this case,  $N$  would be considered an increasing function of  $I$ , and we get  $\rho(I) = v + 1/(N(I))$ . If regard increases with investment, then the discount rate falls as the investment in regard increases. Whether this increases well-being depends on how much transforming our economy to choose from deeper sustainable principles displaces resources for survival and economic benefit. In less technical terms, in a world with scarce resources, sustainability requires a balancing act of spiritual sustenance and material production.

### Sustainability and Institutional Ecology

Another way to understand optimizing discount rates is to consider the distribution of discount rates used by various institutions. It is a taxonomy based on the discount rate  $\rho$ . For example, research on venture capital funds (Fuerst and Geiger, 2003) indicates discount rates in the 20-80% range. In contrast, the Inter-American Development Bank uses a real discount rate of 12%, sometimes lower for very long-term projects.<sup>2</sup> These discount rates account for both the rate of return and risks involved, from a profit-making perspective. On the other hand, institutions with sustainability missions have an inverted, although complementary, relationship with for-profits. Whereas the financial benefit in the future is equivalent to less today, due to interest income (if positive!), the benefit of sustainability increases with time. This occurs for a couple of reasons. First, as population increases more people benefit in the future. It is reasonable to argue that discount rates be lowered by the population growth rate. Second, whereas for-profits are seeking to maximize profits per unit of time (for example a calendar quarter), sustainability is oriented to maximizing the amount of time for a given resource. It is as if the accumulation of

memories makes the future even more valuable. Negative discount rates capture the enduring benefits of endeavors like education and research. With this in mind, Fig. [3] suggests how the spectrum of institution types would fit on a continuum of discount rates (the darker the shading the greater the discount rate).

Research, Growing Non-Profit	Education, Stable Non-Profit	Government	Stable For-Profit	Growing For-Profit	Venture Capital
Negative High ( $\ll 0$ )	Negative Moderate ( $< 0$ )	Near Zero ( $\approx 0$ )	Positive Moderate ( $> 0$ )	Positive High ( $\gg 0$ )	Positive Very High ( $\gg\gg 0$ )

FIG. [3] CONJECTURED SPECTRUM OF INSTITUTIONAL TYPES BY DISCOUNT RATES

From this perspective, another way to change the discount rate for the economy as a whole is to change the distribution of resources. If resources are distributed away from institutions with very high discount rates and toward those with low discount rates, then those resources are more likely to express the preference for sustainability. There are several approaches to consider. As Borrisov and Dubey have written about, free markets with liquid capital assets would naturally tend toward capital accumulation by entities with lower discount rates. What limit this approach are the frictions of actual markets, as well as their tendency toward capital monopolization (although it is the frictions which would limit this). A second approach is socialist/revolutionary where resources are forcibly redistributed. The obvious limitations here would be large transition costs, and social disruption, which could easily negate the potential benefits. Another approach would be to view the discount rate spectrum similarly to the radio spectrum. There radio and tv stations license bandwidth to channel their communications. In a way, if money is speech, then the discount rate is the frequency it transmits on. Institutions could then bid on the discount rate they will use for present value calculations in decision making. Subsidies could be provided for unused, or underused discount rates. In a variant to this, one could imagine that entities identify and compete for market share on the basis of the declared discount rates, or regard, they use. While these last suggestions may seem wildly speculative, it is the intent of this paper to offer new approaches to consider how to express our preferences for sustainability, and to begin to address the distinction between buying the sustainable brand, and choosing from a sustainable spirit.

## Conclusion

How we rationalize discount rates in economic decision making says much about our priorities and limitations. From a behavioral perspective, it is the constraints over how much we can consider the future that limits our time horizons and discount rates. From a holonomic perspective, our internal preferences are the inspiration to value sustainable outcomes. Managerial and policy implications include investing resources to maintain the regard for the future, while still incorporating profit/utility maximization as a tactic for behavioral determination, with appropriate endogenous constraints. This suggests that the most immediate and significant action to support sustainable outcomes is to lower the discount rate and/or increase time horizons used by governmental and large corporations, thereby increasing the value of the future as a resource. In essence, as long as the future is full of positive income, decreasing the discount rate has a positive wealth effect. This is also consistent with increasing long-term investments, and stimulating economic growth, and provides a counter-balance to the uncertainty the global economy faces. Beyond this, including a value for our economic and ecological systems existing (and not just the stream of profits), and accounting for survivability, will more accurately capture the benefits from increasing sustainability.

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## End Notes

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<sup>1</sup> Science is the study of the observable universe. Physics, chemistry, biology, and other scientific disciplines, all have in common the accumulation of observations, called data, as the basis for understanding how the world works. Theories are developed to explain how what is observed fit together. However, theories are also expected to make predictions about what will happen. If new data is collected that contradicts these predictions, the theory is considered flawed, and work on a new theory begins. It is a never-ending process. As such, what makes scientific work practical is how it improves technology. Technologies, like wireless devices and computers, are what allow humans to build and produce as much as we do. Science is the basis for expanding our knowledge of what we can, and cannot, do. That which is scientific focuses on how we are constrained by the world around us.

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In contrast, the religious focuses on constraining our selves. The word religion comes from the Latin root that means, “to tie back.” Religion is the basis for knowing what we should, and should not, do. This can have substantial long term-benefits, as well as costs. Common among almost all religions is a calendar of important events. Nature religions tend to focus on change of seasons, and were essential for knowing when to plant, harvest, feast and prepare for the depths of winter. Whatever the deities worshipped and legends honored, it would have been a tremendous advantage to adhere to the behavioral cycles of the year. Other moral aspects, such as prohibitions against murder and theft, would have made it easier and more sustainable for people to live together in large communities. This expanded what they could do together, whether in dealing with the exigencies of the natural world, or in competition with other communities. On the flip side, such moral imperatives were often associated with punishment and ostracism. If these were too stringent or the punishment too severe it could actually decrease the coherence of society, as well as generating unnecessary suffering. Moral superiority could mean having a better set of values (how one constrained oneself), or could mean having a greater authority to impose those values (how one constrained other people).

Spirit, as the animus with which we choose to behave, is the core of what we would, or would not, do. A kind spirit tends to express kindness in their actions, limited only by what is feasible. An “evil” spirit tends to harm and cause pain on others, when they are unconstrained. A strong spirit has very distinct and compelling preferences. Indeed, most spiritual work requires one to imagine what one would do if you could do anything. This is very similar to discovering what your preferences are when you have no constraints. Part of a spiritual path is becoming clear about what are your preferences, and how you constrain yourself. The deepest spiritual work involves personal and universal identity, where the distinction between internal and external is questioned. The implications can be profound.

<sup>2</sup> <http://www.iadb.org/en/topics/development-effectiveness/evaluation-hub/economic-analysis-overview-assumptions-and-methodologies,17882.html>

## *The Role of Minimum Wage in Compensation Systems of the Slovak Republic*

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### **Abstract**

*Minimum wage is the lowest compensation level that employers pay to their employees regardless the nature, quality or quantity of their work. The history of minimum wage in the Slovak Republic can be traced back to 1919. Since then, minimum wage has played a significant role not only in compensation systems of all organizations conducting business in the area; but has also been an important topic in social partnership. There are a lot of opinions about advantages and drawbacks of minimum wage. The paper deals with the importance of minimum wage in the Slovak economy in the EU context at present, and discusses its positive and negative aspects. It specifically focuses on the particularities of the system in the country context.*

**Keywords:** *minimum wage, compensation, social partnership, labor, CEE, Slovak Republic*

### **Introduction**

The minimum wage is a minimum sum payable to a worker for work performed or services rendered within a given period, whether calculated on the basis of time or output, which may not be reduced either by individual or collective agreement, is guaranteed by the law and cover the minimum needs of the worker and his/her family (ILO, General Survey, 1992). Minimum wage was first introduced in the 19<sup>th</sup> century and currently about 90 percent of all the countries exercise statutory minimum wage. Minimum wage, however, can be differentiated by industry, profession, age, region, etc. It can be set by governments and through the collective bargaining and reflects a country's specific developments and conditions. Government regulations set minimum wage either on a monthly or hourly basis for all employees.

The monthly minimum wage is set for full legal working hours. The employee contract cannot include a lower wage than the minimum wage. The minimum wage can be set autonomously by the government with or without consultation with trade unions and employers' associations or automatically following certain rule of law. Even in a collective agreement minimum wage can be set higher than the one established by the law. This means that if the government increases the minimum wage, all negotiated contracts are not valid if they set wages lower than the government-defined minimum. (§ 120 Labor Code of Slovak Republic, 2011).

The minimum wage does not include overtime, wage surcharge for work on public holidays, night work and work in constrained and health detrimental working environment.

Minimum wage in the EU generally represents a monthly wage rate of gross earnings before the deduction of income tax and social security contributions paid by the employee. The deductions vary from country to country.

The minimum wage laws are affected by many jurisdictions. There are a lot of opinions about advantages and drawn backs of a minimum wage. For example, every EU member state has some form of minimum wage system in place. Different systems of setting the minimum wage vary regarding the levels, scope, and the institutions involved in this process (tripartite or bipartite levels). If minimum wage is set by collective agreements in sectors or professional (occupational) groups, its level is usually adjusted by those collective agreements. The national minimum wage usually applies to all employees or at least to a large majority of employees in a country. It is enforced by law after consultation with social partners or directly by national inter-sectoral agreements.

## The Aim and Methodology

The aim of the paper is to highlight the importance of the minimum wage. There are different approaches to the notion of the role of minimum wage and the perception of its role varies across the EU countries. The paper shows also the development of the minimum wage in Slovakia, its mechanism and importance for the country. The paper analyzes some aspects of the role of minimum wage in the economy. The used methods include induction, synthesis, critical analysis, and deduction.

## Discussion

Over past several decades minimum wages have steadily gained importance. In many cases the development reflects the weakness of unions which have not been able to prevent very low wages compared to the national average wage. Minimum wages can affect income distribution, poverty, inflation, and employment. There are a lot of studies on the effects of minimum wage, especially concerning employment. The different authors show that minimum wage has a negative employment effects. On the other hand, Card and Krueger (1994) find a positive link between minimum wage increases and employability. Many studies have found insignificant or no employment effects after the increase in minimum wages (Card, 1992; Card and Krueger, 1995; Card and Krueger, 1998; Card and Krueger, 2000; Dickens and Draca, 2005). Obviously, there is no clear and no quantitatively relevant relationship between minimum wage development and employment. Based on empirical studies we can find that higher minimum wages compress the wage structure and change the income distribution. Low-paid and low-skilled workers benefit from minimum wage increases. And – to certain extent – minimum wage increases reduce poverty (Card and Krueger, 1995; Grosling, 1996, Dolado, Felgueroso and Jimeno, 2000; König and Moller, 2007).

TABLE 1: THE FOLLOWING TABLE SUMMARIZES THE ARGUMENTS MADE BY EXPERTS FOR AND AGAINST MINIMUM WAGE LAWS

<b>Arguments in favor of minimum wage laws</b>	<b>Arguments against minimum wage laws</b>
<i>Supporters of the minimum wage claim it has these effects:</i>	<i>Opponents of the minimum wage claim it has these effects:</i>
<ul style="list-style-type: none"> <li>• Removes financial stress and encourages education, resulting in better paying jobs.</li> <li>• Positive impact on small business owners and industry.</li> <li>• Increased job growth/creation.</li> <li>• Increases the standard of living for the poorest and most vulnerable class in society and raises average.</li> <li>• Increases incentives to take jobs, as opposed to other methods of transferring income to the poor that are not tied to employment (such as food subsidies for the poor or welfare payments for the unemployed).</li> <li>• Stimulates consumption, by putting more money in the hands of low-income people who spend their entire paychecks. Hence increases circulation of money through the economy.</li> <li>• Encourages efficiency and automation of industry.</li> <li>• Removes low paying jobs, forcing workers to train for, and move to, higher paying jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum wage alone isn't effective at alleviating poverty, and in fact produces a net increase poverty due to dis-employment effects.</li> <li>• As a labor market analogue of political-economic protectionism, it excludes low cost competitors from labor markets and hampers firms in reducing wage costs during trade downturns. This generates various industrial-economic in-efficiencies.</li> <li>• Hurts small business more than large business.</li> <li>• Reduces quantity demanded of workers, either through a reduction in the number of hours worked by individuals, or through a reduction in the number of jobs.</li> <li>• May cause price inflation as businesses try to compensate by raising the prices of the goods being sold.</li> <li>• Benefits some workers at the expense of the poorest and least productive.</li> <li>• Can result in the exclusion of certain groups</li> </ul>

<ul style="list-style-type: none"> <li>• Increases technological development. Costly technology that increases business efficiency is more appealing as the price of labor increases.</li> <li>• Increases the <u>work ethic</u> of those who earn very little, as employers demand more return from the higher cost of hiring these employees.</li> <li>• Decreases the cost of government social welfare programs by increasing incomes for the lowest-paid.</li> <li>• Encourages people to join the workforce rather than pursuing money through illegal means, e.g., selling illegal drugs.</li> </ul>	<ul style="list-style-type: none"> <li>• (ethnic, gender etc.) from the labor force.</li> <li>• Small firms with limited payroll budgets cannot offer their most valuable employees fair and attractive wages above unskilled workers paid the artificially high minimum, and see a rising hurdle-cost of adding workers.</li> <li>• Is less effective than other methods (e.g. the <u>Earned Income Tax Credit</u>) at reducing poverty, and is more damaging to businesses than those other methods.</li> <li>• Discourages further education among the poor by enticing people to enter the job market.</li> <li>• Discriminates against, through pricing out, less qualified workers (including newcomers to the labor market, e.g. young workers) by keeping them from accumulating work experience and qualifications, hence potentially graduating to higher wages later.</li> <li>• Slows growth in the creation of low-skilled jobs</li> <li>• Results in jobs moving to other areas or countries which allow lower-cost labor.</li> <li>• Results in higher long-term unemployment.</li> <li>• Results in higher prices for consumers, where products and services are produced by minimum-wage workers (though non-labor costs represent a greater proportion of costs to consumers in industries like fast food and discount retail)</li> </ul>
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The minimum wage is set in more than 90 percent of the EU countries as an outcome of collective bargaining based on the EU legislation. Every EU member country has introduced some form of minimum wage system which varies according to the levels, scope and institutional minimum wages. Statutory minimum wage system is different with regard to the instruments used to determine its level. In most EU countries the minimum wage is currently stipulated by the government (e.g. Czech Republic, France, Croatia, Hungary, Greece, Ireland, Latvia, Lithuania, Slovenia, United Kingdom, etc.) In the second group of the EU countries the minimum wage is determined by collective agreements or by tripartite agreements among the state, trade unions and employer representatives (Belgium, Germany, Slovak Republic, Bulgaria, Estonia, Poland). In July 2014 Germany began introducing a federally-mandated minimum wage which came into effect on 1 January 2015. Many countries, such as Sweden, Finland, Denmark, Switzerland, Austria, and Italy have no minimum wage laws, but rely on employer groups and trade unions to set minimum earnings through collective bargaining.

Minimum wage rates vary from country to country in setting a particular amount of money (e.g. US\$7.25 per hour (\$14,500 per year) under certain states' laws (or \$2.13 for employees who receive tips, known as the tipped minimum wage), \$9.47 in the US state of Washington, and £6.50 (for those aged 21+) in the United Kingdom), in terms of pay period (e.g. monthly minimum) or the scope of coverage.

The level of minimum wage is usually adjusted through regular bargaining materialized in collective agreements. The minimum wage is adjusted on an annual basis. Schulten (Schulten, 2014) distinguishes four adjustment methods:

1. **Index method:** automatic adjustments base on economic indices (e.g. consumer price, wage development outside, minimum wage);
2. **Collective and tripartite agreement:** a minimum wage is set through negotiations between representatives of employees and employers;
3. **Institutionalized consultation** with employer and employee representatives: the decision and responsibility lies with the government based on consultation with social partners;
4. **Unilateral decision by government:** government decide in the absence of predefined rules. This method was applied during the economic crisis.

Economic crisis has influenced the role of minimum wage played in economic and social policies. It has contributed to progressively increased awareness of the importance of minimum wage as an instrument of social protection. In some EU countries the minimum wage has been frozen or cut as a results of the economic crisis and some institutional changes in minimum wage setting systems have been introduced, particularly in countries requiring support from the European Commission, the International Monetary Fund and the European Central Bank (Eurofound, 2005). For example, Greece introduced the most drastic measures in 2012. The nominal value of their minimum wage has had to be kept for three years' period; the minimum wage has been reduced by 22 per cent and frozen until the end of the economic adjustment in 2016. In this case, the social partners have only a consultative, but no institutional role (Eurofound, 2015). Collective bargaining was decentralized and priority was given to enterprise-level agreements (ILO, 2015). In Spain, the government stopped its practice to consult social partners before setting the minimum wage level in 2011 and suspended its annual adjustments. In Ireland, the minimum wage was reduced from 8.65EUR to 7.65 EUR an hour.

For the past two years we can observe a cautious return to growth in the minimum wage in most EU member countries. The lower level of inflation or deflation in some cases means that the value of the minimum wage has increased in real terms. For example, since January 2015 minimum wage has increased by 5.9% in Bulgaria, by 12.5% in Latvia, by 3.4% in Lithuania. In the Czech Republic, the monthly minimum wage has increased by 8.2% and the government foresees further increases up to 40% of the average wage over next 4-10 years. In the UK, the government stress that the increase in the value of the national minimum wage cannot bring an adverse effect on employment. In Slovakia, the minimum wage has increased by 7.6% and it is planned to rise by 10.6% in 2016. In 2014, the minimum wage was not increased in four states: Belgium, Greece, Ireland, and Slovenia. In some EU countries (Italy, Sweden, Finland, and Denmark) minimum wage is not statutory, but there are some debates how to introduce it. Italy proposes the introduction of the hourly minimum wage applicable to all employees. Such a minimum wage will apply only to sectors where there are no collective agreements signed by the most representative trade unions and employers' organizations at national level. In Sweden, minimum wage is not set by law, but by collective agreements. Some sectors employ migrant workers with temporary work permits and not being members of Swedish trade unions they are not covered by collective agreements. In Finland and Denmark there is discussion about potential introduction of statutory minimum wage.

Germany introduced its first-ever minimum wage laws before January 1<sup>st</sup>, 2015, the new minimum wage reaches 8.50 EUR per hour, that means an employee should earn 1,473 EUR for a 40-hour work week before tax per month. The minimum wage covers almost every sector and type of employment (part-time, full time, internship, and mini-jobs). The German government estimate that over three million workers will benefit from it. The new law introducing minimum wage in Germany also covers the road transport sector and will apply to German and foreign operators performing transport activities on the German territory as well as to and from Germany and transit. The employer must record the start, end and duration of the working hours exercised on the German territory within the last seven days after their transport operation has been completed.

The introduction of minimum wage on January 1, 2015, as a part of a reform in collective bargaining has not substantially changed the industrial relations in Germany.

## Minimum wage in Slovakia

The Czechoslovak Republic was one of the first European countries which introduced minimum wage for some very low-paid groups of occupations. The first such measure can be identified in the clothing industry being stipulated by the Decree No. 232 of April 16, 1919. The minimum wage was associated with the lowest possible pay grades and represented the lowest tariff. For the years 1969-1971 the Research Institute of Social Security in Prague proposed to set minimum wage of 1,000 crowns (50% of the average wage). After political changes in 1989 the minimum wage was set by Labor Code and the value was based on the minimum pension. Based on the Tripartite General Agreement, the Government Ordinance No. 99/1991 Coll. established the first unified minimum wage in Czechoslovakia. In the years 1994-1995 there was no regular change of minimum wage.

In Slovakia, minimum wage is subject to tripartite bargaining, but if social partners do not arrive at an agreement, the government may take unilateral action. Minimum wage is set annually following the tripartite bargaining including the government, unions, and employers. However, the government can set the rate if the three parties cannot reach an agreement.

Since 1996, Slovakia had provided a uniform minimum wage by law and adjustments had been carried out by law until 2000, when it recalculated the adjustment based on the Regulation Minimum Wage Act 663/2000 and established a mechanism for its modification. Minimum wage given for a particular year is multiplied by coefficients representing the job difficulty.

Since January 2013, minimum wage has been eligible for all employees in full time and part-time contracts. The part-time employees such as students or pensioners become more expensive for their employers because of the fact that simultaneously with the growth of the lowest wages also social payments or allowances are increasing.

The employer is obliged to assign each post level in accordance with the characteristics of the job difficulty. The rate of minimum claim the appropriate level is a multiple of the minimum wage set by special regulation to a fixed weekly working time of 40 hours and the index of the minimum wage (Table 2).

TABLE 2. LEVELS OF MINIMUM WAGE

Degree of Difficulty	Coefficient	Euro
1	1.0	405
2	1.2	486
3	1.4	567
4	1.6	648
5	1.8	729
6	2.0	810

Therefore as of 2016 minimum wage will increase at € 405 for the least demanding work and at €810 for tasks classified in the highest category of difficulty. The government regulation guarantees employees minimum 2.328 EUR per hour. The hourly minimum wage changes proportionally for a shorter working week.

Based on the Labor Code, thus the employer has to pay employee at least minimum wage determined by the degree of complexity of the job.

As presented above, today, there are six tariff rates multiplied by coefficients depending on the difficulty of position. An employer may not classify all standard work on the first level of difficulty, but is obliged to assess each job and attach the level of difficulty based on the characteristics listed in Annex No. 1 of the Labor Code.

Then, the tariff of minimum wage is calculated based on complexity, responsibility, and difficulty of work and expressed in a grade. The tariffs include the simplest work to the highest levels of most complex work.

The minimum wage system reflects the following six levels of job difficulty.

***The first level of job difficulty.***

Includes handling or preparatory work following given procedures or instructions from superiors. Qualification requirements: primary education. Examples: cleaner, operator of production.

***The second level of job difficulty.***

Ancillary or preparatory work with higher level of worker's responsibility, simple craft work, repetitive administrative or operational work, secondary vocational education. Examples: clerk, shop assistant.

***The third level of job difficulty.***

Less complex agenda is included. Professional work, independent performance of creative craft work, lower management and operational work. Secondary education required. Example: nurse.

***The fourth level of job difficulty.***

Management, organization, and coordination of processes. University education – bachelor's degree required. Examples: regional manager, chief accountant.

***The fifth level of job difficulty.***

Management, organization, and coordination of highly complex processes and systems, including decisions on optimization of procedures and problem solving. Includes conceptual, creative, and methodological work. The 5<sup>th</sup> level corresponds with extremely demanding processes where complex procedures must be followed. University education – master's degree required. Example: production manager.

***The sixth level of job difficulty.***

Creative problem-solving with high personal responsibility, management, operation or coordination of the most complicated systems with significant demands on the ability to deal with complex and conflicting situations. Here creative tasks are included that need to be addressed in unusual ways. High degree of responsibility required that may have a significant impact on society. University education with PhD. degree. Examples: CEO, Managing Director.

The Labor Code guarantees minimum wage under the following conditions:

1. Wages for overtime where the employee is entitled to their wages and wage surcharge of at least 25% of average earnings.
2. Wages and compensation for public holidays. For work on a public holiday, an employee is are entitled to their wage and wage surcharge of at least 50% of average earnings.
3. Wage surcharge for night work. Employees are entitled to night work surcharge along with the wage for each hour of night work by at least 20% of the minimum wage in Euro per hour on the first level.
4. A wage for work in constrained and health detrimental working environment. Employees are entitled to a wage surcharge for work in constrained and health detrimental working environment with the threat to the employee's

life or health. Under such conditions the employee wage surcharges at least 20% of the minimum wage in Euro per hour on the first level.

Over the past two years the minimum wage has increased from the 352 Euro to 405 Euro, exercising 15 percent increase.

TABLE 3. MINIMUM WAGE INCREASE IN THE SLOVAK REPUBLIC IN 2009-2016

<b>Year</b>	<b>Amount in EURO</b>
2009	295.70
2010	307.70
2011	317.00
2012	327.20
2013	337.70
2014	352.00
2015	380.00
2016	405.00

Minimum wage can be seen as an instrument satisfying the needs of people with the lowest skills. It can stabilize employment and increase purchasing power, thus consumption and economic growth. The basic functions of the minimum wage are economic and social.

The *economic* function of the minimum wage stems from the fact that minimum wages are: threshold (the lowest level), on which the tariff wage in companies is established. It is a starting point for wages paid based on the complexity, responsibility, and difficulty of jobs, especially in the positions with an overall lower level of earning. The economic analyses of minimum wage influence focus on labor cost development as means of competitiveness.

The *social* function of the minimum wage in general lies in the fact that minimum wage guarantees an income and protects against poverty, i.e. its role is to prevent “squeezing” the level of wages (earnings) below the minimum costs of living level. Minimum wage has also a motivation character that is directly linked to the difference between its amount and the amount one can get in a form of unemployment allowance. If the difference is higher, the motivation to find a job is bigger. Minimum wage and social allowances influence the behavior of workers and thus the labor supply in the economy.

Minimum wage has stronger impact in small and open economies. It affects the growth of labor costs, leading to increase their own costs and reduced competitiveness. For small and open economies this means that domestic production is replaced by imports and leads to reduced rates of employment.

The introduction of minimum wage in Slovakia in 1993 to 1999 did not bring the desired economic effect. Many organizations used minimum wage as the lowest rate of pay and the lowest level wages, which resulted in a decrease in labor supply. Very low minimum wage has caused an increase in social labor costs for the state.

Since 1999 with minimum wage increases, the situation has changed considerably. Although it did not reach 60% of the average wage level, as recommended by the EU, the increase affected more employees and organizations having an impact on the wage distribution, employment, and hours worked.

Minimum wage is also used as a criterion for determining payment liabilities and payments into the Fund, rates in sickness and pension insurance, health insurance premiums as well as contributions to unemployment insurance.

## Conclusion

Based on the analyses of minimum wage effects we can find positive as well as negative impacts of minimum wage. The EU member countries have a lengthy tradition of ensuring national minimum wage for the lower-paid workforce. Some countries, however, only recently have introduced minimum wage legislation. Slight increases in wages result in the decrease of both workers' purchasing power and standard of living. The positive role of minimum wage can be identified in the context of crisis, in some countries the growth of minimum wage was slowed-down, and in others the rate was frozen. It is difficult to separate the effects of minimum wage from all the other variables that affect employment.

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# ***Productivity and Efficiency: A Comparative Study of Islamic and Conventional Banks in GCC Countries***

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## **Abstract**

*Under the dominance of globalization, the financial system has undergone dynamic changes along with the technology, regulations and the customer requirements. Economic crisis of 2008 and the failure of conventional banks to resist had given an opportunity to Islamic banks to enter and capture the market. Irrespective of the region, Islamic banking is now considered as the ideal and alternative system as it had a low impact of the crisis. This research work aims to measure and gives a snapshot of efficiency between Islamic and conventional banks in the GCC countries except Oman from 2003 through 2013. Data is collected from the audited financial statements and average is calculated for the variables taken. The applied financial ratio analysis (FRA) method applied with 't-test' gives an account of profitability and efficiency. Another aspect of assessment of banks through efficiency ranking also included. Data envelopment analysis (DEA) method is applied with intermediation approach with CCR model. Average of inputs for bank variables like customer deposits, paid capital, operating expenses, total investment in financing activities while outputs are total loans, total assets, operating income and net operating income. Results are discussed country-wise with the list of the banks.*

**Keywords:** Productivity, Efficiency, Ratio analysis, DEA analysis, Islamic banks

## **Introduction**

Banking sector plays an important role in the economic development of the nation. Performance evaluation of the banks assists the managers in the improvement of decision making and suggests significant improvements. Rising competition, continuous innovation of financial services, growing interest in a detailed critical evaluation of Islamic banks and conventional banks is essential for managerial as well as regulatory purposes. It helps to determine the outcomes of previous management decisions, to identify priorities and improvements and addresses the concern about the safety and soundness of the banking system. The assets growth exhibits the customer's confidence and trust in the banking system towards the Islamic financial products. Additionally, the efficiency evaluation monitors the performance to identify and overcome the problems experienced by the banks in general. Without persistent monitoring, existing problems can remain unnoticed and could lead to financial failure in the future.

## **Evolution of the Islamic banks:**

Islamic banking is one of the most important and rapidly emerging constituents of the financial system. It is based on the principle of Shariah Law and is prominently known as including asset based banking. Islamic banking concepts date back to Prophet Mohammed's (PBUH) time followed by prominence in the 'Islamic Golden Age' but with the dynamism of the political and economic sectors globally it gradually faded. Later it had its institutional inception in 1963 with the Mit Gahmr bank in Egypt. After that it had sporadic progress in growth every decade. It furthered in 1970s with the inception of Dubai Islamic bank (1975), followed by the adoption of Islamic banks in countries like Pakistan, Saudi Arabia and Sudan. 1980s had a maximum growth of the branches worldwide and customers were attracted to experience the new form of beginning. This was followed by the 1990s when the focus of Muslim countries in the Middle East region shifted to banking and globalization and brought in a lot of changes so as to provide the customers with the products and services as per their requirements and thus Islamic banking was

considered as a one stop shop. Later in 2008, the impact of crisis became a direct determinant for Islamic banking's gain in momentum and has since exhibited stellar growth. It is expected to double its assets worth by 2018.

### **Review of Literature:**

Review of earlier studies is revealed in many folds; it has given a mixed opinion on profitability and efficiency. Banks alter the allocation of savings to various firms through loans, influence growth by raising productivity and find a significantly positive impact of financial development on real per capita growth and productivity per capita growth (Beck et al., 2010). Islamic banks showed stronger credit growth than conventional banks during the financial crisis in almost all countries, with a greater contribution to macroeconomic and financial stability by making more credit available (Hassan and Dridi, 2010). Research on the performance analysis through ratio analysis for comparison of Islamic banks and conventional banks in the Asian countries such as: in Bangladesh by Safiullah (2010), in India Dash and Das (2010), in Malaysia by Adulle and Kassim (2012), Kassim and Abd Majid (2010), Misman and Bhatti (2010), Rosly baker (2003), Samad and Hassan (1999) and in Pakistan by Akram et al., (2011) Moin (2008), Rashid (2007), Samad (2004), Essayad and Madani (2003).

There is a good size of literature on the various aspects of Islamic banking in GCC countries which focuses on the growth and financial performance through the contributions (Amba and Almkharreq, 2013), (Al Hares et al., 2013) Siraj and Pillai (2012), Merchant P.I (2012), Al Tamimi (2010), (Ariff et al., 2008), Bader et al (2008), Murjan and Ruza (2002), (Alkassim, 2005), Olson and Zoubi (2007), Gaddam et al (2007), Janbota and Anju Kishore (2006) and many more.

Nine variables were used by (Amba and Almkharreq, 2013) to study the impact of financial crisis on Islamic banks and Conventional banks in GCC countries. These variables were divided into four categories, namely profitability variables, capital structure, liquidity and liabilities. Al Hares et al (2013) in Kuwait, United Arab Emirates, Kingdom of Saudi Arabia, Oman, Qatar, and Bahrain various GCC countries. Siraj and Pillai (2012) reviewed and compared performance of conventional banks and Islamic banks operating in GCC region. A comparative study was undertaken based on performance indicators such as OER, NPR, ROA and ROE. In the same area of study, Merchant (2012) contributed through his findings that Islamic banks possessed adequate capital structure but has recorded lower ROAE and poor management efficiency. Al-Tamimi (2010) investigated the effects of internal and external factors such as GDP per capita, financial development indicators liquidity, concentration, cost and number of branches etc. on Islamic and conventional banks in the United Arab Emirates during 1996 to 2008. Bader et al (2008) evaluated a cross-country level data for 37 conventional banks, and 43 Islamic banks compiled from the financial statements in 21 (OIC) Organization of Islamic Conference countries for the period of 1990-2005, and comparison in the GCC Countries (Alkassim, 2005). Profitability variables of Islamic and conventional banking were ROA, ROE, NIM. Capital Structure measures consisted of Equity and Tangible Equity. Liabilities measures included Loans and Liquid Assets. It has been described and examined in various aspects as scale efficiency, scope efficiency and operational efficiency. This is a measure from cost and represents the maximum achievable output for given level of inputs. The various methods observed are financial ratio analysis, stochastic frontier analysis, malmquist productivity, Data envelopment analysis (DEA). Literature on the application of the DEA model to study the efficiency of the banks in terms of single type of banking system and few on the two types of systems was observed and had different opinions. The review of papers is presented for countries like Africa, Asia, Australia, Europe and the Middle East.

M. K. Hassan (2006) examined the efficiency of Islamic banks in 21 countries for the period of 1995 to 2001. The data was collected from income statements and balance sheets of 43 Islamic banks. The parametric and nonparametric approach tests were applied to analyze cost, allocation, technical, pure technical and scale efficiency. The results indicated that on average Islamic banks were less efficient compared to conventional banks.

According to Kiyota (2009) through SFA model smaller banks had the highest profit efficiency, and medium and large banks with U.S. \$100 million to 1 billion of total assets were the most cost efficient in 29 Sub-Saharan African countries for the period of 2000 to 2007. Efficiency in Australian banks was studied by Sturm and Williams (2004), Salim et al., (2010). Findings were that foreign western banks in Australia were more efficient than local banks. It was also found that many of these banks used their size to keep out potential competitors. Moreover, diversity in banking types and kinds of operations increased the efficiency of the banks (Sturm and Williams, 2004). Efficiency of Australian conventional banks during 1997 to 2007 for nine banks was analyzed through DEA (Salim et al, 2010). Inputs utilized were labor, capital and interest-bearing liabilities whereas the outputs were loans, deposits and noninterest income. It was concluded that inefficiency in Australian conventional banks was mainly due to the improper response to credit and interest rather than the managerial issues. In BRIC (Brazil, Russia, India and China) countries, DEA was applied by Tecles and Tabak (2010), Lin et al., (2009), Bodla and Bajaj (2010), Das and Ghosh (2009). Analysis of Brazil banks efficiency during 2000- 2007 with the application of DEA revealed that large banks are most profit and cost efficient (Tecles and Tabak, 2010). During the period of 1997 to 2004, Debasish (2006) analyzed the performance of banks in India with the output-oriented CRR DEA model. Nine input and seven output variables were used. The small banks proved to be more efficient in their international business and the large banks were more efficient domestically. The efficiency of Islamic banks and conventional banks with the Gulf Cooperation Council of the Arab States within the Gulf area was investigated (Johnes et al.2009).

Two tools were utilized during the study to measure the efficiency; the financial ratios analysis and the DEA. Data were collected for six banks in the GCC area for 2004 to 2007. Islamic banks were found to be less cost efficient but more revenue and profit efficient as compared to conventional banks. The efficiency and performance of Islamic banks in 16 countries in the Middle East, North Africa and Asia was studied by using DEA (Sufian and Akbar, 2009). The sample consisted of 37 banks and data was collected over the period of 2001 to 2006. The results suggested a positive relationship existed between efficiency and loan intensity, size, capitalization, and profitability. Al Shamsi, Aly and El-Bassiouni (2009) measured the efficiency of the Western banking system in the United Arab Emirates, using the DEA to analyze the data. Inefficiencies were found due to poor allocation of resources. Another finding was that the sample banks became more efficient by increasing their size.

### **Problem Statement:**

As observed from the review of earlier studies, it was found that a single methodology was considered with only a short period was taken for the study. But this work is an attempt to combine two methods to analyze the productivity and efficiency along a decade to analyze the trend in the GCC region. It attempts to contribute to the existing literature in the area of comparative studies on productivity and efficiency of Islamic and conventional banks, it also ranks the banks in terms of the utilization of the resources.

### **Scope:**

Research work compares two different banking systems Islamic and conventional banks in the GCC member countries Bahrain, Kuwait, Qatar, Saudi Arabia and the United Arab Emirates. Oman is not taken into consideration due to the insufficient data as Islamic banking has been adapted in the recent years. The data is collected from the audited financial statements for the period of 2004 to 2014. Furthermore, aims to identify the impact of the crisis in the efficiency of the banking system.

### **Objectives:**

The main purpose of this paper is to examine the efficiency and productivity by taking identified variables for profitability and efficiency. Specific objectives are to compare the Islamic and conventional banks in terms of productivity and efficiency ratios and the ranking of them on efficiency frontier.

**Data:**

Data is collected from the national banks listed on the stock exchanges of the respective countries. It is clustered into two as conventional banks and Islamic banks. Variables taken for study utilize average method to remove the difference of the size of the sample.

**Methodology:**

This research is designed on hypothesis statements and utilizes the quantitative data in two stages - financial ratio analysis (FRA), and the Data Envelopment Analysis (DEA). First stage, FRA measures the operational productivity and efficiency. Productivity is analyzed through profitability ratios like ROA (return on assets), ROE (return on equity) and PER (profit to expense ratio). Efficiency analyzes asset utilization, income to expense and cost to income ratios.

Ratios are calculated as the average of the banks taken for the study in two different sample groups and compared with 2004 as the base year to understand the trend. And the mean of both samples is drawn for identifying the significant difference. Later statistical significance is tested with student t test and based on the p value the conclusions are drawn.

**Data Envelopment Analysis**

In the second stage the DEA is applied through excel solver with four inputs and four outputs of the bank and an efficiency score is drawn for the banks. A bank with the efficiency score 1 is considered as the most efficient. As efficiency is measured as the ratio of output to input, it is considered as one of the important evaluation of the performance in terms of utilization of the variables. Data Envelopment Analysis popularly known as DEA is applied through excel solver tool in this research work to evaluate the efficiency of the banks. DEA has a non - parametric approach in operations research and is used to estimate the performance evaluation, relative efficiency and productivity of homogenous decision making units (DMUs). It is generally used to compare the peer performance. Charnes, Cooper and Rhodes (1978) introduced a multiplier problem to measure input technical efficiency of a decision making unit in a competitive environment where similar inputs are employed to produce similar outputs. This is transformed into a linear programming model. It is used to measure the production function with efficient production possibility frontier. The technique applied in this research creates a frontier set by efficient banks and compares it with inefficient banks to produce efficiency scores. Furthermore, banks are bordered between zero and one scores, with completely efficient bank having an efficiency score of 1.

In this research work production function of bank is evaluated through the intermediate approach of CCR-I model with four inputs and four outputs taken as average for 10 years. For n DMUs in the banking industry, all of the sample outputs and inputs are characterized by the m and n, respectively. The efficiency of each bank is computed as follows:

$$e_s = \sum_{i=1}^m u_i y_{is} - \sum_{j=1}^m v_j x_{jr} \leq 0, r = 1, \dots, N \quad \text{-----} \quad \text{(i)}$$

$$\sum_{j=1}^m v_j x_{js} = 1 \text{ and } u_i \text{ and } v_j \geq 0 \quad \text{-----} \quad \text{(ii)}$$

A DMU (Decision Making Unit) is rated as fully (100%) efficient on the basis of available evidence based on the data applied as the ratio of outputs to inputs to 1.

**Discussions:****Productivity:**

Productivity reflects profitability of the banks and here the ratio analysis is applied. Hypotheses are framed and tested as for the following statements.

**H<sub>0</sub>1:** *There is no significant difference in the mean value of Islamic banks and Conventional banks in terms of return on assets.*

**H<sub>0</sub>2:** *There is no significant difference in the mean value of Islamic banks and Conventional banks in terms of return on equity.*

**H<sub>0</sub>3:** *There is no significant difference in the mean value of Islamic banks and Conventional banks in terms of profit expense ratio*

**a) Return on Assets (ROA)**

Return on Assets (ROA) is considered as one of the important profitability ratios, and is calculated as net profit to total assets. The higher the ratio, the higher is the profitability of the bank. ROA also indicates the proper utilization of the asset.

**Discussion:**

Return on assets (ROA) were higher from 2003 onwards until 2008 later decline is observed in case of Islamic banks. After recession ROA for Islamic banks was lower as in 2010 revaluation was done whereas the performance of Conventional banks is better from 2010 onwards until 2012.

**Conclusion:**

Since the mean value of ROA for Islamic banks is more than the conventional banks, it is concluded that performance of Islamic banks was better than the conventional banks. Hence it can be concluded that the performance of both Islamic banks and conventional banks was almost same. Therefore, there is no statistically significant difference in the mean value of Islamic banks and Conventional banks in terms of Return on Assets.

**b) Return on Equity (ROE)**

Another important indicator of profitability ratio calculated as ratio of net profit to total equity. Higher ROE indicates the higher profitability of the bank.

**Discussion:**

Return on equity (ROE) were higher from 2003 onwards until 2008, later decline is observed in case of Islamic banks. After recession ROE in Islamic banks was lower in 2010 as observed earlier in case of ROA too, moreover the mean value reflects growth in ROE which was better for Islamic banks. The analysis of data in table indicates that the p-value is  $\geq 0.05$ , hence the alternate hypothesis is accepted.

### Conclusion:

Though the mean value of ROE for Islamic banks is slightly more than the Conventional banks but this difference is not significant. Hence it cannot conclude that Islamic banks were doing better than the Conventional banks. Therefore, there is no statistically significant difference in the mean value of Islamic banks and Conventional banks in terms of return on equity.

### c) Profit Expense Ratio (PER)

Another important profitability ratio gives an account of operating profit earned by the bank. It indicates the bank's control over the operating expenses. Higher PER ratio implies higher profitability of the bank.

### Discussion:

As the graph shows Profit to expense (PER) were higher from 2003 onwards until 2008 later declining is seen in case of Conventional banks later followed by gradual growth. It can be observed that Islamic banks were performing with lower ratio. As per the t results shown it indicates that PER of was better for Conventional banks during the period of the study.

### Conclusion:

Since the mean value of PER for Conventional banks is higher than the Islamic banks, it can be concluded that performance of Conventional banks was better than the Islamic banks. Therefore, there is a statistically significant difference exists in the mean value of Islamic banks and conventional banks in terms of Profit to Expense Ratio.

*Table 1: Descriptive Statistics*

Profitability Ratios	N	Mean	Standard Deviation	T-Value	p Value
ROA IB Avg.	11	0.0234	0.0084	1.25	0.230
ROA CB Avg.	11	0.0196	0.0052		
ROE IB Avg.	11	0.1647	0.0541	0.50	0.623
ROE CB Avg.	11	0.1548	0.0379		
PER IB Avg.	11	1.227	0.435	-3.29	0.004*
PER CB Avg.	11	1.966	0.606		

*\*Significant at 95 % confidence level*

In terms of profitability ratios in GCC it can be stated that Islamic banks had a significantly higher ROA ratio, ROE ratio and PER ratio which reflects better performance of Islamic banks as compared to the Conventional banks.

### Operational Efficiency Ratio

Operational Efficiency Ratio gives an account of efficient and effective utilization of assets, control over the operating expenses. Hypotheses are framed and tested as for the following statements.

**H<sub>0</sub>4:** *There is no significant difference in the mean value of Islamic banks and conventional banks in terms of Asset Utilization.*

**H<sub>05</sub>:** *There is no significant difference in the mean value of Islamic banks and conventional banks in terms of Income to Expense ratio.*

**H<sub>06</sub>:** *There is no significant difference in the mean value of Islamic banks and conventional banks in terms of Operating Expenses.*

**a) Asset Utilization (AU)**

Asset utilization measures the ability of the bank to generate revenue with maximum utilization of assets. Higher AU ratio indicates that bank is utilizing its assets to its maximum capacity. As observed asset utilization (AU) is higher for Islamic banks from 2003 onwards with 6.89% and a slight drop to 6.41% in 2003. Then, followed by gradual growth 2006 with 9.19%. Thereafter gradual decrease is observed in case of Islamic banks. From 2010 as observed both Islamic banks and conventional banks exhibit similar trend. Important finding is that conventional banks were found to be always on the lower side until 2010.

**Conclusion:**

Since the mean value of asset utilization for Islamic banks is higher than the conventional banks, it indicates that Islamic banks were more efficient in the utilization of assets than the conventional banks. Thus, there is statistically a significant difference in the mean value of Islamic banks and conventional banks in terms of Asset Utilization.

**b) Income to Expense Ratio (IER)**

IER assess the efficiency of the bank management which is calculated as total income to total operating expenses. Higher ratio is considered to be better. During the period of study, income to expense ratio is higher for conventional banks with an exceptional drop in 2008 followed by gradual progress, whereas Islamic banks have maintained a typically stable growth without major variations.

**Conclusion:**

The higher income to expense ratio is seen in case of conventional banks which clearly indicates the ability and efficiency of the bank in generating more total income in comparison to its expenses. This also indicates the Islamic banks unique feature of profit sharing as against only earning profits. Based on the p value it is concluded that there is a significant difference in the mean value of Islamic banks and conventional banks in terms of Income to Expense ratio. Hence null hypothesis is rejected.

**(c) Operating Expenses (OE)**

Operating expenses also known as cost to income ratio. It evaluates the managerial efficiency in generating the revenue while having a control over expenses.

**Conclusion:**

The difference of mean value of operating expenses for both the banks can be observed from the table but this difference is insignificant and hence indicated that the operating expenses for both types of banks were almost equal. Thus, there is no significant difference in the mean value of Islamic banks and conventional banks in terms of Operating Expenses.

Table 2 shows the descriptive statistics of the efficiency ratios along the mean value and the standard deviation significant at 95% confidence level obtained for two types of banks.

**Table2: Descriptive Statistics**

Operational efficiency	N	Mean	Standard Deviation	T-Value	p Value
AU IB Avg.	11	0.0703	0.0133	3.82	0.001*
AU CB Avg.	11	0.0521	0.0086		
IER IB Avg.	11	3.977	0.0611	-4.54	0.001*
IER CB Avg.	11	6.15	1.47		
OE IB Avg.	11	0.2862	0.059	-0.79	0.0436*
OE CB Avg.	11	0.3038	0.0487		

*\*Significant at 95 % confidence level*

**Findings:**

As per the above analysis it is found asset utilization is better in Islamic banks, income to expense ratio is higher for conventional banks but there is no significant difference in operating expenses between Islamic and conventional banks.

**Data Envelopment Analysis**

As the analysis of efficiency ratios was measured statistically, in the earlier method it has not given enough evidence regarding the utilization of inputs and outputs, therefore, DEA has been applied to find the shortcomings and also rank them amongst the peers. The details of the inputs and outputs taken are shown in table 3. Efficiency scores are exhibited country-wise.

**Table 3**

<b>Output</b>	<b>Input</b>
y <sub>1</sub> Total Loans	x <sub>1</sub> Customer Deposits
y <sub>2</sub> Total Assets	x <sub>2</sub> Paid Capital
y <sub>3</sub> Total Operating Income	x <sub>3</sub> Operating Expenses
y <sub>4</sub> Net Operating Income	x <sub>4</sub> Total Investment in Financing activities

**Rank Order for efficiency in Bahrain**

Rank	DMU	Score
1	Bahrain Middle East	1
1	Bank Of Bahrain and	1
1	BMI Bank	1
1	United Gulf bank	1
1	Securities and Inves	1
1	Al Ahli united Bank	1
1	Arab Banking Corpora	1
1	Invest Corp Bank	1
1	Al Salam Bank	1
1	Shamil bank	1
1	Al Baraka Financial	1
12	Khaleeji commercial	0.94592363
13	TAIB Bank	0.79016325
14	Bahrain Islamic Bank	0.61704998

**Statistics on Input and Output Data**

	x1	x2	x3	x4	y1	y2	y3	y4
Max	12064000	3110000	403000	4069000	12860000	24527000	816000	737403.3
Min	19122.8	62449.9	8728	31559	15858	19514.889	-96008	-47824
Average	2700044.1	476350.4	96539.64	1247825	2486672.9	4863890.4	222422	130671.1
SD	3961103.5	761461.8	113646.5	1326930	3905039.7	7063993.9	245303.8	221688.8

**Correlation between Output and Input**

	x1	x2	x3	x4	y1	y2	y3	y4
x1	1	0.823093	0.926395	0.90001	0.9803702	0.966518	0.62623	0.904732
x2	0.8230926	1	0.864203	0.742205	0.8808768	0.9058708	0.7047	0.64907
x3	0.926395	0.864203	1	0.906035	0.9200639	0.9304813	0.636875	0.844
x4	0.90001	0.742205	0.906035	1	0.9103052	0.9129093	0.557297	0.764019
y1	0.9803702	0.880877	0.920064	0.910305	1	0.9879729	0.705482	0.852654
y2	0.966518	0.905871	0.930481	0.912909	0.9879729	1	0.710477	0.7942
y3	0.6262298	0.7047	0.636875	0.557297	0.7054816	0.7104767	1	0.487068
y4	0.9047318	0.64907	0.844	0.764019	0.852654	0.7941996	0.487068	1

No. of DMUs in Data = 14

No. of DMUs with inappropriate Data = 0

No. of evaluated DMUs = 14

Average of scores = 0.9538

No. of efficient DMUs = 11

**Rank Order efficiency in Kuwait**

Rank	DMU	Score
1	Al Ahli Bank of Kuwait	1
1	National Bank of Kuwait	1
1	Commercial Bank of Kuwait	1
1	Gulf Bank	1
1	Industrial Bank of Kuwait	1
1	Kuwait and Middle East	1
1	Kuwait finance House	1
1	Kuwait international	1
9	Burgan Bank	0.98636
10	Al Ahli United Bank	0.906673
11	Manafee Investment	0.807091
12	Boubyan Bank	0.798205
13	Kuwait Investment Co	0.53461

**Statistics on Input / Output Data**

	x1	x2	x3	x4	y1	y2	y3	y4
Max	18921346	4068597	708657	5964028	17987832	30530306	17987832	951105.6
Min	0	71500.2	4508.2	23991	7462.6	93487.8	3344	603.4
Average	5119611.9	637509.8	132812	1756032	5314057.2	8962818.3	1616508.8	215803.2
SD	5953572.8	1012519	186288	1701663	5755043.2	9667975	4735762.3	276624.4

**Correlation of Input / Output**

	x1	x2	x3	x4	y1	y2	y3	y4
<b>x1</b>	1	0.125161	0.914405	0.968479	0.9824244	0.9864303	0.7140381	0.924143
<b>x2</b>	0.1251614	1	0.062664	0.108625	0.0419166	0.1120831	-0.002241	0.04655
<b>x3</b>	0.9144049	0.062664	1	0.836309	0.9016861	0.8951057	0.9186743	0.959583
<b>x4</b>	0.9684787	0.108625	0.836309	1	0.9762612	0.9893934	0.566535	0.898768
<b>y1</b>	0.9824244	0.041917	0.901686	0.976261	1	0.992458	0.6822676	0.934595
<b>y2</b>	0.9864303	0.112083	0.895106	0.989393	0.992458	1	0.6586196	0.934033
<b>y3</b>	0.7140381	-0.002241	0.918674	0.566535	0.6822676	0.6586196	1	0.803201
<b>y4</b>	0.9241433	0.04655	0.959583	0.898768	0.9345946	0.9340329	0.8032007	1

**Detailed Analysis**

No. of DMUs	13
Average	0.9256107
SD	0.1334397
Maximum	1
Minimum	0.5346096

**Detailed Analysis**

No. of DMUs in Data	=	13
No. of DMUs with inappropriate Data	=	0
No. of evaluated DMUs	=	13
Average of scores	=	0.925611
No. of efficient DMUs	=	8
No. of inefficient DMUs	=	5
No. of over iteration DMUs	=	0

**Rank order efficiency in Qatar**

Rank	DMU	Score
1	Doha Bank	1
1	Qatar National Bank	1
1	International Bank of Qatar	1
1	The Commercial Bank	1
1	Masraf al Rayan	1
1	Qatar Islamic Bank	1
1	Qatar International	1
8	Ahli Bank	0.949407
9	Al Khaliji Commercial	0.64414

**Statistics on Input / Output Data**

	x1	x2	x3	x4	y1	y2	y3	y4
Max	26005644	1467959	241425	4856361	22326466	36462372	1192041	876989.8
Min	383964	128152.2	31339	381279	1671350.8	102681	97288.46	59367.31
Average	5711410.1	549123.5	97538.22	1565776	5968988.3	9536488.6	333794	262085.8
SD	7462637.1	408304.6	60961.95	1249639	6042825.6	9987797.7	319346	236251

**Correlation between Output and Input**

	x1	x2	x3	x4	y1	y2	y3	y4
x1	1	0.264919	0.862586	0.895364	0.9633943	0.9712487	0.961549	0.917132
x2	0.2649188	1	0.16169	0.31737	0.2363408	0.2304886	0.119801	0.231686
x3	0.8625862	0.16169	1	0.90595	0.8990834	0.9309574	0.939622	0.893947
x4	0.8953643	0.31737	0.90595	1	0.9412558	0.9402146	0.925877	0.939608
y1	0.9633943	0.236341	0.899083	0.941256	1	0.9918366	0.961188	0.986892
y2	0.9712487	0.230489	0.930957	0.940215	0.9918366	1	0.970411	0.966351
y3	0.9615493	0.119801	0.939622	0.925877	0.9611877	0.9704113	1	0.942843
y4	0.9171323	0.231686	0.893947	0.939608	0.9868924	0.9663505	0.942843	1

**Detailed Analysis**

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No. of DMUs	9
Average	0.9548385
SD	0.1109754
Maximum	1
Minimum	0.6441402

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**Rank Order**

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No.	DMU	Score	Rank
1	Banque Saudi Fransi	1	1
2	The Saudi Investment Bank	0.971055	8
3	Saudi Holland Bank	0.957229	9
4	Saudi Financial Group	1	1
5	Arab National Bank	0.944248	10
6	SABB	1	1
7	Riyad Bank	0.989267	7
8	National Commerce Bank	1	1
9	Al Rajhi Bank	1	1
10	Bank al Bilad	1	1
11	Alinma	0.821762	11
12	Bank al jazira	0.513777	12

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**Rank order efficiency in Saudi Arabia**

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Rank	DMU	Score
1	Banque Saudi Fransi	1
1	Saudi Financial Group	1
1	SABB	1
1	National Commerce Ba	1
1	Al Rajhi Bank	1
1	Bank al Bilad	1
7	Riyad Bank	0.989267
8	The Saudi Investment	0.971055
9	Saudi Holland Bank	0.957229
10	Arab National Bank	0.944248
11	Alinma	0.821762
12	Bank al Jazira	0.513777

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**Statistics on Input and Output Data**

	x1	x2	x3	x4	y1	y2	y3	y4
Max	39539625	4000000	866305	19688069	26922926	51398672	2272722	1827352
Min	1827352	602548	115477	772957	6252956.5	10440824	46423.63	155781
Average	16890305	1664853	357388	6400277.4	15658860	25647401	854611.7	613797.9
SD	10367462	999970.1	203824.9	4981680.3	7221472.6	12275361	647452.5	470495.9

**Correlation between Output and Input**

	x1	x2	x3	x4	y1	y2	y3	y4
x1	1	0.379616	0.929458	0.9453296	0.5325359	0.7663802	0.986695	0.808578
x2	0.3796163	1	0.502516	0.4413553	0.132151	0.2430171	0.363717	0.443743
x3	0.9294578	0.502516	1	0.9149315	0.6275033	0.8090816	0.905856	0.808855
x4	0.9453296	0.441355	0.914931	1	0.484835	0.7873713	0.950228	0.65379
y1	0.5325359	0.132151	0.627503	0.484835	1	0.9069481	0.559411	0.653738
y2	0.7663802	0.243017	0.809082	0.7873713	0.9069481	1	0.802171	0.663859
y3	0.9866953	0.363717	0.905856	0.9502279	0.5594109	0.8021706	1	0.77393
y4	0.8085781	0.443743	0.808855	0.6537902	0.6537381	0.6638595	0.77393	1

**Detailed Analysis**

No. of DMUs	12
Average	0.9331115
SD	0.1355185
Maximum	1
Minimum	0.513777

**Rank order efficiency in UAE**

Sl. No.	DMU	Rank
1	First Gulf Bank	1
2	Commercial Bank International	19
3	Emirates Bank International	1
4	Emirates NBD	1
5	Commercial Bank of Dubai	1
6	National Bank of Abu Dhabi	1
7	Union National Bank	1
8	National Bank of Umm-Al-Quwain	1
9	Emirates Investment Bank	1
10	Invest Bank	1
11	Bank of Sharjah	1
12	National Bank of Fujairah	21
13	UAB	1
14	Mashreq Bank	1
15	SHUACAP	1
16	Abu Dhabi Commercial Bank	1
17	Ajman Islamic Bank	1
18	ADIB	1
19	Dubai Bank	1
20	EIB	20
21	DIB	1
22	SIB	22

**Statistics on Input and Output Data**

	x1	x2	x3	x4	y1	y2	y3	y4
Max	41619247	1437386	889557	5629405	50873171	77000246	13968564	779170.5
Min	0	12297.2	3065	47293	5063.5	218285.9	8213.8	-14576.25
Average	7740534.8	389115.4	158375.4	1292279	7740756.7	11198739	992753	238488
SD	9068905.8	283069.9	185726.7	1542452	10780203	16464138	2813193.9	232479.6

### Correlation

	x1	x2	x3	x4	y1	y2	y3	y4
x1	1	0.858873	0.962176	0.860695	0.9599216	0.9545391	0.1715807	0.824676
x2	0.858873	1	0.869217	0.767739	0.9174858	0.8866428	0.1572935	0.757248
x3	0.9621757	0.869217	1	0.845853	0.936189	0.9240466	0.2315476	0.76927
x4	0.8606952	0.767739	0.845853	1	0.8630526	0.8540872	0.1490346	0.945789
y1	0.9599216	0.917486	0.936189	0.863053	1	0.9847685	0.1997328	0.810479
y2	0.9545391	0.886643	0.924047	0.854087	0.9847685	1	0.0505861	0.792138
y3	0.1715807	0.157294	0.231548	0.149035	0.1997328	0.0505861	1	0.132582
y4	0.8246765	0.757248	0.76927	0.945789	0.8104793	0.7921384	0.1325824	1

### Detailed Analysis

No. of DMUs	22
Average	0.9642578
SD	0.0881614
Maximum	1
Minimum	0.6427633

### Conclusions:

The time period of the study indicates three different phases along the period 2003-2005, 2006-2008 and 2009-2013. In terms of profitability as observed infers that in the first phase growth was shown and upward trend is seen for both banking systems, second phase has reflected the declining trend, followed by the last phase with the Islamic bank gaining in momentum. With reference to efficiency it indicates Islamic banks as better when compared to conventional banks. Overall results in the ranking of efficiency indicate mixed results it can be found that both Islamic and conventional banks are inefficient as well as efficient.

### Results of DEA:

**In Bahrain** as observed it can be seen that in sample of 14 banks which includes 9 conventional banks and 5 Islamic banks. 11 banks are identified as the efficient Decision making units (DMUs). 3 banks are considered as inefficient which are from the cluster of Islamic banks.

**In Kuwait** from the sample of 13 banks which consists of 8 Conventional banks and 5 Islamic banks, all the Conventional banks are efficient with score 1 whereas Islamic banks are not which reflects that the inputs are not utilized properly.

**In Qatar** the sample of 9 banks taken 6 are Conventional banks and 3 are Islamic banks. The efficiency score is seen for all Islamic banks and other Conventional banks too.

**In Saudi Arabia** out of 12 banks in the sample 6 banks have been found to be inefficient which consists of both Conventional and Islamic and whereas remaining 6 were efficient.

**In UAE** the sample 22 banks taken from UAE, of which 16 are Conventional banks and 6 banks are Islamic. Only 4 banks were found to be inefficient of which 2 are Islamic banks and other 2 are conventional banks.

### Managerial Implications:

This work can be implied for the efficiency analysis of the banks in terms of identified variables both input and outputs and the shortcomings can be overcome by appropriate measures. This approach also suggests the shortcomings of the utilization of the inputs to generate outputs but this work is restricted to only the ranking of the banks in terms of its efficiency.

### Limitations and further implications:

This work is limited to the national banks listed on the stock exchanges of the respective countries taken for the study. Research can be extended to other banks as well as countries too. Taking into consideration other variables for the efficiency, DEA can also be extended to approaches like BCC and others.

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## ***A Link Between the Acculturation Process and Project Management Maturity Model (PMMM) in a Cross-Border M&A: A Case Study of an Acquisition of a Brazilian Firm in the Automobile Industry***

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### **Abstract**

*A number of firms in the automobile sector are adopting the Merger and Acquisition (M&A) strategy to improve their competitiveness. Towards this trend, this study aims at analyzing the relationship between modes of post-acquisition acculturation and project team maturity (PMM). International business literature does not correlate the acculturation process with project team maturity after M&A. This gap has provided the motivation for this study, which proposes a framework making a relationship between post-acquisition acculturation and team maturity, based on the Nahavandi and Malekzadeh's (1988) research and Holmes and Walsh's (2005) model. This paper is a qualitative research study based on the case study of the acquisition of a Brazilian firm by a multinational enterprise from a developed country in the automobile industry. Fourteen in-depth interviews with managers were used to gather data, which generated almost ten hours of audio recording. Content analysis was the technique used to analyze the transcripts of the in-depth interviews. The content analysis showed differences between modes of acculturation perceived by the acquired and the acquirer firms, and the existence of a gap between the PMM teams from both companies. It reveals a direct relationship between the mode of acculturation and the PMM team, which is one of the factors that drove the evolution of PMM practices within the company. By recognizing this relationship, this research proposes and elucidates a framework that relates the mode of acculturation after the M&A process to PMM. For managerial implications, this framework is useful for post-acquisition companies to understand good practices for the project teams.*

**Keywords:** Merger and Acquisition; Post-Acquisition Acculturation; Project Management Maturity; Automobile industry.

### **Introduction**

The evolution of the automobile industry over the past three decades involves several different aspects. This new industrial competition, which focuses on project and product development, is largely driven by three forces: (i) the emergence of intense international competition; (ii) the creation of fragmented markets populated by demanding, sophisticated customers; and (iii) diverse changes in technologies (Clark and Fujimoto, 1991).

Focused on the first force, Clark and Fujimoto (1991) stated that international players in the automobile industry possess similar basic skills, but they have different backgrounds and experiences. Thus, they bring different approaches to the international market. After the mid-1980s, when the number of more capable and diverse players increased, it has been necessary to fight competitor movements with quick implementation of well-differentiated products.

In the same vein, in the North America market, despite the common perception that the U.S. automobile industry is fully developed, sophisticated, and complex, new technologies continually emerge, allowing the industry sector to attain significant growth (Hwang, 2012).

In South America, Brazilian automobile firms found only one way to fight against this competition threat: improve the quality of vehicles (Dias, 2003). This strategy was kept for several years, following the quality differentiation according to Mintzberg (2001). However, Asian companies still had some competitive advantages compared to Brazilian firms: production of high quality cars with lower cost and faster production than Brazilian automobile companies (Silveira, 2011).

In this way, Brazilian automakers put a lot of effort into implementing the concepts, tools, and techniques of project management (PM) that result in an increased maturity level for project teams, which directly affects project performance including cost, schedule, and quality (Soeltl, 2006).

According to De Souza and Gomes (2015), the adoption of a project management office (PMO), even in the long-term, is not a sufficient condition for reaching excellence. The basis for achieving this excellence is well developed by PM Maturity Models, which are composed by stages that describe differences in levels of the maturity of PMOs.

Furthermore, during the last decades, there has been increasing competition within the automotive industry. A strategy implemented by companies to become more competitive and survive in the market is the execution of Merger and Acquisition (M&A) process. Examples include the acquisition of Ferrari by Fiat in 1969, and Volkswagen acquiring Audi in the mid-1960s. Most cases of M&A occur between developed country multinational enterprises (DMNEs). Recently, a different movement shows emerging country multinational firms (EMNEs) acquiring DMNEs. For instance, Tata purchased Land Rover and Jaguar from Ford in 2008, and Geely acquired Volvo in 2010. Little is known about the post-acquisition process of an emerging market firm by a DMNE.

A number of factors could motivate the processes of M&A. In the case of Geely/Volvo, for instance, the Chinese company acquired the Swedish firm to learn how to build safe and high quality vehicles (Xiaohui and Haiyan, 2010). Several M&A cases could be mentioned here, each one with its own particularities, but all of them share the same important issue: the post-acculturation process.

During the M&A process, acculturation occurs in at least one of the firms (acquired or acquirer) at a higher or lower degree. Berry (1997) defines acculturation as the general process that impacts culture and psychology through intercultural contact. Taking again the Geely/Volvo case, Xiaohui and Haiyan (2010) showed the cultural abyss between the Asian and Swedish companies. On the one hand, Volvo's operation philosophy focused on people and product development. On the other hand, Geely focused on budget control and profitability. These differences caused a number of post-acculturation problems.

Based on previous research, we intend to provide an important contribution to understanding the relationship between the post-acquisition acculturation process and the PMO maturity level. We expect to find a correlation between the level of acculturation and the maturity levels of PMOs, which seems to be a very important issue to be considered in the automobile sector after the M&A process.

In the literature review, we only found prior research that developed those aspects separately. For instance, in regards to acculturation, we found a model developed by Nahavandi and Malekzadeh (1988) that proposes modes of acculturation. Concerning project management, we highlight a study done by Holmes and Walsh (2005), who implemented an evaluation methodology for PMO maturity. Particularly in an industry sector in which techniques influence competitiveness and product quality, the maturity of PMO teams could moderate the acculturation process after an M&A. Therefore, it would be interesting to investigate such a relationship, which leads to our research question: How do the post-acquisition acculturation process and the maturity level growth of PMO occur in an automobile firm? What is the relationship between them?

This paper aims at proposing a framework correlating the PM maturity level, following Holmes and Walsh's (2005) model, with the post-acculturation process based on Nahavandi and Malekzadeh's (1988) framework. Consequently, we intend to: (i) analyze the post-acquisition acculturation process at the project management team; (ii) analyze the PMO maturity level from acquired and acquirer firms before the M&A process; and (iii) analyze the PMO maturity level of the acquired firm after acquisition.

This paper is a qualitative research study using the case study of the acquisition of a Brazilian firm made by a DMNE in the automobile industry. As stated earlier, such M&A activity is not very common in this industry. Thus, it would be interesting to examine this M&A case in particular, especially the post-acquisition acculturation process and the PM team development. We collected our data based on in-depth interviews with the managers of project departments who had experience in this specific period of M&A process.

We used content analysis to examine our data. After the data analysis, it was possible to better understand how the acculturation process and PMO maturity growth occurred in the post-acquisition development. We discuss the cultural changes suffered by the acquired firm during the past years. At the end, we propose a framework that relates the acculturation mode suffered by the acquired firm and the PMO maturity level.

### **M&A and the acculturation process**

Previous studies on acculturation issues focused their investigations on the strategic and financial alignment between the acquired and acquirer firms (Nahavandi and Malekzadeh, 1988). Little is known about how the organizational acculturation process occurs inside of the involved firms.

Weber, Tarba, and Reichel (2011) analyzed the combined effect of corporate and national cultures among several studies about integration on the post-acquisition period. These authors considered how the dimensions of national culture proposed by Hofstede (1991) affect post-acquisition integration. In a further study, Weber and Tarba (2012) focused on organizational culture analysis and presented a framework to evaluate the cultural changes that take place during different stages of M&A development.

As mentioned earlier, the M&A process is recurrent in the automobile industry. Xiaohui and Haiyan (2010) compared the institutional, material, and spiritual cultures from both the acquirer and acquired firms and proposed a model to integrate three organizational aspects. The model is explained through application of the Volvo/Geely acquisition case.

The framework proposed by Nahavandi and Malekzadeh (1988) was the first to bring the concepts of national culture into the organizational field and organize the acculturation modes into categories. Later, Berry (1997) applied this framework and proposed a conceptual model in which acculturation and adaptation could be investigated from a cross-cultural psychological perspective.

According to Nahavandi and Malekzadeh (1988), the alignment between acculturation modes perceived by involved firms is associated with acculturation stress. The success or failure of the M&A process is directly related to the acculturation stress level. They suggest four acculturation modes: assimilation, integration, separation, and deculturation. In the assimilation mode, acquired firms' employees leave their own culture to adopt acquirer organizational culture. On the one hand, the acquired firm tends to be attracted to the acquirer's culture and do not care as much about their own culture. On the other hand, the acquirer firm tends to pursue a high degree of uniculturalism, while the business types of both firms are similar.

Within the integration technique, employees of an acquired firm recognize the influence of acquirer culture, but they try to keep the major aspects of their own culture. However, in practice, the acquired firm tends to be more multicultural and accepts the acquirer firm's cultural traits, although both firms generally tend to have had the same financial structures and legal responsibilities. While in separation mode, the acquired firm makes an effort to remain a separate entity, mainly in both cultural aspects and internal policies. In general, the acquired firm in this situation has a strong organizational culture and desires to keep separate from the acquirer. The acquirer firm is more multicultural and considers their business type to be different. Finally, in the deculturation mode, the acquired firm has a weak organizational culture. In this way, the acquired firm's managers do not accept its own culture. Furthermore, the acquirer firm has unicultural aspects and their business types are not equal. Figures 1 and 2 summarize aspects that affect the acculturation mode's definition for acquired and acquirer firms respectively, following the framework laid out by Nahavandi and Malekzadeh (1988).

In further research, Nahavandi and Malekzadeh (1993) introduced four factors that contribute to defining acculturation modes. The first is organizational culture, which consists of the organizational elements that characterize the firm and distinguish it from others. Organization culture is linked to a company as personality is linked to a person. This is the most definitive factor of acculturation process, mainly due to the degree of diversity tolerance from the acquirer and acquired firms. The second factor, organizational strategy, involves how companies plan to achieve their goals, and it can be one of the determinants of cultural change. Organizational strategy focuses on the acquirer firm's goals and the acculturation mode as perceived by both firms. Another relevant factor is the organization mode of human resources. Since a person is the major agent of culture, managing organizational structure is a crucial factor for the success of the acquisition process. The last factor, leadership, is also very important during the M&A process. It is essential to understand the leaders' influence and responsibility during the acculturation process. Different leaders have distinct point of views, and consequently, distinct perceptions of acculturation mode.

FIGURE 1 – ACQUIRED FIRM'S MODE OF ACCULTURATION.

		How much do members of acquired firm value preservation of their own culture?	
		Very much	Not at all
Perception of the attractiveness of the acquirer	Very attractive	Integration	Assimilation
	Not at all attractive	Separation	Deculturation

Source: Nahavandi and Malekzadeh (1988, p. 83).

FIGURE 2 – ACQUIRER'S MODE OF ACCULTURATION.

		Culture: Degree of Multiculturalism	
		Multicultural	Unicultural
Diversification Strategy: Degree of Relatedness of Firms	Related	Integration	Assimilation
	Unrelated	Separation	Deculturation

Source: Nahavandi and Malekzadeh (1988, p. 84).

Complementing the study of Nahavandi and Malekzadeh, Sarala (2010) analyzed the impact of cultural differences and acculturation factors on the acculturation conflicts that occurred after the M&A process within a hundred Finnish firms. The findings show that, on the one hand, the differences in organizational cultures and the wish to preserve their own culture from both sides increased the post-acquisition conflicts. On the other hand, the conflicts should be reduced when the competitiveness of both companies against the rest of the market increases. Furthermore, the difference in national culture and multiculturalism from both firms did not affect post-acquisition stress.

Analyzing in details the factors that influence post-acquisition conflicts, Sarala (2010) suggests that differences in organizational cultures could and should be controlled by managers. In addition, the author considers that post-acquisition firms tend to be less permissive and have more attention to organizational cultural differences. Consequently, at the management level, firms tend to be less tolerant with cultural changes, increasing their own degree of cultural preservation.

### Project Management Maturity Model

The automobile sector is known for being project-oriented and focused on product development. According to Soeltl (2006), most research is based on the following models: the Capability Maturity Model (CMM); the Project Management Maturity Model (PMMM); and recently, the Organizational Project Management Maturity Model (OPM3).

The CMM is a reference of PM maturity in organizations and was developed by the Software Engineering Institute (Humphrey, 1989). This model defines five levels for PMO maturity: at level 1, the PMO is characterized through an informal and undocumented process; at level 2, basics concepts of PM are implemented, and previous projects are used as reference; at level 3, PMO has a well-defined process and is standard for all projects; at level 4, process and products are controlled by data (i.e. quantitative controls); and at the highest level, PM practices are institutionalized, and PMO focuses on continuous improvement.

The Project Management Institute (PMI) (2003) proposed the PMMM methodology based on CMM. It defines five maturity levels considering nine areas of knowledge as presented in the Project Management Body of Knowledge (PMBOK). It is the most widespread methodology.

At the first level proposed by PMI (2003), common language, an organization recognizes the importance of project management practices; however, the project team does not clearly understand the basic concepts of PM. Soeltl (2006) suggests five basic concepts and conditions to move to the next level: education and basic training on PM subjects; training by certified PM professionals; encouragement for the PM team to have a common PM language; recognition of management's available tools; and the development and understanding of the PM principles.

At the second level of maturity proposed by PMI (2003), common processes, the organization must recognize that processes should be defined and developed so that success in a project can be repeated by other projects. Basic PM practices apply during project development. Following Soeltl's (2006) research, PMMM proposed five fundamental actions to move forward: encourage a culture to support behavioral and quantitative PM practices; recognize the short- and long-term benefits of a well-structured PM; and incorporate a PM subject into employee basic formation.

The third level is characterized by a unique methodology, meaning the organization understands that PM practices should be the basic pillar for overall corporate methodologies. Thus, it is easier to control the companies' projects using similar metrics and data. However, there are some barriers, such as a unique methodology consolidation, resistance to sharing responsibilities with project managers, a fragmented organizational culture, and a documentation process that some team members consider a waste of time or excessive bureaucracy (Soeltl, 2006).

In overcoming these barriers, the PM team achieves the fourth step, known as benchmarking. At this level, process improvement is recognized as a key competitive advantage. Firms have to use benchmarking continuously to know their competitors and how to compete with them. Soeltl (2006) suggests that there are others barriers that need to be removed to achieve the next level. For example, project members who created the unique methodology may be resistant to the ideas raised by benchmarking and hold excessive criticism for the benchmarking process, positioning itself against the analysis.

At the highest maturity level, PMI (2003) advises a continuous improvement process. At this step, the company evaluates benchmarking information and decides whether it will improve the unique methodology. Teams that achieve this maturity level have three characteristics: (i) the PM team has the previous project data; (ii) at the end of each project, lessons learned need to be raised and shared with the project team; and (iii) the overall company has to understand that strategic planning is necessary for continuous improvement. The OPM3, launched in 2004, is the most recently of those three models. It introduces the research on organizational term maturity. This model proposes that project phases may be done in one of three spheres: (i) project, (ii) program, and (iii) portfolio. Those dimensions were proposed levels considering standardization, measurement, control, and continuous improvement.

Using the PMI (2003) model as a base, Holmes and Walsh (2005) developed an evaluation methodology for PMO maturity using a semi-structured interview. The authors focused on the PMMM model. The Homes and Walsh (2005) model splits the project team into eight knowledge areas: (i) an assumption that guarantees all required tasks of the project to be completed; (ii) a schedule that organizes tasks into a chronological order and helps to track project evolution; (iii) cost that defines the necessary budget to conclude the project based on the assumption and schedule; (iv) a quality that guarantees that the project achieves the minimum requirements; (v) a risk management to identify, analyze, answer, and control the risk factor during project life; (vi) human resources who are able to identify specific abilities to complete all project tasks and recruit team members to execute those tasks; (vii) a communication that manages the information dissemination inside the project team, and ways to organize, share, and support management decisions; and (viii) the acquisition management to purchase project resources to support planned tasks. Others researchers support the application of this model. For instance, Soeltl (2006) analyzes the maturity level in the automobile industry, and shows that low maturity level could directly influence project issues, including project launch, expense increase, and low quality.

Juddev and Thomas (2002) use four frameworks, based on the different types of resources, to evaluate how important the models are to a healthy competitive advantage. The authors discussed the maturity level based on Resource Based View (RBV) and Value, Rarity, Imitability, and Organization (VRIO). Yazici (2009) investigates the relationship between Project Management Maturity (PMM) and organizational performance and discusses the influence of organizational culture. He found that cultural changes at an organizational level are an important factor to achieve project goals, as well as to stay on track with schedule, budget, and quality control. In addition, he found

that a high maturity level increases alignment with results-oriented culture, which leads to improved organizational competitiveness.

None of previous studies researched the relationship between acculturation modes and the PM team's maturity. However, it is clear that both aspects have importance in the post-acquisition process, particularly in the case of automobile industry. In the next section, we introduce the methodology in detail to show the proposed framework that relates the PM team's maturity level with the acculturation process after M&A.

## **Research Design**

This paper develops a qualitative research method based on a case study analysis of a DMNE's acquisition of a Brazilian firm in the automobile industry. It is an interesting case, since this industry is generally characterized by M&A moves between two DMNEs (e.g. Fiat/Ferrari; Renault/Nissan; Volkswagen/Audi) or emerging country firms acquiring DMNEs (e.g. Tata Motors acquisition of Land Rover/Jaguar; Geely/Volvo). Recent M&A transactions in which a DMNE acquires a firm in an emerging market are quite uncommon in this industry. Therefore, this gap is one of our motivations for providing an in-depth investigation of this particular case of acquisition.

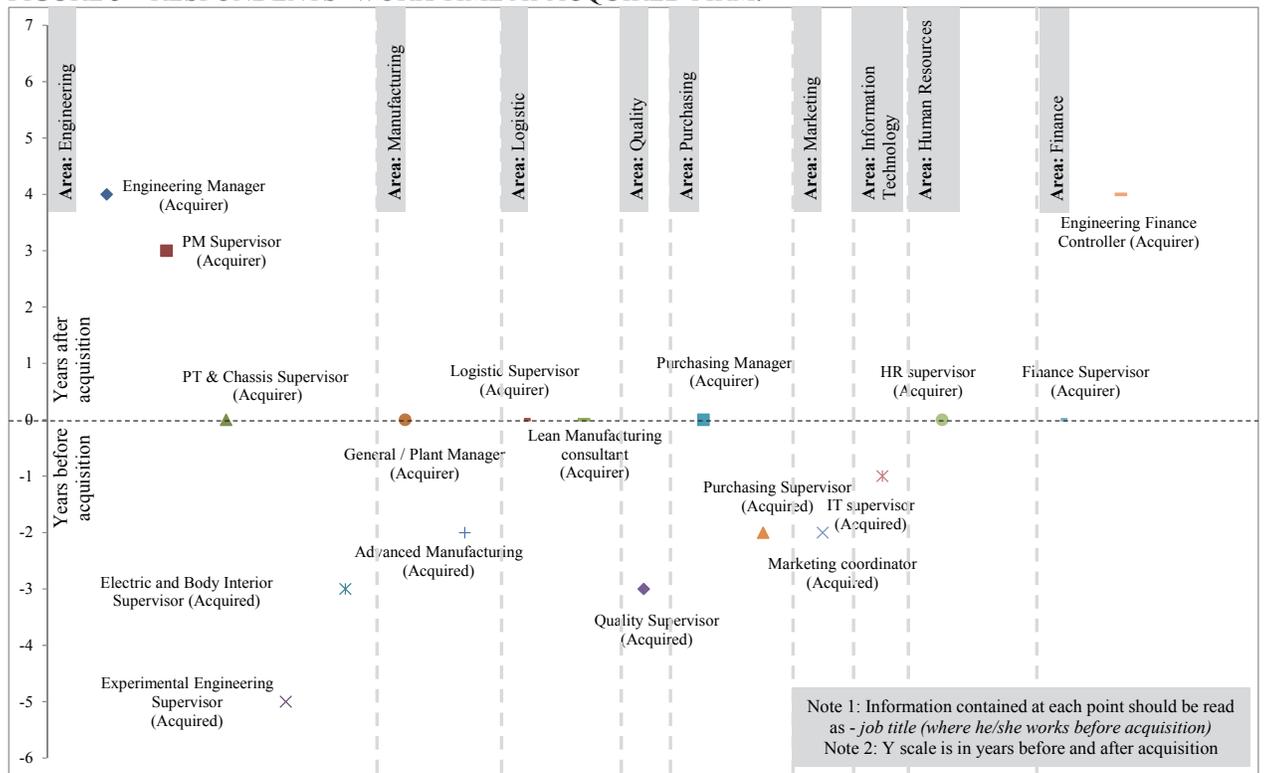
Data collection methods include documental research and in-depth interviews and observations (Eisenhardt, 1995). As the main pillar of this research, interviews were divided into four sections. Preliminary questions were asked, which were necessary to organize the interviewees into their current workplaces, working time at company, and past workplace before acquisition. Interviewees posed questions about PM maturity with the main objective of classifying both companies regarding maturity level, before and after acquisition, based on Holmes and Walsh's (2005) framework. They also asked questions about the post-acquisition acculturation process based on Nahavandi and Maleksadeh's (1988) model. In the last section, questions concerning the relationship between the acculturation process and PM team maturity were asked, providing the interviewees with the employees' opinions about the main research subject.

To select respondents, a pre-selection process was completed following four criteria: (i) all respondents work at the management level of the Research and Development (R&D) sector; (ii) they work in one of the following departments: Engineering, Manufacturing, Logistics, Quality, Marketing, Information Technology, Human Resources, Purchasing, and Finance; (iii) they worked at acquired or acquirer firms before the acquisition; (iv) they have worked at least three years at the acquired firm after the acquisition.

Figure 3 shows the map of the respondents' work time at the acquired firm. All questions were organized as a combination of current workplace and past workplace before acquisition.

We proceeded with fourteen in-depth interviews from January to March of 2013. Seven of these interviewees were from the acquirer's side, and seven were from the side of the acquired firm. All interviews were conducted by one researcher, which is aligned with limits established by Gaskell (2002), who considers that each interviewer is able to make about thirteen or fourteen interviews and six up to eight focus groups. This method also reduces the bias that can exist due to the different ways multiple interviewers might ask questions.

FIGURE 3 – RESPONDENTS' WORK TIME AT ACQUIRED FIRM.



Source: authors.

All interviews were recorded with permission from the interviewees, resulting in a total of nine hours and thirty-six minutes of audio recordings. Interviews were conducted in Portuguese, the native language of all respondents. After this step, all audio records were transcribed, resulting in more than two hundred pages. All recorded data was examined using content analysis (Bardin, 1977) with support of the Atlas.ti software package. This software's main function is to help the researchers search, categorize, organize, and record the interpretation (Bandeira-De-Mello, 2006). Eight codes were created for post-acquisition acculturation based on Nahavandi and Malekzaden's (1988) model, and thirty-two codes were created for PM team maturity following the framework of Holmes and Walsh (2005).

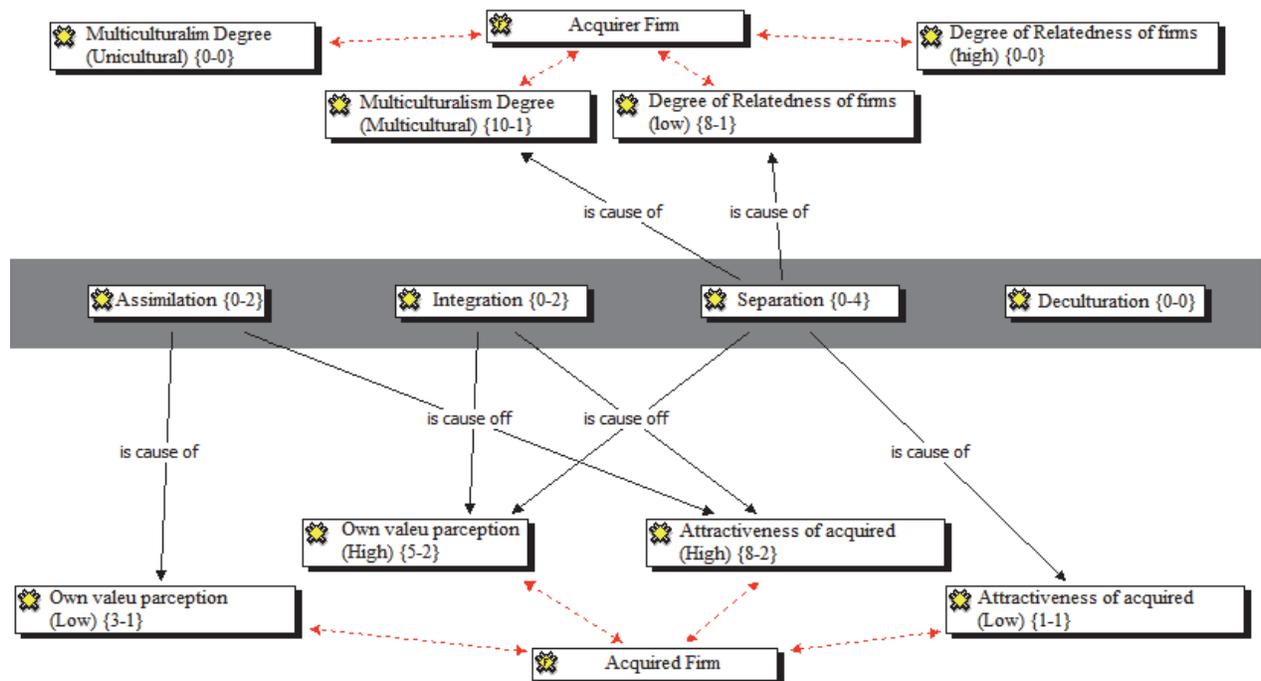
In order to uphold the confidentiality of all respondents, all names were replaced by codes. Engineering managers were E1, E2, E3 and E4; manufacturing managers, E5; logistics, E6 and E7; quality, E8; purchasing, E9; marketing, E10; information technology, E11; human resources, E12; and finance, E13 and E14. In addition, all names that could be associated with the acquired and acquirer firms were hidden. When making the transcript of the interviews, the firm names were replaced by [acquired] or [acquirer] firms, as were systems names and corporate policies that could be associated with the firms. These procedures did not affect the analysis and results.

## Results and Discussion

### *Acculturation process perceived by acquired and acquirer firms*

Each project area has its own predominant point of view and acculturation mode. However, to analyze a company as a whole, interviews were conducted with Atlas.ti covering all project areas. All quotes used in this paper follow the codes shown in Figure 4. According to Figure 4, it should be noted that each code has two numbers between the brackets. The first is related to the quotes linked with code, and the second is the number of links between different codes. Considering only the codes that have some quotes related with, the perceived acculturation mode was defined based on this relationship.

FIGURE 4 – NETVIEWS RELATED TO ACCULTURATION MODES PERCEIVED BY FIRMS.



Source: authors.

On the acquirer side, all respondents revealed that the firm is multicultural and has a low level of relatedness between both business types. Based on Figure 4, ten quotes were related with the “Multiculturalism Degree (Multicultural)” code, and eight with the “Degree of Relatedness of firms (Low).” This means that the predominant perceived acculturation mode of acquirer firm is separation. This alignment between the acquired firm’s respondents has two potential explanations. First, over the last years at the workplace, the organizational campaign encouraged organizational multiculturalism. Second, the acquirer adopted a diversification strategy to increase its product portfolio.

The acquired firms, however, did not perceive the acculturation mode to be homogenous. As can be seen in Figure 4, three quotes are related with “Own value perception (Low),” five with “Own value perception (high),” eight with “Attractiveness of acquired (High),” and one with “Attractiveness of acquired (Low).” Those quotes suggest three acculturation modes: Integration, Assimilation, and Separation. Considering only the perceived acculturation modes from each respondent, the results are similar. From the acquired side, three respondents cited that the perceived acculturation mode is Integration, while three others consider it to be Assimilation, and only one thought of it as Separation. On the acquirer side, all respondents affirmed that the acculturation mode that had occurred was Separation. Figure 5 shows the findings interpreted through the Nahavandi and Malekzadeh (1988) model.

FIGURE 5 – RESULTS APPLIED AT ACCULTURATION MODE FRAMEWORK.

		How much do members of acquired firm value preservation of their own culture?	
		Very much	Not at all
Perception of the attractiveness of the acquirer	Very attractive	Integration 3	Assimilation 3
	Not at all attractive	1 Separation	Deculturation

		Culture: Degree of Multiculturalism	
		Multicultural	Unicultural
Diversification Strategy: Degree of Relatedness of Firms	Related	Integration	Assimilation
	Unrelated	7 Separation	Deculturation

Source: Adapted by the authors based on Nahavandi and Malekzadeh (1988).

Additional conclusions can be drawn based on the responses from the acquired firm’s employees. First, all respondents declared that the acquirer firm is very attractive, particularly because the new owner is a centuries-old company with a worldwide presence and brand recognition. Second, the acquirer firm’s own cultural perception is in a transition phase; in other words, the acquired company is in the process of changing its habits, processes, and procedures.

*Cultural changes among acquired and acquirer firms*

The cultural distance between firms just after acquisition was very high. When asked about the cultural distance between companies, E2 declares:

*When we arrived here, the distance between firms was huge! We built the vehicle and later we drew it on paper. And sometimes not drawing on paper. We called this process reverse engineering, [...] It was a huge change and it often causes traumas. (E2, 2013)*

Staffs of the engineering, purchasing, finance, and logistics departments consider the existence of an important difference between firms, which is the modus operandi. Two aspects were raised quite often during the interviews: lack of integrated systems and the difference in organizational structure between the two firms. This is evidence that the organizational structure is fundamental for acculturation process, as mentioned by Nahavandi and Malekzadeh (1988). The following quote shows this perception:

*What we have now is a transformation process. A small firm, which had a familiar business, now is a part of a multinational company, and is only a "section" of this giant firm. Neither all processes nor all policies are implemented into [acquired]; they could not work alone. They have a long way forward. (E1, 2013)*

The remaining PM teams, such as manufacturing, marketing, quality, human resources, and IT departments consider that both firms are quite close. As evidence of that, the General Manager E5 mentioned that the overall acquired organization is aligned with procedures and policies from the acquirer.

Different perceptions among the departments are influenced by two factors: the degree of automatization in each department area and the time period of integration for the acquired firm with the acquired practices. The engineering department is a clear example of that phenomenon. It was the department with a major lack of system. The initial integration began just two years after acquisition, when the acquirer company transferred their engineering manager and PM supervisor to the acquired firm. All department areas were affected by those decisions.

#### *Project team maturity before and after M&A*

All PM department areas analyzed had specific maturity levels before and after acquisition. We used the same methodology as in the previous section, linking quotes with the eight knowledge areas proposed by Holmes and Walsh (2005).

All nine quotes about assumption management from members of the acquired firm show a level 1 in maturity. In the other hand, the acquirer with his well-documented process and policies had between four and seven quotes at maturity level 3. If the overall maturity level of the firm is considered to be the code with the largest number of quotes, the acquirer firm had a maturity level of 3 before acquisition. After eight years of M&A, the acquired firm showed progression in assumption management. The acquired firm implements all processes and procedures from the acquirer, but they do so manually instead of using an electronic system, as done by the acquirer. All quotes showed a maturity level of 3 of assumption management for post-acquisition period.

All quotes from the acquired firm that related to schedule management before acquisition showed a maturity level of 1. However, all quotes from the acquirer before acquisition were at level 3. That discrepancy shows the gap between those two firms before acquisition, one without schedule control and the other with experience in managing the schedule and delay. It should be noted that the acquired firm has grown in terms of schedule management since acquisition. Thirteen of the twenty quotes were related to level 2 of schedule maturity. On the other hand, one of most notorious failures from the acquired firm after acquisition was the continuous schedule delay.

Only E13 and E14 were interviewed regarding cost management, finding level 4 for the acquirer and level 2 for the acquired. Concerning quality management, the results show a maturity level of 1 for acquired before acquisition, and a level of 3 in post-acquisition. In human resources management, the findings revealed that the acquirer before acquisition held a maturity level of 3, and after the M&A the acquired scored a maturity level of 2.

Quotes related to risk management showed that the acquired firm's PM maturity before M&A was level 1, while the acquirer firm was at level 2 in risk management, which is still considered a low maturity level. However, after acquisition, the acquired firm implemented all processes and policies regarding risk management, achieving the same level 2 of the acquirer firm. Only in this knowledge area did the acquired firm achieve the same level of acquirer.

One interesting finding refers to the communication management, which was revealed to be the most important factor. This is because, even after eight years, the maturity level of acquired firm had only achieved level 1. It should be noted that before the M&A, both firms had better maturity levels, for instance level 2 and level 4, respectively, for the acquired and acquirer companies. In other words, post-acquisition communication management became worse.

Two major factors support these findings: (i) differences in organizational structure between the two firms, and (ii) the official language of the acquired firm. Firstly, before acquisition, the acquired firm had a horizontal structure, where managers had more contact with the company owner, and the decisions were made faster compared to in the post-acquisition period. After acquisition, the acquired firm had to implement a number of bureaucratic processes, transitioning into a vertical organization. Secondly, before acquisition, communication among team members was informal and reports, when required, were in Portuguese. After acquisition, communication among team members had to follow acquirer processes and needed to be documented in English, the official language of the acquirer.

Looking at the overall scenario, six out of the seven respondents from the acquired firm mentioned that they had a maturity level of 1 before acquisition. This indicates that the company did not have formal procedures for PM. In contrast, five out of the seven respondents from the acquirer state that PM maturity was at level 4 before acquisition. This reveals that the firm had well-documented and controlled processes.

After acquisition, the acquired firm has grown. Eight of the respondents mentioned that the acquired firm achieved maturity level 2, and the remaining six consider the firm to be at level 3. This evidence indicates that the acquired firm is implementing a PM methodology, adapting and adopting from the acquirer. All respondents affirmed the notorious evolution of the acquired firm since the start of the acquisition process.

#### *Relationship between the acculturation process and PMMM*

When analyzing the acculturation mode through the model proposed by Nahavandi and Malekzadeh (1988) and the PM team maturity through the model proposed by Holmes and Walsh (2005), the findings obtained by the in-depth interviews show a correlation between the two (Figure 6). This relationship gives a picture of the maturity of the PM team according to the perceived acculturation mode.

From the points of view of both the acquired and acquirer, the integration acculturation mode tends to present a hybrid maturity level between both firms. This is because, during the Integration process, the acquired firm wants to maintain some of their original processes, and at the same time the target company wants the acquired to adopt acquirer processes, leading to a middle ground of sorts. When the acquirer is a multicultural company, however, it tends to respect the acquired firm's practices and tends to try to implement some of acquirer's tools.

In the assimilation acculturation mode, the acquired firm tends to replace its old PM practices with new ones. This is mostly because the acquired firm considers the old practices to no longer be valid, while the acquirer has modern and up-to-date processes. The acquirer generally wants to implement its own practices because the acquirer is unicultural and relies on the fact that the business types of both companies are similar, and therefore, they have to use the same PM practices.

In the separation mode, PM practices from the acquired tend to prevail because their employees consider the acquirer's processes to not be robust enough to be implemented. In addition, employees affirm the acquired process more efficiently than the acquirer does. The acquirer, on the other hand, is a multicultural company and therefore tends to respect the acquired firm's procedures. The acquirer also recognizes that the two companies' business types are not related, and the same processes would therefore not fit in the acquired firm's structure.

Deculturation is the acculturation process in which the acquirer imposes their processes and the acquired firm tends to accept with few to no barriers. On the one hand, the acquired firm does not trust in its own procedures and does not put forth the effort to learn the acquirer's processes on their own. On the other hand, the acquirer firm considers that the two companies' business types are not related, but there is a trend to consider the acquirer culture as unique and thus to impose its PM processes and procedures.

In order to verify if PMMM will increase or decrease, it is necessary to map the maturity of the acquirer and acquired firms before acquisition. After this analysis, it is possible to understand the trend of the acquired firm's maturity level.

FIGURE 6 – RELATIONSHIP BETWEEN ACCULTURATION MODE AND PMMM.

**How much do members of acquired firm value preservation of their own culture?**

		Very much		Not at all	
		Integration		Assimilation	
<b>Perception of the attractiveness of the acquirer</b>	Very attractive	<i>Hybrid maturity between both firms maturity</i>		<i>Acquirer firm maturity prevails</i>	
	Not at all attractive	<i>Acquired firm maturity prevails</i>		<i>Acquirer firm maturity prevails</i>	
		Separation		Deculturation	

**Culture: Degree of Multiculturalism**

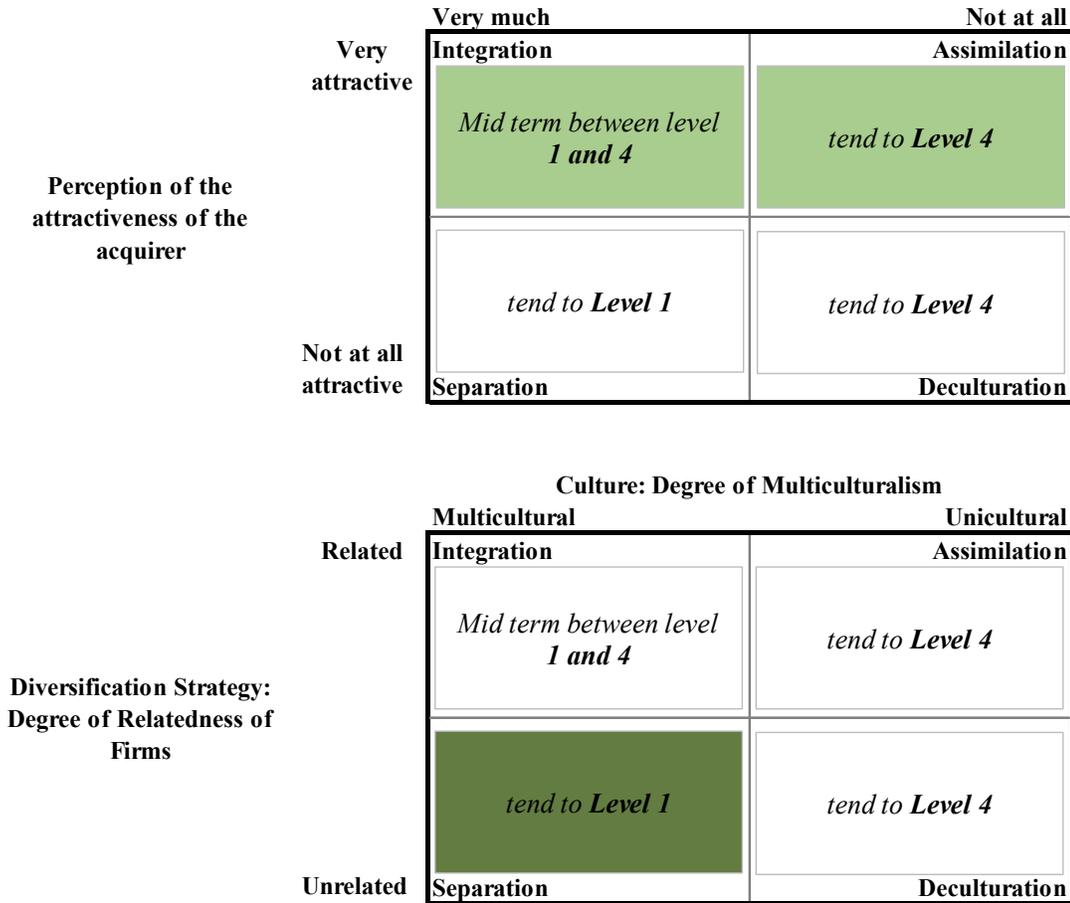
		Multicultural		Unicultural	
		Integration		Assimilation	
<b>Diversification Strategy: Degree of Relatedness of Firms</b>	Related	<i>Hybrid maturity between both firms maturity</i>		<i>Acquirer firm maturity prevails</i>	
	Unrelated	<i>Acquired firm maturity prevails</i>		<i>Acquirer firm maturity prevails</i>	
		Separation		Deculturation	

Source: authors.

*Acculturation process and PMMM framework applied on acquired and acquirer firms*

Applying the present study's proposed framework, there are several different understandings of the acquired firm's PMMM. Figure 7 summarizes these points of view.

FIGURE 7 – ACCULTURATION MODE VERUS PMMM APPLIED INTO BOTH COMPANIES.



Source: authors.

From the acquired firm’s point of view, PMMM trends have two aspects. First, the PM department areas tend to improve their maturity up to a midterm between level 1 and 4. Second, they tend to assimilate all acquirer practices and use the same project systems, which leads them to achieve maturity level 4. On the acquirer side, the buyer wants to keep the acquired procedures and systems, keeping them at maturity level 1, respecting the acquired firm’s particularities.

In regards to the post-acquisition maturity level, the acquired firm was impacted by two factors: a high level of stress during the implementation of PM tools, and the slow evolution of processes. Because of this high level of stress, two respondents were fired. Regarding the speed of process implementation, after eight years, the acquired firm only achieved one step forward, which is very slow progress.

Finally, the proposed framework shows that, depending on the firms’ perceived acculturation mode, PM team maturity tends to be related to only one side, the acquired or acquirer.

## Conclusions

This research provides important contributions for international business literature. First, there is a relationship between the post-acquisition acculturation mode and PM team maturity, and this relationship is important in better understanding the M&A process, particularly in a company in the automobile industry. The literature analyzes these aspects separately. Second, the proposed framework could support managers to further expedite the acquisition process in the automobile industry. Third, by understanding how each PM department area deals with post-acquisition, managers can be aware that each department has a subculture that reacts differently after acquisition and needs to be considered in the M&A process.

Furthermore, managers should be aware of the divergence of the acculturation mode perceived by the acquired and acquirer firms, which contributes to the acculturation stress and slow maturity evolution. The more difference there is between perceived acculturation modes, the more stress occurs during the acquisition process (Nahavandi and Makekizadeh, 1988). Therefore, the acquirer firm would be advised to increase businesses relatedness between the two firms, increasing the synergy of both cultures and changing the acculturation mode to one of integration. To contribute to this process, the acquired firm has to enrich its own culture, helping all managers to think about the merger in the same way. By doing this, the management level changes the perceived mode to one of integration.

The communication process also requires attention, as it is fundamental to stress reduction and the evolution of maturity after acquisition. The present study's findings show that the acquisition process hampered communication, which led to a reduced maturity level after the M&A process. One solution for dealing with this communication problem is encouraging all of the acquired firm's employees to speak the acquirer firm's language. All processes, procedures, and policies from the acquirer are to be, in the case of the company analyzed in this paper, in English. Additionally, the best scenario is that all members of acquired firm should speak both languages, Portuguese and English. That is crucial to the business development into product development enterprise.

It should be noted that innovation technology is associated with the acculturation process because implementing new technologies represents a paradigm shift. Innovation is also related to maturity growth. This is only possible because of the introduction of new technologies in the product development processes. Before acquisition, the acquired firm first built a prototype and then tested it with a low level of computer support (maturity level 1). The acquired firm then created their own product development processes, combining their own old practices with new ones from the acquirer. This presents a clear sequence for development: design with computer support; test with physical and virtual prototypes; and launch to produce it (maturity level 2).

Regarding product innovation, the acquired firm had technical and resource limitations. In order to reduce production costs, some vehicle parts were similar and shared between the acquirer platform products, which limited the design innovation. Additionally, human resources in the acquired R&D department were beginners in the product and development area. At this point in time, they have only ten engineers working in the R&D department, the older of whom has ten years of experience.

In spite of its important findings, this research has some limitations. The first stems from the confidentiality aspect, which made it impossible to use historical data as evidence for the evolution of the company's acquisition process. Second, the researchers were not permitted access to all managers from the acquirer firm. Finally, this study involved the observation of a specific acquisition case, which hinders its generalization. It was not possible to access other cases of M&A.

Nevertheless, there is a great opportunity for future research in this area. First, further studies could identify and use the historical data of the companies in order to highlight the findings from the interviews, conducting a

quantitative study of the phenomenon. Second, it would be interesting to interview all administrative staffs, in addition to managers, to see whether the feeling about acculturation mode and the maturity of the project team is homogeneous in all areas. Finally, future studies could explore and apply this study's proposed framework to other cases of acquisition within the automotive industry or even in other sectors. By using this framework, it would be possible for researchers to check its applicability in other companies and industries.

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## *Signals in Reward Crowdfunding: Evidence from the Jingdong Reward Crowdfunding Platform*

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### **Abstract**

*This paper presents an initial empirical examination, in which start-up signals induced small investors to commit financial resources in a reward crowdfunding context. We examine the impact of firms' external certification (awards, government grants and patents), internal governance (such as past experience), and risk factors (such as period of investment) on fundraising amounts. Our data emphasize the importance of external certification and past experience, as well as social factors, for successful reward crowdfunding. We also discuss the implications for successful policy design.*

**Keywords:** crowdfunding; quality signal; investment decision

**JEL Classification:** D81, G20, G23

### **Introduction**

In crowdfunding, the quality of a creative product or service is only barely observable before a transaction occurs. This fact applies to almost all crowdfunding projects, including art, music, design or other new products that are supported online. What leads investors to invest in these new products or creators? It seems that the potential investors attempt to evaluate the unobservable characteristics of these projects by interpreting the signals sent by creators (Connelly et al., 2011). This signaling information provides potential investors with an indicator of the project quality that they can expect.

In previous research, signaling theory (Spence, 1973) has been used to explain the types of information (board characteristics, top management team characteristics, the presence of venture capitalists or angel investors, founder involvement, etc.) that leads investors to invest in start-ups (Robb and Robinson, 2012; Cole and Sokolyk, 2012). This stream of literature has focused predominantly on the signaling of young start-ups toward angel investors or venture capitalists (Hsu, 2004). However, here has been little research on the signaling of start-ups toward online investors.

The ways in which young creators signal to small online investors are likely to be very different from the manners in which they would signal to venture capitalists. Crowdfunding investors invest relatively small amounts of money (Malmendier and Shanthikumar, 2007), and they are likely to lack the financial sophistication and experience of angel investors or venture capitalists, who are generally highly knowledgeable about the valuing of start-ups and the assessment of founding teams (Freear, Sohl and Wetzel, 1994). Furthermore, crowdfunding investors and creators often interact one time and anonymously. Most of the time, investors do not have the possibility of relying on their own past experiences when making investing decisions.

This paper presents an initial empirical examination of the creator signals that induce small investors to commit financial resources in a reward crowdfunding context. We examine a sample of 647 completed projects from China's largest reward crowdfunding platform: Jingdong crowdfunding. We believe that this platform is very suitable for us to analyze the development of crowdfunding in China because of its size.

We examine data on the amount of capital raised in an effort to understand the value of the different signals of potential project quality. We examine the impact of firms' external certification (awards, patents and recommendation), past reputation (such as the past experiences of creators), transmission of signals (such as interaction with investors), and risk factors (amount of investment and the time limit for fundraising) on fundraising success. Our data emphasize the importance of past reputation, recommendations and signal transmission factors in rewarding successful crowdfunding. We find that creators with good past experience, recommendations and diversified interactions with investors are more likely to attract investments. Interestingly, these signals are consistent with those in venture capital. We also find that other external certifications, such as patents, in contrast, have little or no impact on success. We also discuss the implications for successful policy design.

This paper adds to the limited extant empirical literature on crowd financing (e.g., Schwienbacher and Larralde, 2010; Agrawal, Catalini and Goldfarb, 2011; Burtch, Ghose, and Watal, 2012; and Mollick, 2012), and our data set enables us to draw conclusions about reward crowdfunding as it grows rapidly in China. The evidence can thus offer important insights not only for investors and founders but also for regulators in China.

## **Related literature**

### **1. Signals in crowdfunding transactions**

Signaling theory (Spence, 1973) shows that information- advantager sends quality signal to lower asymmetric and achieve efficient market equilibrium. The signal includes past experience, characteristics, external certification and other reputation information. These signals reflect quality and spread among all traders with reputation mechanism which reduces information asymmetric and lower transaction cost (Kreps, 1982). Ward and Ramachandran (2010) identified a positive correlation of an investment decision with the results of similar, already-funded projects, the actions of other capital providers, popularity rankings and blog posts. Qiu (2013) also found that blog posts (word-of-mouth effect measured by tweets), media coverage and, in particular, features by the promoting platform, have a positive effect on crowdfunding transactions. Kim and Viswanathan (2013) studied crowdfunding in the mobile application market and find that early investments by experts send positive signals and increase the likelihood of subsequent financings by the crowd. Furthermore, recommendations from friends and acquaintances can also send positive signals and increase funding probability (Lin et al., 2013; Liu et al., 2013; Moritz et al. 2014).

According to Mollick (2013), capital providers in crowdfunding markets trust in similar quality signals as venture capitalists (e.g., previous successes of entrepreneurs, external references). This result is rather surprising because crowd investors are usually not professional investors with the same degree of know-how (Agrawal et al., 2013; Fink, 2012; Heminway, 2014; Kim & Viswanathan, 2013; Macht & Weatherston, 2014; Mollick, 2013; Schwienbacher & Larralde, 2012). However, distortions in venture capital financing created by the location of companies (Tyebjee & Bruno, 1984) and the gender of the entrepreneurs (Harrison & Mason, 2007) were absent in crowdfunding markets (Barasinska & Schäfer, 2010, 2014; Greenberg & Mollick, 2014; Mollick, 2013).

### **2. Determinants of successful of crowdfunding**

The literature on crowdfunding is nascent but growing fast. Only few empirical studies of reward platforms exist. Mollick (2014) extracted information from the Kickstarter website and built a data set of 48,034 projects. His

analysis suggests that personal networks (proxied by the number of facebook friends of the entrepreneur) and signals of high project quality (proxied by the availability of a video that describes the project and spelling errors in the project description) are positive determinants of project success. Project duration and a project's target amount are negatively correlated with success. In line with these results, Mollick and Kuppaswamy (2014) found that successful capital seekers had many Facebook friends (as a proxy for the social network), outside endorsements and appropriate backgrounds.

To summarize, project-level analyses of reward/pre-purchase platforms (Giudici et al., 2013; Mollick, 2014) find that personal networks, respectively individual social capital, and signals of high project quality are success determinants, while project duration and a project's target amount are negatively correlated with success.

## **Data Set**

Jingdong crowdfunding is the largest reward crowdfunding platform in China. It focuses on reward crowdfunding, and its approach is similar to platforms such as Kickstarter or Indiegogo. It employs the threshold pledge model. Hence, a project succeeds only if its pledges surpass the targeted amount within the funding duration of the project. If a project's pledges amount to less than the targeted amount at the end of the funding duration, the project is not funded, and the pledges are not paid by users. A project's page at Jingdong consists of its details (funding target, remaining time), a text description of what the project is about and a list of the reward levels. Additionally, the project owner can post a video or pictures or provide more information about the project. The projects also provide social entries online, such as a blog, Wechat, etc. The project's current funding level, as well as the numbers of supporters and fans, is also accessible. We find that the information disclosure on the Jingdong Platform includes the following parts.

First, there is the basic information about the project. This part is the core information that project sponsors disclose, including a project introduction, a sponsor and team introduction, and other non-anonymous information, and it plays a vital role for investors in terms of decision making. In general, project characteristics, team composition, project experience and other data will be disclosed in detail. Some projects will choose words, pictures, videos, etc., to provide multi-dimensional information and communicative interaction with supporters at the same time. This part of the information disclosure has standardized composition requirements, but they vary slightly in accordance with the project characteristics and have certain personalized aspects.

Second, there is the project financing information. This part of the information includes the financing target amount, financing completion rate, investment amounts, investment period, etc. Project views will be updated to provide the real-time financing progress of the project; if it does not reach the target amount within the stipulated time, the project is a failure. The investment scale of investors, that is, the investment amounts, are divided into several levels from low to high; then, different reward methods are set according to the investment amount. The investment return period is the number of days from the investors' investments until returns on their investments are received, which partially reflects the difficulty and uncertainty of subsequent production of the project. In addition, to attract more small investors, some projects require only one yuan to enter a drawing, and an investor then has a chance to win a prize.

Third, there is information interactive communication, which mainly includes two-way and dynamic communications between sponsors and investors and between investors and investors. Related information can not only be sent from sponsors to investors in a standardized manner, but sponsors can also engage in two-way communications with other sponsors through messages, questions, and responses, and they are able to hold discussions with other investors together. In addition, the sponsors also constantly update the information content, maintaining constant and real-time dynamic communication with investors through a variety of means, such as text, images and video.

According to previous research, professional investors always make investment decisions regarding innovation projects through external evidence, interior governance, financing risk and other signals (Ahlers & Cumming, 2014). Compared to professional investors, investors from among the public have distinct characteristics. First, they generally do not have professional knowledge or investment knowledge to identify innovation projects, which means, regarding the external evidence and internal governance of signals, that these investors may tend to rely on famous sponsors with good historical records and plain authority certification information, as well as third-party recommendation information, to help them to assess the quality of a project and to close the gaps in their investment knowledge; In terms of risk judgment, because crowdfunding investors have no sense of risk identification, they may choose projects with return periods that are fairly short; that is, they may reduce project risk by shortening the investment period. Second, these investors can only participate in investment projects online; communicating face to face with sponsors is impossible. However, professional investors can communicate with sponsors repeatedly and fully understand the project information through deeply interactive communication, and they complete project reviews in advance. This lack of communication means that crowdfunding investors may need to have high-frequency, multi-dimensional network social interactions with sponsors to understand the quality information of the project deeply. To close this gap in communication, investors should have discussions with each other to obtain more information; the judgments of other investors are also an important quality signal. To some extent, a crowdfunding project possesses the characteristics of public goods, and numerous investors will influence each other and exhibit herd behavior (Agrawal, Catalini & Goldfarb, 2013). We suggest the following hypotheses, based on analysis above:

H1: If the sponsor discloses patents, certificates, third-party recommendations and other external information, the project financing scale will be higher.

H2: If the sponsor discloses its historical performance-related information, the project financing scale will be higher.

H3: If a longer return time is promised by sponsors, the project financing scale will be lower.

H4: If real-time and dynamic interaction can be established between sponsors and investors and between investors and investors, the project financing scale will be higher.

## **Results**

### **1. Variable design**

Based on previous analyses of the current design mechanism of crowdfunding patterns, we establish signals from four dimensions: firms' external certification (awards, patents and recommendations), their past reputation (such as past experience of the creators); their transmission of signals (such as interactions with investors) and risk factors (amounts of investments and the time limit of fundraising). Our data set consists of all of the projects listed at Jingdong between its launch and June 30, 2015, a total of 647 projects that were successfully funded.

External certification. There are 5 dummy variables, including whether there are any sponsor applications, patents, certificates or other pictures (variable *certi*), as well as media reports and cooperative information in newspapers and on Web sites (variable *media*); whether there are pictures of referrers and recommended content (variable *recom*); and whether there is a performance history (variable *experience*).

Past reputation. The crowdfunding projects show their historical performance, and they can use terms such as 'experienced', 'historical', and 'famous' to demonstrate their former performance, with the aim of communicating their historical reputation to investors. Although self-descriptions are difficult to verify, they improve the activity of investments (Michels, 2012). Because the historical reputation variable 'experience' can include subjective judgments, to ensure the objectivity and reliability of information, we learned from the method of YanLi (2015) to invite three research assistants who do not know each other, aged 25 to 50 years old (consistent

with the age of Internet participants), to take a test. If the research assistants agree that the value of a variable is 1, the value is 1; otherwise, the value is 0. We use this method to reduce deviations due to subjective judgments.

**Project risks.** The good that comes from participating in crowdfunding is the completion of creative designs that are about to enter the production stage. After payment of the investors, the greater risks for the producers are ethical risks, such as their laziness and production delays due to uncontrollable factors (Cumming, 2014). Therefore, we used the project risk variable 'period', namely the sponsors having been promised shipments by a specific deadline, that is, how long it will take for the investors to receive the corresponding return products: the longer the time limit, the greater the uncertainty that investors will accept.

**Transmission of signals.** Variables are built on the basis of communication form, content and frequency (Cumming, 2014). We choose the following information that appears on the JingDong crowdsourcing page to create a social interaction variable: the number of topics about related projects (variable topic), the exchange time between sponsors and supporters (variable know), whether there is video about the project to display (variable video) and the number of figures in the project introduction on the title page (variable content). These variables can demonstrate the communication frequency and degree of diversification of each project differently.

**Other control variables.** These variables include the scale of project investor 'support', investment level ('level'), investor qualification ('quali') and other variables (Frydrych et al., 2014; Moutinho & Leite, 2013; Allison, Davis & Short, 2014). The number of supporters ('support') is a vital factor for the financing scale. However, because the number of participants and the dependent variable financing scale can affect each other, we learn from the method of Cumming (2013) to adjust the variable. Thinking is adjusted to attract more investors, so JingDong crowdfunding projects set the return level of '1 yuan lucky draw', which means that an investor needs only one yuan to obtain a chance for large returns in a drawing. Because of the low investment amount and easy operation, these drawings motivate investors to a major extent. Therefore, to describe the number of investors correctly, we plan to omit the following investors and calculate the percentage of non-sampling investors among all of the investors (support) as an investor scale variable. The variable level is the return level. In the return level of the crowdfunding pattern, the investment capacity of small investors should be considered, and products should be covered, and the important relationship with financing scale should be considered at the same time. In addition, some projects have upper limits on the number of investors, so we add a virtual variable limit to reflect whether there is an upper limit. Through the selection and adjustment of the variables, the endogenous variables in the model are partly reduced, and they can also reflect the motivations of investors.

**Dependent variables.** We use the practical financing scale of the project to demonstrate the final decisions of crowdfunding investors. Thus, we select the logarithm of financing scale ('fund'). Considering that the practical financing scale of the project has a significant correlation with the object amount, we also calculate the relative scale, which is the ratio ('ratio') of the practical financing amount to the object amount. A detailed variable design is listed in table 1.

## **Empirical tests**

### **2.1 Statistical description of variables**

First, we provided a statistical description of each variable. Through overall data collection and sorting of signals, the sample program uses the most media, followed in order by patent certificates and historical record information. Regarding the form of signal transmission, the value of the variable represents the interaction, and 'know' is larger. From the results, we can preliminarily see that project sponsors attach great importance to real-time dynamic communication with investors and will make full use of the versatile information disclosure format. This is also an advantage of transactions in the form of the network. However, regarding the specific content of the signal because there are different characteristics of the project itself, the sponsor will send different signals, combined with actual situations. Overall, the information disclosure of the sample project contains diversified content and form; there is consistency in terms of the form, although there are some differences in the choice of content.

## 2.2 The adjustment and disposal of the data

The financing scale of the project and variables relevant to crowdfunding may incur heteroscedasticity and endogenous problems, so we made the following adjustments. First, JingDong has certain rules regarding the number and type of information disclosures; the project sponsor does not disclose information randomly, and an adverse selection of information disclosure can be controlled to some extent, which can help to reduce endogeneity problems between relevant variables and the financing scale. In addition, we adjust important variables, such as the financing scale. In this paper, we also use important variables, such as the size of project investors' adjustments. Second, in the variable construction part, regarding important variables, such as the project financing scale and scale of investors, we used the logarithmic proportion of various forms to reduce the heteroscedasticity problems. Third, we classify the sample according to a variety of characteristics, such as size and type; then, we perform regression for the overall sample and classification sample to test the robustness of the results. In addition, because there is competition and exclusivity in the crowdfunding platform, the project can only be online on one platform within a certain period, and repeated financing cannot occur.

## 3. Overall tests and classification tests

According to the methods of Cumming (2014), we first use six regression models to test the content and form of the signal and their impacts on the financing scale: model 1 and model 3 test the influence of the signal content and format on the financing scale; models 2 and 4 add a control variable; and model 5 considers all of the variables. The test results are shown in table 4. Furthermore, to reduce the endogeneity between the scale of investors and the financing scale, as well as to consider the robustness analysis results, we calculated the ratio of the practical financing scale to the object financing scale and regard it as an explanatory variable, using a similar approach to test model 6 through model 10; the results are shown in table 5.

Considering that the influence of the above variables may be different with different scales of financing projects, further inspection is made in accordance with the amount of the project financing. Because the sample median of project financing amount is RMB 89242.50, we divide the samples into two intervals: 327 projects, for which the financing amount is less than RMB 90000; and 320 projects, for which financing amount is more than RMB 90000, and select them as samples. At the same time, to determine whether there are new characteristics of the signals in high financing projects, we also test 192 projects, for which the financing amount is more than RMB 200000. The dependent variable in models 11, 13 and 15 is the logarithmic value of the financing amount, and the dependent variable of the other model is the financing percentage. The results are shown in table 6.

In addition, considering that different types of products may have different characteristics and that different signals may have different effects, integrated data availability and test result reliability, we sort the sample project according to the product type, selecting the three types of projects (mobile and digital, health and fitness, intelligent household design) for which transactions are at the forefront as samples and perform analyses. Similar to the previous analysis, the dependent variable of 17, 19 and 21 is the logarithmic value of the financing amount, and the dependent variable of the other model is the financing percentage. The results are shown in table 7.

## Results and analysis

According to above analysis and related inspection results, the recommendation information of the crowdfunding project, its performance and real-time dynamic social interactions are key quality signals that affect crowdfunding investors in their decision making, and the financing scale of the crowdfunding projects improves significantly. The test results show that in the signal aspects, such as external evidence and internal governance,

non-professional investors and professional investors are very similar with regard to the basis of their decisions. Given the crowdfunding pattern characteristic of online transactions, participating in many real-time dynamic communications helps to send quality signals consistently about projects, thus embodying the importance of signal mechanisms in Internet transaction patterns. These results are largely consistent with our hypothesis. Specific test analyses follow.

**External evidence.** The recommendation information is positively significant in all models, reflecting that the reputation information from third parties can improve the financing scales of projects; small investors trust recommendation information from third parties very much. It is interesting to note that the positive relationship of patent certification (*certi*) with other verification information in the overall sample models 1-11 is not significant, but in models 11-16, according to the results of the classification of inspection with increased financing scale, its positive effect is enhanced. This is because patent certification and other verification information are usually too professional, and it is not easy for small investors to understand them completely; however, with the development of the financing scale, investors will focus more on professional authentication information, especially with large projects. However, with the third-party reputation variable, media information (*'media'*) is positive in some of the models, which may need to be tracked further for sample data over a longer period. This suggests that the use of project signal content does not have uniform standards because of the diversity of individual characteristics and the influence of each variable varied, so we must choose optimal results, according to the actual situation.

**Its performance.** Historical reputation (*'experience'*) is positive in all models 1-10, in the classification test models 11-16 and in models 17-22; historical reputation (*'experience'*) is largely positive, indicating that even on famous platforms, such as JingDong, the decisions of investors largely rely on historical reputation, regardless of the amount and type of crowdfunding project. Those sponsors equipped with good historical performance find it easier to gain a larger scale of financing, reflecting that if sponsors have better historical records, they may have significant advantages in the same crowdfunding pattern, even if the innovation that is being financed lacks an enormous number of repeated transactions. However, for young entrepreneurs, a lack of historical records is a great disadvantage for online transactions because investors are actually more willing to obtain reputation records from the real world, where the review methods are consistent with risk investment institutions for financing projects. Risk investment institutions will check the historical performance of sponsors, providing an important basis for decision-making; non-professional investors and professional investors are similar in this regard. Another variable (*'content'*), namely the relationship between the words in the introduction of the project and the financing scale, is not significant, likely because the words on JingDong crowdfunding introductions are limited to 20, so sponsors cannot demonstrate the characteristics of their projects completely with so few words.

**Social interaction.** These inspections select the number of topics in the information about crowdfunding projects: known numbers (*'know'*), whether there are videos (*'video'*) and the words in the project introduction (*'content'*) as form variables of information disclosure to reflect whether there is interactive communication, the progress of products, communication forms and content, respectively. The results of empirical tests show that the coefficient of the variable *'topic'* is positive and that there is a positive correlation between it and the financing scale, indicating that the more dynamic the communication that two trading parties have, the higher the financing scale of the project, perhaps because investors are interested in the project and suggest that increased communication will increase the attention of investors. The variable *'know'* reflects the dynamic disclosure of the progress of the project, especially in subsequent production, which can affect the degree of diligence of sponsors, when the coefficient of the variable *'know'* is largely positive in all of the models. The video variable is significantly positive in the overall samples; however, in the classification samples, the influence varied slightly, and the words of the project introduction (*'content'*) are not significant, likely because the platform sets an upper limit for the words in the project information (no more than 20 words). Therefore, limited information cannot transmit quality signals effectively. The result demonstrate that if the communication frequency can be increased on both sides and the form of transmission can be added, it has positive effects on the financing scale of the crowdfunding project.

Financing risk variables. The inspection results show that the relationship between return period ('period') and financing scale is not significant, perhaps due to the return duration of the raise project commonly being short (no more than 60 days in general). From the perspective of project risk because the crowdfunding project is involved in the manufacturing of new products and omits early creative and design processes, there is the highest uncertainty in the innovation chain, and the degree of risk can be controlled effectively. In addition, the crowdfunding platform will supervise the subsequent production, and the sponsors cannot receive all of the money unless all of the links have been completed, so investors are not unduly concerned with the return duration of products, which means that the design of reward crowdfunding may help to decrease uncertainty about new products and adapt to non-professional investors effectively.

Other control variables. Regarding the investor scale variable ('support') and the financing scale, the inspection results show that the relationship between whether to participate in a drawing and the financing scale is not significant, indicating that the financing scale is decided by the investors; however, the relationship between investors of the drawing type and the financing scale is not significant. The inspection results of the other variables are not an exact match in each model. For example, the 'quali' variable is positive in the sample of overall inspections; that is, setting an upper limit of people will increase the financing scale, indicating that the financing scale is not totally dependent on the number of investors, reflecting the real influence of investors on the financing scale, although this effect is not very significant regarding the classification inspections. Similarity, regarding the type variable of return ('level'), the coefficient of overall inspection is positive, which demonstrates that more return levels provide more choices for investors, lowering the risk and increasing the financing scale at the same time. However, this effect is not significant regarding the classification inspections, so more data are needed to perform further tests and analyses.

Based on the above analysis and inspections of models including a variety of samples, we find that the third-party recommendation information of sponsors, historical performance and social interaction are of great importance for crowdfunding investors. Historical reputation information and third-party recommendation information will help to verify the truth about sponsors; in this regard, the basis of decision-making is consistent regardless of whether the investors are non-professional or professional. Considering the characteristics of online transactions in the crowdfunding pattern, real-time dynamic communication among exchange participants will contribute to the sending of quality signals about projects constantly, reflecting the importance of signal mechanisms in online transactions. The above signals provide an investment basis for crowdfunding investors and have a significant effect on the financing scale. These results are consistent with the theoretical analysis in the study above, which proved that signal theories have much value in terms of practical application.

## **Conclusions**

Crowdfunding has experienced exponential growth over the last few years, and it can be regarded as an alternative to traditional financing for entrepreneurs, such as banks, venture capital or angel investors. However, reward crowdfunding has high asymmetry of information: not all investors are professional investors, and they conduct transactions only through the Internet. How do investors make investment decisions? Based on signal theory, we analyze the signals in the reward crowdfunding pattern. We use JingDong as an example and select 647 successful cases as samples to test the practical application of signals in crowdfunding projects. The results suggest that external recommendation information and dynamic communication influence the quality of non-professional investors significantly. It is interesting that some signals, such as past reputation and third-party recommendations, also form the basis of decision-making for professional investors. Crowdfunding sends these vital signals across a broad range through Internet platforms to attract investors. Thus, our research results show that the basis of the decision-making of small investors is similar to that of experts, laying the foundations for the investment behavior of Internet innovators. Combined with the studies above, we make the following suggestions.

First, in the information disclosure design of crowdfunding patterns, based on the importance of historical performance and recommended information, the punishment mechanism for false information should be considered in the mechanism design. For example, dishonesty blacklists should be established and published on each crowdfunding platform at the same time to ensure the validity and trustworthiness of signals. Second, to promote the sustainable development of crowdfunding, information disclosure chains should be expanded, and dynamic information disclosure should be strengthened, including feedback after product delivery and discussion of appropriate ways to assess the ability and integrity of sponsors, thus helping to recycle production and to accumulate transaction signals. Third, the crowdfunding platform should adjust its methods of issuing information according to the type of financing scale; for example, some simple terms should be added to technical information (such as patents), increasing the disclosure of this information, and the effects of dynamic information tracks are needed at the same time; some modules should be canceled because their effects are not obvious. Fourth, we should pay greater attention to supervision of the platform. Currently, the signals on which investors rely come not only from sponsors but also, more importantly, from platform reputations. Thus, advance reviews of the project, the selection of project types and the source of profits will decide the performance of crowdfunding financing projects, and the protection of investor interests will be affected, requiring regulators to consider comprehensively the further supervision of platforms.

The literature on crowdfunding remains in its infancy. Our study complements the existing research on crowdfunding project signals. It contributes to a better understanding of funding dynamics. Finally, it provides some insight into the motivations of investors. More research, both using observational data and by conducting controlled experiments, is surely needed to assess in greater detail the determinants of pledges at the individual level. Our study may provide useful input for such future research on crowdfunding.

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## Appendix

Table 1. Model variable design

Variable name	Variable content	Variable declaration
Key variable signal		
certi	Whether there are patents and certificates or not	External certificate
recommend	Whether there are referrers or not	External certificate
media	Whether there is media participation or not	External certificate
experience	The experiences of the sponsors and team	Past performance
content	Words of introduction	Past performance
Period	Duration of return	Risk information
topic	Participants' discussions	Transmission of signals
know	Dynamic progress of the project	Transmission of signals
video	Whether there are videos	Transmission of signals
Control variable control		
level	The level of investment amount	Investment amount
support	The number of investors, excluding lucky draw/total investors	Amount of investors
quali	Whether there is a limit on the scale of supporters	Amount of investors
Dependent variable		
fund	Practical financing amount	Decisions of investors
goal	Predicted financing objective	Decisions of investors
ratio	Practical financing amount/objective amount	Decisions of investors

Table 2. Variable definition and construction method of the model

Variable name	Definition
Key variable signal	
Certi	1=there are patents and certifications on the project page, 0=no
Media	1=there are media (such as newspaper and Web site) identification pictures on the project page, 0=no
Recommend	1=there are picture of referrers on the project page, 0=no
Experience	1=there is the historical performance of the sponsors and the team on the project page, 0=no
Content	Content and words of the project introduction
Period	Return duration of the project
Topic	The number of topics that sponsors post on the project page.
know	The exchange time between sponsors and supporters displayed on the project page
video	1=there are videos on the project page, 0=no
Control variable control	
support	(the number of investors - the number of investors that enter the drawing) /the total number of investors
level	the level and amount of investor return
quali	1=there is upper limit for the scale of supporters, 0=no
Explained variable	
Log(fund)	logarithm of the practical financing scale of the project
goal	predicted financing object of the project
ratio	Practical financing amount/object amount

Table 3. Summary statistics of the data

variable	Observed value	Mean value	median	Least value	maximum	Standard deviation
certi	647	0.163	0.000	0.000	1.000	0.370
recom	647	0.046	0.000	0.000	1.000	0.210
media	647	0.556	0.000	0.000	1.000	0.229
experience	647	0.136	0.000	0.000	1.000	0.343
content	647	10.925	11.000	5.000	16.000	2.056
period	647	25.192	30.000	1.000	80.000	11.215
topic	647	196.446	99.000	3.000	9428.000	482.618
know	647	5.493	2.000	0.000	104.000	9.946
video	647	0.419	0.000	0.000	1.000	0.494
support	647	0.520	0.372	0.002	1.000	0.409
quali	647	0.898	1.000	0.000	1.000	0.303
level	647	6.700	7.000	1.000	16.000	1.703
fund	647	40328.80	89242.50	1584.00	20899111	1426466
ratio	647	16.882	5.616	1.002	732.221	45.170

Table 4. The influence of signal on the project financing scale

variable	log(fund)	model 1	model 2	model 3	model 4	model 5
	Certi	0.031 (0.199)	0.119 (0.767)			0.123 (0.902)
	Recom	1.179*** (4.059)	1.239*** (4.620)			0.971** * (4.072)
	Media	0.927*** (4.174)	0.926*** (4.269)			0.835** * (3.852)
	Experience	0.627*** (3.916)	0.763*** (5.198)			0.689** * (4.777)
signal	Content	0.000 (0.000)	-0.003 (-0.156)			-0.011 (-0.455)
	Period		0.013*** (2.725)		0.007** (1.664)	0.008* (1.884)
	Topic			0.001*** (2.717)	0.001** * (7.446)	0.000** * (7.700)
	Know			0.036*** (5.553)	0.031** * (5.797)	0.025** * (4.723)
	video			0.259*** (2.311)	0.219** * (2.091)	0.175* (1.735)
	Support		1.273*** (8.333)		0.812** * (5.896)	0.933** * (7.044)
control	Quali		1.010*** (4.186)		0.649** * (3.546)	0.739** * (4.212)
	Level		0.073** (1.984)		0.070** (2.239)	0.074* (2.449)
	C	11.339*** (162.98)	8.909*** (21.455)	11.010** * (40.003)	9.451** * (23.179)	9.223** * (23.606)
	Adjusted R2	0.09	0.21	0.20	0.25	0.329

Significance levels: \*\*\* = 1%; \*\* = 5%; \* = 10%

Table 5. The influence of signals on financing percentages

variable	ratio	model 6	model 7	model 8	model 9	model 10
	certi	1.238 (0.257)	3.121 (0.512)			5.326 (1.399)
	recom	26.904*** (3.198)	27.557*** (3.339)			23.003*** (3.447)
	media	7.182 (0.925)	7.282 (0.958)			3.874 (0.638)
	experience	9.867*** (1.919)	12.119*** (2.396)			9.879** (2.442)
signal	content	-0.186 (-0.298)	-0.256 (-0.375)			-0.386 (-0.575)
	period		0.232* (1.500)		0.025 (0.196)	0.037 (0.293)
	topic			0.056*** (3.718)	0.056*** (18.353)	0.056*** (18.613)
	know			0.345** (1.923)	0.293** (2.000)	0.168 (1.151)
	video			1.945 (0.674)	1.659 (0.585)	0.719 (0.254)
	support		24.411*** (5.443)		6.359* (1.711)	8.389** (2.265)
control	quali		17.248*** (2.833)		2.914 (0.589)	4.245 (0.865)
	level		0.314 (0.300)		1.222 (1.443)	1.385* (1.645)
	c	13.971 (6.552)	- 22.782*** (-2.284)	5.141 (0.749)	-8.310 (-0.755)	-12.711 (-1.163)
	adjustedR <sub>2</sub>	0.06	0.07	0.39	0.39	0.42

Significance levels: \*\*\* = 1%; \*\* = 5%; \* = 10%

Table 6. The influence of signals on different scales of projects (unit: yuan)

Financing scale		Funding <90,000		Funding >90,000		Funding >200,000	
Project number		327		320		192	
Dependent variable		log(fund) ratio		log(fund) ratio		log(fund) ratio	
variable		model 11	model 12	model 13	model 14	model 15	model 16
	certi	0.069 (0.826)	0.405 (0.728)	0.311** (1.998)	12.794 (0.968)	0.287** (1.903)	19.008 (0.978)
	recom	0.479* (1.661)	1.822** (2.283)	0.561** * (2.684)	23.822* * (2.283)	0.543** (2.519)	27.838* * (14.449)
	media	0.186 (0.487)	0.796 (0.479)	0.211 (1.254)	-1.609 (-0.241)	0.058 (0.277)	-8.741 (-0.913)
	experience	0.398** (2.848)	0.787 (1.031)	0.235* (1.685)	11.411* * (5.112)	0.220* (1.667)	16.664* * (2.005)
signal	content	0.004 (0.340)	-0.029 (-0.307)	0.001 (0.049)	-0.875 (-0.678)	0.001 (0.043)	-2.253 (-0.927)
	period	0.004*** (2.965)	0.024 (1.299)	0.001 (0.287)	0.022 (0.141)	0.002 (1.215)	-0.061 (-0.268)
	topic	0.001*** (5.008)	0.003* (1.283)	0.001** * (2.978)	0.055** * (3.283)	0.001*** (5.797)	0.061** * (4.052)
	know	0.009 (1.162)	0.060 (1.346)	0.007 (1.503)	0.076 (0.309)	0.00 (1.403)	0.164 (0.468)
	video	0.010 (0.155)	-0.367 (-0.847)	0.309** * (2.744)	-0.856 (-0.143)	0.179 (1.409)	-2.826 (-0.271)
	support	0.276*** (2.354)	1.706** * (2.758)	0.549** * (3.856)	10.381 (1.361)	0.429** (2.492)	11.928 (0.935)
control	quali	0.492** (3.540)	-0.671 (-0.916)	0.321 (1.459)	6.378 (1.002)	0.298 (1.306)	7.448 (0.761)
	level	0.066*** (2.697)	0.064 (0.498)	-0.010 (-0.275)	1.886 (1.043)	-0.038 (-0.984)	2.054 (0.743)
	c	9.718*** (41.560)	2.337 (1.442)	11.511* ** (24.965)	-8.839 (-0.382)	12.781** * (32.370)	13.278 (41.347)
	Adjusted R2	0.185	0.035	0.228	0.369	0.236	0.432

Significance levels: \*\*\* = 1%; \*\* = 5%; \* = 10%

Table 7. The influence of signals on projects of different types

Project type		Mobile and digital		Health and fitness		Intelligent household design	
Project number		175		118		186	
Dependent variable		log(fund)	ratio	log(fund)	ratio	log(fund)	ratio
		model 17	model 18	model 19	model 20	model 21	model 22
	certi	-0.232 (-1.111)	-2.579 (-0.509)	- 0.609** (-2.140)	-4.377 (-0.866)	0.633*** (3.038)	15.014 (1.192)
	recom	1.625*** (4.951)	53.344 (1.456)	0.937* (1.684)	13.261* (1.976)	0.976*** (2.098)	13.954 (0.716)
	media	0.784** (2.588)	4.109 (0.495)	1.483** (6.016)	14.869* (2.172)	0.793 (1.647)	2.521 (0.243)
	experience	0.419** (2.353)	13.526* (2.027)	0.614* (1.718)	17.837* (2.374)	0.900*** (3.755)	0.648 (0.084)
signal	period	-0.008 (-0.803)	-0.234 (-0.744)	-0.019 (-1.647)	-0.077 (-0.395)	-0.016* (-1.896)	-0.169 (-0.868)
	topic	0.000*** (3.412)	0.053* (2.708)	0.003** (4.823)	0.051** (4.928)	0.002*** (5.154)	0.127** (2.460)
	know	0.038*** (5.651)	0.266 (0.832)	0.040** (2.512)	0.821** (3.342)	-0.003 (-0.423)	-0.420 (-0.838)
	video	0.044 (0.245)	4.982 (0.693)	-0.126 (-0.613)	-7.576* (-1.943)	0.356** (2.003)	-8.138 (-0.825)
	support	0.959*** (4.372)	3.403 (0.364)	0.186 (0.663)	3.969 (0.764)	0.579*** (2.512)	7.227 (1.011)
control	quali	-0.230 (-0.688)	-20.221 (-1.378)	0.369 (0.560)	-10.416 (-0.802)	0.174 (0.342)	22.921 (1.647)
	level	0.111** (2.094)	2.264 (1.097)	-0.217* (-1.902)	-1.766 (-1.247)	0.021 (0.484)	1.202 (0.768)
	c	10.499*** (12.929)	5.667 (0.264)	11.275* (14.495)	26.477 (1.573)	10.781** (13.451)	-27.536 (-1.458)
	adjustedR <sub>2</sub>	0.461	0.544	0.442	0.370	0.372	0.293

Note: \*\*\*, \*\*, and \* represent significance at less than the 1%, 5%, and 10% levels, respectively.

## *Intellectual Capital in Public Universities: Comparative Analysis, University of Guadalajara and University of Guayaquil*

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### **Abstract**

*Higher Education Institutions (HEI) play a fundamental role in the economic and social progress of countries, but it is through the transfer of knowledge and the generation and application of knowledge, as it contributes to the formation of intellectual capital. Within universities, their intangible assets, enable institutional development and fulfilment of their mission, whose intellectual capital generates competitiveness and differentiation between universities, as in the case of two Latin-Americans universities where the study was applied. Among the main findings it is crucial that a university culture that fosters intellectual capital, leading to greater competitive development among its members and institutions.*

**Keywords:** Intellectual capital, Higher Education Institutions (HEI), Competitiveness.

### **Introduction**

Currently it is giving a strong emphasis on information and knowledge as essential resource to raise the competitiveness of an organization in the market (Osorio, 2003), where the intellectual capital is an issue that is growing interest in the institutions of higher education (IES), however, its main contribution and development has been in the business field, due this intangible resource can achieve greater competitiveness and success of organizations because of knowledge, skills and attitudes that personnel have in their work experience, problems and solutions that face daily, and the number of innovations that can be implemented to achieve competitive advantage, making it an intangible that creates high value for any organization.

HEIs are the most appropriate space where knowledge is transferred, it is in these academic organizations where the training of human resources, the generation and application of knowledge, where insertion in the labor field enables the institution to transcend socially, and the society benefits in that training contributing to solution of individual and collective problems.

The main intangible asset of HEIs is knowledge, and it is from this, where they organize, coordinate and manage the academic actions to achieve the institutional mission and vision, is within the institutions where it joins human, relational and structural capital, to manage intangibles to achieve competitive and comparative advantages, to get prominent positions around its institutional competitiveness.

Education field try to develop skills in students, understanding the concept as the range of knowledge, skills, abilities, motivation, values and interests that generate the vision of the future professionals.

Those characteristics develop during the learning process and through different teaching ways, and is currently the use of information Technology and Communication (ITC) a key for support the access to information, getting knowledge and the capacity to develop new innovations that are shared in cyberspace, whose value increases if the school has available technology, as a part of its academic and administrative actions, the use and application of this resource in the performance of students, teachers, researchers and managers, increasing their competitiveness, something that has already been purposing by Malhotra (2000), cited in Sanchez, Melian and Ant (2007), noting that knowledge refers to how the company, supported in technology and organizational processes, acquires, use or share knowledge.

The changes that have occurred in the world over the past decade and the development of ITC, have provided organizations greater competition and efficiency to manage their intellectual capital, generate new services, products, patents, technologies and project among others, knowledge management and, in particular, intellectual capital has become particularly important to the success of an organization (Osorio, 2003). Intellectual capital and knowledge management provide the tools to develop the institution, competent in all areas related to research and knowledge, being the highest value of a university.

This paper is the result of an applied research to Faculty in two Higher Education Institutions, University of Guadalajara, the main institution in western Mexico region, and University of Guayaquil, the second public university in Ecuador. In the study, the factors involved are intellectual capital in each university, and the relationship between technological factors with institutional competitiveness.

### **Theoretical Framework**

Within HEIs there is a need to quantify intellectual capital and intangible assets: knowledge, skills and attitudes. To study the approach presented takes into account professors of two public institutions of Latin American countries, trying to know the way it is being carried out the knowledge management process, and how to make best use of this intangible resource for the competitive development and educational institutions. Intellectual capital is highly important in terms of perception in organizations, it is highly important to conceptualize theoretically their role and why their intangible composition.

First studies of intellectual capital can be located in the 90's decade, most of them were made in United States of America and Sweden (Osorio, 2003); according to Díaz, (2012), intellectual capital consists in the explicit knowledge and tacit knowledge. Intellectual Capital is based in knowledge, this being the most important of intangibles and the main source of innovation in the process of creating value for organizations. Alarcon Alvarez, Goyes and Perez (2012) argue that knowledge has become the main source of wealth, and the affirmation of Prusak (1996) comes true, that the creation of competitive advantages of a company is based in its knowledge or more specifically on what you know, in how you use what you know and in their ability to learn new things relevant to the organization.

In the business, the concept encompasses the relationships that organizations have with customers and partners, as well as the innovation efforts given, the infrastructure and the knowledge and expertise of the members of the organization (Edvinsson and Malone, 1999; Edvinsson and Stenfelt, 1999; Pasher 1999), cited in Sánchez et al. (2007). Organizations require a number of elements to develop the cognitive process, such as staff knowledge, ability to learn and adapt, relationships with customers and suppliers, brands, product names, internal processes and the ability of R & D , etc., that generate value and sustained competitive advantage. It is important to note that intellectual capital is managed as a process and space for knowledge creation in a set of systems, which seeks increase the organizational intellectual capital, by managing their capabilities to solve problems efficiently (in the shortest possible time), with an ultimate goal: to generate sustainable competitive advantages in time (Osorio , 2003).

There is a significant amount of views that provide definitions of what intellectual capital means, however it is important to those whose contribution to analyze the evolutionary process of concept and not only their meanings (Abreu and Garcia, 2007), cited in Alarcon Alvarez, Goyes and Perez (2012):

**Table 1.1.- Concepts and Evolution of Intellectual Capital Concept**

Author	Definition
Kenneth, 1969	Intellectual action means more than mere knowledge or pure intellect.
Funk y Wagnal, 1977	Synonymous with intellectual property, intellectual assets and knowledge assets. It is part of the total capital stock or share capital based on knowledge that the company holds.
Dierickx y Cool ,1989	Company knowledge stock
Stewart, 1991	Anything that can not be touched but that can make money for the company.
Edvinsson y Sullivan, 1996	Knowledge that can be converted into profit in the future, consisting of resources, such as ideas, inventions, technologies, software, designs and processes.
Jhonson, 1996	Looking even less tangible assets, such as a company's ability to learn and adapt.
Bradley, 1997	Ability to transform knowledge and other intangible assets in wealth-producing resources, both for companies and countries.
Edvinsson y Malone, 1997	It is like an iceberg: "above the surface financial and physical, visible and impressive resources under the sun rise, below there is something invisible, much bigger, the importance of which no one knows but know all their environments."
Stewart, 1997	"It is intellectual material, knowledge, information, intellectual property, experience, which can be used to create value. It is collective brainpower. It is difficult to identify and distribute even more efficiently. But who finds and exploits, triumphs".
Euroforum, 1998	Grouping of assets of a company that, despite not being reflected in traditional financial statements, generate or generate value in the future for it.
Stewart, 1998	Sum of all knowledge possessed by employees and give the company a competitive advantage.
Bueno, 1999	Measurement value generated in a moment of time, background variable that explains the effectiveness of organizational learning and evaluates efficiency in knowledge management.
Petty y Guthrie, 2000	Formed by a structural part, consisting of software, distribution networks, and a human hand, including human resources of the organization and external, within which suppliers and customers are.
Lev, 2001	Those who can create value in the future, but do not have a physical or financial body.
Nevado Peña y López Ruiz, 2002	Set of company assets that, although they are not reflected in the financial statements, generate or generate value in the future as a result of aspects related to human and structural capital, innovation capacity, customer relations, quality processes, products and services, cultural and communicational capital resulting in the generation of future profits.
Viedma, 2003	It is equivalent to core competencies or essential skills.

Among the most recent concepts are the Moon (2006) who claims that intellectual capital consists of: innate intelligence, knowledge, technology, emotional intelligence, memory, values, ethics, innovation, invention, learning and decision. Youndt et al., Cited in (Kwantes, 2007), report that are "knowledge resources that organizations use for competitive advantage," Pribac (2010) explains that intellectual capital represents the totality of what each employee develops in as for their competitive capabilities. Ramirez (2011) citing Arboniés says it is a concept stock that is in relation to the standardization of intangible assets (accounting concept), generates capabilities that distinguish or core competencies in the long term and for that knowledge management aims the intellectual capital of an organization grow significantly, taking into account management capacities for conflict resolution effectively with a single purpose: to create advantages over the competition sustained over time, manage

knowledge to cause management of all the assets that support the organization to obtain skills or competencies that distinguish it.

Based on the definitions above, it can be concluded that intellectual capital is the basic raw material for knowledge management and begins with the recognition of intangible assets that make an organization efficient and competitive (Osorio, 2003). It is an intangible resource; It refers to the skills that humans play within the organization or institutions and is a tool when making decisions, covers the skills and knowledge of employees, and training activities with the aim of growing competitiveness and productivity of employees, (Martinez-Lorente, 2015). Knowledge management and intellectual capital, no doubt, they are changing the way the economy is today managed organizations in a globalized world, (Osorio, 2003).

Intellectual capital in educational institutions that process is all that is done in order to generate knowledge and at the university level is considered the most valuable is an institution. According to Alarcon et al. (2012) the concept helps to university to:

Develop a teaching-learning process faster and more effective; vision to focus on the development of training programs; promote creativity, scientific research, and the generation of ideas and knowledge, sharing and documenting; make better decisions for the future, building through the identification, measurement and development of intellectual capital, sustainable and sustainable competitive advantage with other institutions of higher education; It facilitates the development of knowledge and value creation in all functional areas to ensure the teaching and research university processes and to stimulate the search for new knowledge for the development of science in the different races that are promoted in the institution, in order to make them available to society.

The variables involved in intellectual capital according to Roos, Bainbridge and Jacobsen (2001) cited in Sánchez et al. (2007), it is the sum of the knowledge of its members and practical interpretation. Meanwhile Alarcon et al. (2012) consider that are related to workers: interpersonal relationships, attitude and behavior of staff satisfaction and loyalty, as well as the creation, practice and dissemination of knowledge in the use of new technologies. The powers of a worker on what knowledge is, what skills developed and what attitudes reflected in job performance for the benefit of the organization (Sarur, 2013), also knowledge of the key people in the company are included, satisfaction employees and customers, the knowhow of the institution, are assets that account for much of the value that the market gives an organization, (Osorio, 2003).

Intellectual capital includes a number of components and in this regard there is a consensus to be three: human capital, structural capital and relational capital (Bontis, 2002; Petty and Guthrie, 2000; Ordóñez de Pablos, 2002, 2003; Roos et al, 2001;. Viedma Martí, 2001). Within the human capital, due to technological advances in telecommunications and information technology is transforming the knowledge, skills and talent of individuals. Given this, companies require a different type of worker with skills, attitudes and intellectual agility that allow a critical and systemic thinking within a technological environment (Bontis, 2002), quoted in Sánchez et al. (2007); This component includes not only the skills generated by the formal education and training but also those developed with practice, experience, and the activities and legacy capabilities, which help the technological development (Simoneen, 2012), quoted in Solleiro and Castanon (2012); within this component a subdivision according to ( Roos et al, 2001) are given: (a) skills in the form of knowledge, skills, talent and know-how; (B) attitude, which results in behavior, motivation, performance and ethics of the people; and (c) intellectual agility, which creates value for the organization to the extent that new knowledge or discoveries that can transform ideas into products and services apply (Sanchez et al., 2007).

Structural capital, incorporates knowledge that the company has been able to internalize and remains in the organization, either in their structure, processes or their culture, even when employees leave this (Bontis, Chua and Richardson, 2000; Camisón Zornosa et al, 2000;. Petrush, 1996, 2001) and, for this reason, is owned by the company

(Edvinsson, 1997). It can therefore be included in this dimension all non-human intangibles of the organization: (. Bontis, et al, 2000) culture, internal processes, information systems or databases, cited in Sánchez et al. (2007).

Finally, relational capital, considering that companies are not isolated systems, but, on the contrary, they relate to the outside, (Sanchez et al., 2007).  
Competitiveness and technology factor.

According to Solleiro and Castanon (2012) suggest that the factors that promoted productivity and competitiveness in organizations primarily focused on factors associated with specialization and division of labor, then the classical economists emphasized investment in physical capital and infrastructure, and more recently they have been considered elements such as education and training, technological progress, macroeconomic stability, governance, company performance and market efficiency, among others.

Competitiveness variable, involves the ability to produce quality goods and services at the right price, at the right time, the globalization process remain key to successfully compete with commercial competitors and meet the needs and desires of customers. It relates to the ability to increase the standard of living of the population, generating sustained increases in productivity, successfully inserted into international markets, among others (Padilla, 2006). Like reflects the extent to which a country within a system of free trade and fair market conditions, produce goods and services that exceed international markets, and increase the real income of the population in the long term (OECD, 1996 ), coupled with including the productivity of a country determined by their income levels and investment returns, which are key to a growing economy (World economic Forum, 2009) factors.

The incorporation and technological infrastructure in organizations and institutions is a competitive advantage, particularly for those who demand constant improvements in its products and / or processes. ICTs are generating scientific opportunities in academia, but organizational stability that is oriented to the dissemination of knowledge and the competitive dynamic where continuous learning, innovation and implementation of technologies for greater access privileges required to world of information for knowledge generation. It is envisaged that the importance of technology does not depend on its scientific value or its prominence in the physical product; technology is important if much affect the competitive advantage or industry structure (Porter, 2004), cited in Solleiro and Castanon (2012), since the technological factor plays a critical role in the competitiveness of the company and is one of the resources that raises more difficulty in managing (Demuner & Mercado, 2011). ICT provide benefits that support the development of human capital, improve the economic conditions of the countries that acquire capacity for technological development and offer significant advantages in industrial and service sectors. There is a tendency in competitive companies to integrate continuous innovation, product development and redesign their processes in order to achieve a better market position, improved competitiveness and efficiency, so that universities are not immune to this dynamic to a globalized society, demanding to be increasingly competitive.

## **Research Methodology**

The research was supported in a quantitative study conducted academic staff, based on an approach of descriptive, correlational and explanatory, which allowed to find the differences and the correlations between two university institutions with respect to intellectual capital and competitiveness. The research instrument was based on 73 reagents under Likert scale, whose reliability according to Cronbach's alpha was .858.

Statistical information was performed using frequencies and sphericity test for the characterization of teachers and anova for correlating variables. The methodology based on a quantitative study applied to the academic staff of higher education institutions that participated in the study, enabled through anovas identify the variables that influence intellectual capital and competitiveness.

## Results

The application of a theoretical and methodological tool based on information found in the theory of intellectual capital and competitiveness which was described particularly in the construct presented in the previous section was performed. The instrument consists of 75 reagents based on the so-called Likert scale, which can be defined as the measurement instrument preference of respondents through a non-comparative dimensional technique, ie that only the respondent has a unique opportunity to answer in each of the reagents (Bertram, 2008).

To determine the confidence of applied instruments run data was performed with the responses of scale that make up the questionnaire, to be of two different institutions was necessary to analyze separately with the technique called Cronbach's alpha which refers to extent that is possible to determine the level of correlation between the elements of the independent and dependent variables of the construct and the way in which these correlations (Welch & Comer, 1988)

**Table 2.- Cronbach's Alpha University of Guadalajara**

Cronbach's Alpha	No of Items
0.853	23

**Source:** Self Elaboration with questionnaire data.

**Table 3.- Cronbach's Alpha University of Guayaquil**

Cronbach's Alpha	No of Items
0.822	23

**Source:** Self Elaboration with questionnaire data.

In tables 2 and 3 both cases the application of the survey shows levels of highly acceptable confidence, since they are in a range > 0.8 indicating that the correlation of the answers given by the measuring instrument is medium high; at the same time it indicates that there is a completely random application of questionnaires and bias is located within the normal range so it is possible to proceed with the thorough analysis of the variables.

In order to determine whether the variables are indictable each other's Bartlett's Test of Sphericity and Statistical KMO, which indicate the level of particular correlation maximum between each will be obtained, however the process generalizes groups variable therefore be taken as a proportional factor and which enables correlation analysis of variance (ANOVA), however not particularly determines whether each of variables is representative or not

**Table 4.- KMO and Bartlett's Test of Sphericity University of Guadalajara**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>0.801</b>
<b>Bartlett's Test of Sphericity</b>	Approx Chi-Square	4.322
	df	658
	Sig.	0

**Source:** Self Elaboration with questionnaire data.

**Table 5.- KMO and Bartlett's Test of Sphericity University of Guayaquil**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>0.854</b>
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	3.998
	Df	658
	Sig.	0

**Source:** Self Elaboration with questionnaire data.

Table 4 corresponding to the data obtained from the University of Guadalajara, it is observed that the extent of sampling adequacy KMO the level of correlation of the variables is 80.1%, while in Table 5 is 85.4% as It is indicating that even when the surveys were applied following the same methodology the level of correlation between variables is relative to the particular situations that occur in each of the revised universities, while the Square Chi Aprox are in normal range, is say between 1.5 and 12.0 indicating that the variables are capable of providing information related to various combination of variables, while both the degrees of freedom as the significance level found in normal levels with what is possible crossing variables of each of the hypotheses.

**Analysis of Variance (ANOVA) of Hypothesis 1**

It is a comparative study it was decided to analyze the behavior of the variables that make each of the factors in the process of knowledge management and intellectual capital, for it mentions the hypothesis raised:

*"The factors of knowledge management and intellectual capital process promotes a competitive advantage in higher education institutions"*

To this end the 8 variables that make up the group of knowledge management and intellectual capital as well as the calculation that forms the factor called competitiveness and was taken from the arithmetic mean of each of the factors shaping the competitiveness group were taken. In order to observe the behavior two separate tables, one for each university they were made.

**Table 6.- University of Guadalajara Hypothesis 1 One Way Anova**

		Sum of Squares	f	Mean Square		F	Sig
<b>Planning</b>	Between Groups	15.663	4	2.453		7.324	0
	Within Groups	21.324	2	1.22			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Desisions</b>	Between Groups	15.663	4	3.457		10.214	0
	Within Groups	21.324	2	1.998			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Leadership</b>	Between Groups	15.663	4	4.112		3.563	0.01
	Within Groups	21.324	2	2.854			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Culture</b>	Between Groups	15.663	4	1.101		0.882	0.244
	Within Groups	21.324	2	0.998			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Technology</b>	Between Groups	15.663	4	4.324		6.312	0
	Within Groups	21.324	2	3.092			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Measure</b>	Between Groups	15.663	4	2.345		7.324	0
	Within Groups	21.324	2	1.973			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Strategic Vision</b>	Between Groups	15.663	4	1.233		4.304	0.005
	Within Groups	21.324	2	0.873			
	Total	36.987	06				
		Sum of Squares	f	Mean Square		F	Sig
<b>Knowledge and Growth</b>	Between Groups	15.663	4	3.021		3.242	0
	Within Groups	21.324	2	2.783			
	Total	36.987	06				

Can be observed in the analysis of variance of the University of Guadalajara that leadership is without doubt the value of more relevance has to scholars of this institution and thus it can be inferred that they feel is one of the elements to assess direct way to increase competitive advantage, however observed that in the case of the strategic vision was not considered as an important part, however all variables have high levels of significance, except in the case of culture, which represents 1/8 the total data available, so it appears that there is truly representative correlation level.

**Table 7.- University of Guayaquil Hypothesis 1 One Way Anova**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig</b>
<b>Planning</b>	Between Groups	13.222	32	6.212	7.324	0
	Within Groups	18.762	112	3.872		
	Total	31.984	144			
<b>Desisions</b>	Between Groups	13.222	32	4.811	10.214	0
	Within Groups	18.762	112	3.211		
	Total	31.984	144			
<b>Leadership</b>	Between Groups	13.222	32	2.213	3.563	0.01
	Within Groups	18.762	112	1.321		
	Total	31.984	144			
<b>Culture</b>	Between Groups	13.222	32	0.998	0.882	0
	Within Groups	18.762	112	0.11		
	Total	31.984	144			
<b>Technology</b>	Between Groups	13.222	32	3.217	6.312	0
	Within Groups	18.762	112	2.763		
	Total	31.984	144			
<b>Measure</b>	Between Groups	13.222	32	6.542	7.324	0
	Within Groups	18.762	112	4.312		
	Total	31.984	144			
<b>Strategic Vision</b>	Between Groups	13.222	32	3.212	4.304	0.005
	Within Groups	18.762	112	3.089		
	Total	31.984	144			
<b>Knowledge and Growth</b>	Between Groups	13.222	32	1.23	3.242	0
	Within Groups	18.762	112	0.923		
	Total	31.984	144			

In the specific case of the University of Guayaquil, the behavior is primarily focused on planning for what scholars of the Ecuadorian university mention that yes there is that element in your institution, while in a general

view is important to note that like in the above table, we can see that the trend occurs naturally, indicating that for academics there is a direct relationship between the variables of knowledge management and the generation of competitiveness.

Given the above cases presented in the respective analysis of variance it is possible to state categorically that the No. 1 hypothesis is fully confirmed.

### Analysis of Variance (ANOVA) of Hypothesis 2

He looked analyze the direct relationship between knowledge management as a general variable and the factor which affects particularly on competitiveness, this based on the hypothesis that states: "The performance is the most favored by knowledge management competitive factor and intellectual capital".

**Table 8.- University of Guadalajara Hypothesis 2 One Way Anova**

		Sum of Squares	f	Mean Square	F	Sig
<b>Costs</b>	Between Groups	16.431	6	2.452	6.892	0
	Within Groups	21.655	0	1.273		
	Total	38.086	6			
<b>Performance</b>	Between Groups	16.431	6	3.101	4.324	0
	Within Groups	21.655	0	2.267		
	Total	38.086	6			
<b>Technology</b>	Between Groups	16.431	6	3.631	3.957	0
	Within Groups	21.655	0	2.452		
	Total	38.086	6			

Is possible to see at Table 8 of the University of Guadalajara that according to academics surveyed the factor that most affects the intellectual capital and knowledge management is technology, followed by performance and ultimately operating costs, however as mentioned in the hypothesis it does not correspond directly to what is intended to observe.

**Table 9.- University of Guayaquil Hypothesis 2 One Way Anova**

		Sum of Squares	f	Mean Square	F	Sig
<b>Costs</b>	Between Groups	10.21	2	1.874	6.892	0
	Within Groups	19.844	5	1.201		
	Total	30.054	7			
<b>Performance</b>	Between Groups	10.21	2	2.749	4.324	0
	Within Groups	19.844	5	1.773		
	Total	30.054	7			
<b>Technology</b>	Between Groups	10.21	2	2.983	3.957	0
	Within Groups	19.844	5	1.652		
	Total	30.054	7			

The University of Guayaquil and academics interviewed mentioned equally that the technological process is the one that directly benefited seen from the processes of knowledge management and intellectual capital, which is why hypothesis 2 is rejected because in no case performance is benefited.

## Conclusions

Knowledge management and intellectual capital is undoubtedly one of the topics most topical in both public and private organizations, the real rationale is that since it is possible to increase substantially the collection of knowledge and capitalize on to achieve improve all internal processes while improving the competitiveness of each of the organizations who join these efforts.

However in institutions of higher education in Latin America the process is still far from functioning as a whole, however, in the cases used with the University of Guadalajara and the University of Guayaquil it is possible to observe that increasingly perceived efforts to stand out from the intangible resource called knowledge is highly important, it is therefore required to handle much more assertively how capitalized institutions which students can generate and exploit it in a better way.

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## ***Do Local Communities Always Benefit from MICE Activities?***

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### **Abstract**

*This study assesses the economic impact of the MICE industry in Thailand. The analysis was conducted with the input-output model in term of output, income, employment, indirect tax, and import. The estimates are based on MICE industry expenditures for 2012 that held in Khon Kaen province. The results obtained from input-output model demonstrate the direct effect, indirect effect from supporting industry, and induced effect including any other effect having occurred to the whole of Khon Kaen province due to an increase of the demand on primary productive factors; workers has earned more incomes, resulting to a more demand of merchandise and services. The output, income, indirect tax, and import are THB 1,612.87, 356.49, 28.72, and 350.07 million, respectively. Employment effects are an additional 9,587 full time equivalent jobs. The backward and forward linkages are 0.96 and 0.72, respectively. However, there are some leakages out of Khon Kaen economy by the spending for import.*

**Keywords:** MICE activity, An input-output model, economic impact

### **Introduction**

MICE industry has grown into an important economic sector in many countries. World Travel and Tourism council (WTTC) showed that the total amount spent by business tourists was US\$ 987.8 billion in 2012. In Thailand, MICE statistic conducted by Thailand Convention and Exhibition Bureau (TCEB), the government agency responsible for the Nation's MICE industry, indicate that the MICE industry generated THB 80 billion in revenue which has risen by 12.95% in 2012. Categorized by activity, the convention sector constituted the largest market in terms of volume and revenue. Convention involved 292,038 delegates and generated THB 28.22 billion in revenue. Meanwhile, 218,808 travellers visited Thailand in the incentive meeting; 220,042 delegates for meetings, and 164,336 visitors for exhibitions. It has developed dramatically over the last decade. However, some barriers are identified, namely information on the meeting and convention industry, infrastructure, human resources, and industry cooperation (Sangpikul & Kim, 2009). TCEB recently realized the significance of MICE industry and promoted variety of destinations for business events. Khon Kaen province shows its potential to be developed as a MICE city because it is one of the capital cities of development in the northeastern Thailand. In addition, it is also the province where development of other primary structures has been fostered in order to accommodate continuous expansion. Khon Kaen was selected for the Northeast region of Thailand (E-sarn) because of its central position in the region. The province today is experiencing one of the fastest growth rates in Thailand because of its rapidly coalescing commercial, investment, service, and transportation networks both in the region and even at the international level, especially Indochina. These factors have made Khon Kean one of Thailand's leading MICE destinations along with Bangkok, Chiang Mai, Pattaya, and Phuket.

For these reasons Khon Kaen has the potential to benefit from trade promotion, investment, services, and regional transportation linkages. Citizens of Khon Kaen have THB 79,639 per capita GPP in 2012 (Office of the National Economics and Social Development Board, NESDB), which was the highest in the northeast. The sectors that make up most of the economic growth of the province are outside agricultural sector, i.e. engineering production, education, and merchandise. In particular the province demonstrates tourism development potential, especially in the MICE industry—Meetings, Incentives, Conventions and Exhibitions. There are five convention centers and one exhibition center in Khon Kaen. In 2012, Khon Kaen province had the highest number of international conferences and participants in the region— 54 international conferences and 7,436 participants. The

development of MICE industry in Khon Kaen province is causing the adjustment to core businesses. These are specialised meeting organisers, location for conference, exhibition halls, hotels, restaurants, and tourism business.

Furthermore, MICE industry helps to increase business activity in other sectors such as transportation, logistics, financial institutions, retail, construction, public services, facilities, advertisement, as well as publishing businesses. However, the measurement of correlation of these industries to annex with Khon Kaen economy, and the evaluation of the effect because of changes in MICE industry are so much important to frame a policy to accommodate forthcoming changes.

## **Literature Review**

The input-output analysis is widely used for economic impact assessment in tourism and MICE sectors (Kumar, Hussain, & Ali, 2014; C.-K. Lee, Lee, & Yoon, 2013; M. J. Lee, 2006). Typically the economic impacts of special events on host destination are estimated. Lee and Taylor (2005) estimated economic impact of the 2002 FIFA World Cup in South Korea and found that the World Cup generated of US\$ 1.35 billion in output, US\$ 307 million in income, and US\$ 713 million in value added for South Korea economy. Kim, Chon, & Chung (2003) estimated the economic impact of the convention industry in South Korea and found that in 2000, the convention receipts generated US\$ 217.3 million of output, US\$ 11.9 million of indirect tax, US\$ 15.6 million of import, and 13,702 full-time equivalent jobs. Gelan (2003) estimated the local economic impact of the 1999 British Open held at Carnoustie, United Kingdom and found that the total impact in the regional economy, through the multiplier effect, amounted to US\$ 20.8 million and created about 980 jobs. However, there are limitations to these studies because goods and services bought by a tourist mostly lies outside of the local region which creates an immediate leakage of spending with no local impact from producing the item. Moreover, past research on the economic impact of convention business has neglected to track categories of consumer groups. Thus, this study focuses on comprehensive surveys to different consumers such as convention and exhibition organizer, delegate and their companions, exhibitor, and visitor. The proportion of local goods and import goods are observed from the questionnaire.

## **Method and Data**

Data is collected from respondents who participated in meetings and exhibitions held in Khon Kaen between June and September 2012. The Sample includes 188 convention delegates, 127 international convention delegates, and 404 exhibition's visitors.

Economic impact analyses focus on the flow of money into Khon Kean Province and basically involve two activities; meeting and exhibition. One of the main problems of impact assessment has always been the lack of an adequate data to disaggregate MICE sector from service sector. Thus, this study has split spending sources into both meeting and exhibition activities. Survey was conducted and divided into groups dependent upon their role in the MICE activity. These roles are convention host, delegate and their companions, exhibition organizer, exhibitor, and visitor. The participants spent significant amounts of money to buy products in a Khon Kaen, starting with transportation and shipping, accommodation, food and beverage, recreation and entertainment activities, and so on. As table 1 shows, the average budget for a meeting and an international convention were estimated to be about THB 425,240 and 2,021,805, respectively. The number of delegates attended 82 meetings and 18 international conventions; most of them are sponsored and organized by local government. Total expenditures by meeting host were estimated to be THB 34.86 million and 36.39 million for international convention. Total expenditure of delegates was calculated by average expenditure per delegate times the number of delegates times the number of meetings. For exhibition activity, average budget was estimated to be about one million baht. Most of the exhibition organizers and exhibitors are not local companies and they will eventually take money out of Khon Kaen province. In addition, participants of international conferences often travel to Laos and the central region of Thailand.

TABLE 1: EXPENDITURE IN MEETING AND EXHIBITIONS HELD IN KHON KAEN IN 2012

MICE activity	Average expenditure (1,000 THB )	Number of conventions/ exhibitions	Number of delegates/ visitors	Total expenditure (1,000 THB )
<b>Meeting</b>				
Host	425.240	82		34,869.7
Delegate	6.781		493	274,128.7
Companion	5.169		197	83,500.0
<b>International convention</b>				
Host	2,021.805	18		36,392.5
Delegate	20.833		387	145,122.7
Companion	20.582		271	100,399.0
<b>Exhibition</b>				
Organizer	1,000.000	15		15,000.0
Exhibitor	235.010		64	225,609.6
Visitor	1.053		12,198	192,667.4

According to a survey, expenditures on each sector are described in table 2. Meetings and international conventions expenditure by hosts mostly are distributed to hotels, communication and staff. Delegates and their companions expended on hotels, transportation, travel, shopping and fees. Exhibition organizers and exhibitors were spending on venue and hotel, business services, and publishing.

TABLE 2: EXPENDITURES ON EACH CATEGORY IN 2012 (PERCENTAGE)

Sector	Meeting		International Convention		Exhibition		
	Host	Delegate/ companion	Host	Delegate/ companion	Organizer	Exhibitor	Visitor
Hotels	36	21	57	18	-	10	-
Venue hire/ facility cost	-	-	-	-	40	38	-
Restaurants	1	10	-	8	-	7	-
Transportation/ communication	8	15	31	36	-	11	-
Printing/ publishing	11	-	1	-	20	-	-
Shipping	-	-	-	-	-	10	-
Travel/ tour	-	14	-	13	-	-	-
Retail/ shopping	6	16	6	8	-	-	100
Business services	5	-	1	-	30	12	-
Others (include staff, fees)	33	24	4	17	10	12	-
Total	100	100	100	100	100	100	100

The analytical part of this study is based on the input-output model. In the first part the meeting and exhibition expenditures are analyzed. The second task will be to create I-O table, 17 x 17 sectors including MICE sector. The Khon Kaen I-O table used in this study was based on Thai I-O 2005 conducted from Office of the National Economic and Social Development Board (NESDB). Cross-industry location quotient technique (CILQ),

which is suggested by Flegg et al. (1995), used to estimate the coefficient at the province level. Leontief inverse matrix, representing the output multiplier, indicates the direct and indirect effects resulting from one unit change in final demand.

The analysis of economic impact of MICE industry in Khon Kaen can be conducted with the simulation model of input-output, considered from input-output table, which demonstrates the productive structure, productive factors applied, and merchandise and service contribution to other economic units in the economic system, i.e. business units, household units, and government units. The results obtained from this simulation model demonstrate the direct effect on MICE industry, indirect effect from supporting industry, and induced effect including any other effect having occurred to the whole of Khon Kaen province due to an increase in demand for primary productive factors (FIG. 1). For example, when workers earn more incomes it will result in more demand of merchandise and services (Kumar, Hussain, & Ali, 2014)

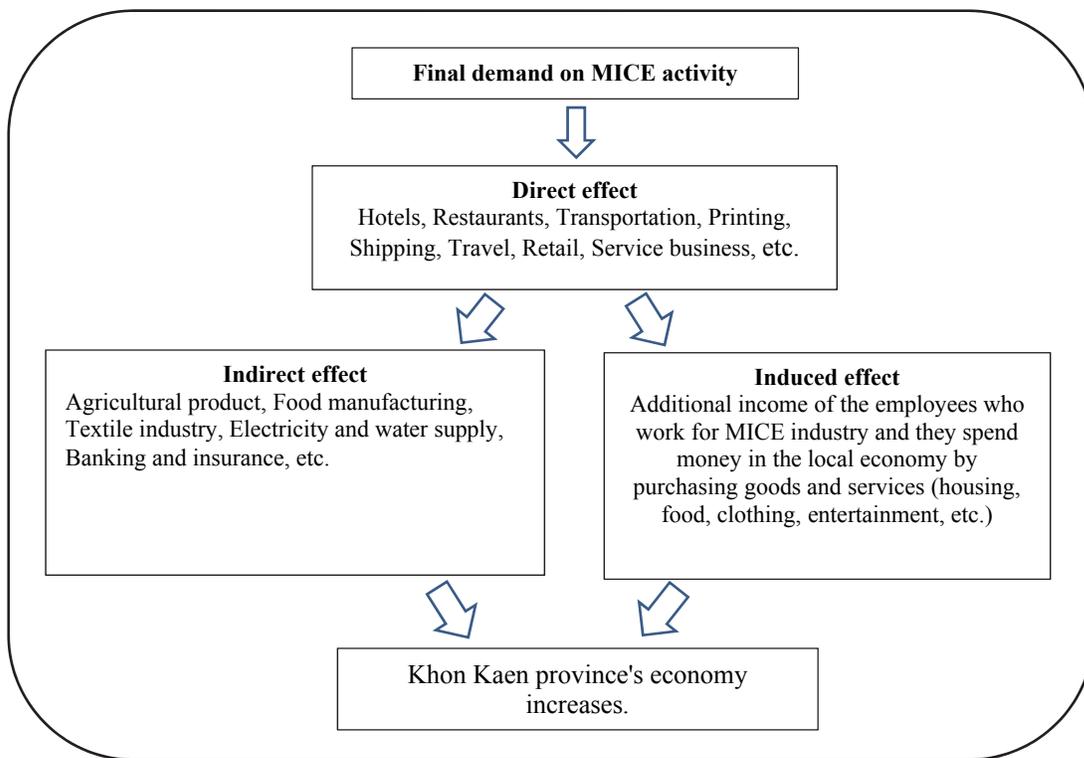


FIG. 1 IMPACT OF MICE ACTIVITY ON KHON KAEN PROVINCE ECONOMY

## Results

The total final demand of MICE industry held in Khon Kaen is about THB795.80 million in 2012. The total economic impacts are summarized in table 3. The results showed that the effect of MICE industry affecting on Khon Kaen province in 2013 promotes the increase of gross provincial product up to THB1,612 million, THB356.49 million in income, THB28.72 million in indirect tax, THB350.07 million in import and 9,587 workers were hired. As a results from the estimated impacts on output, THB220.30 million are from the direct impact, while the indirect impact generate THB887.48 million and induced impact accounts for THB505.10 million. An increase in output is largest in service sector (THB319.98 million), followed by MICE (THB286.45), transportation and communication

(THB231.41 million), and food manufacturing (THB61.83 million) (Fig. 2). Of all the estimated impacts on employment, the most affected production sectors are transportation and communication, textile, agriculture, MICE, and service sector, respectively. The forward and backward linkages for MICE activity are 0.72 and 0.96, respectively.

TABLE 3: TOTAL IMPACT ON KHON KAEN ECONOMY GENERATED BY MICE INDUSTRY, 2012

Impact	Value (Millions of Baht)
Economic activities (output)	1,612.87
- Direct impact	220.30
- Indirect impact	887.48
- Induced impact	505.10
Income	356.49
Indirect tax	28.72
Import	350.07
Employment (number of workers)	9,587
Linkages (index)	
- Forward Linkage	0.72
- Backward Linkage	0.96

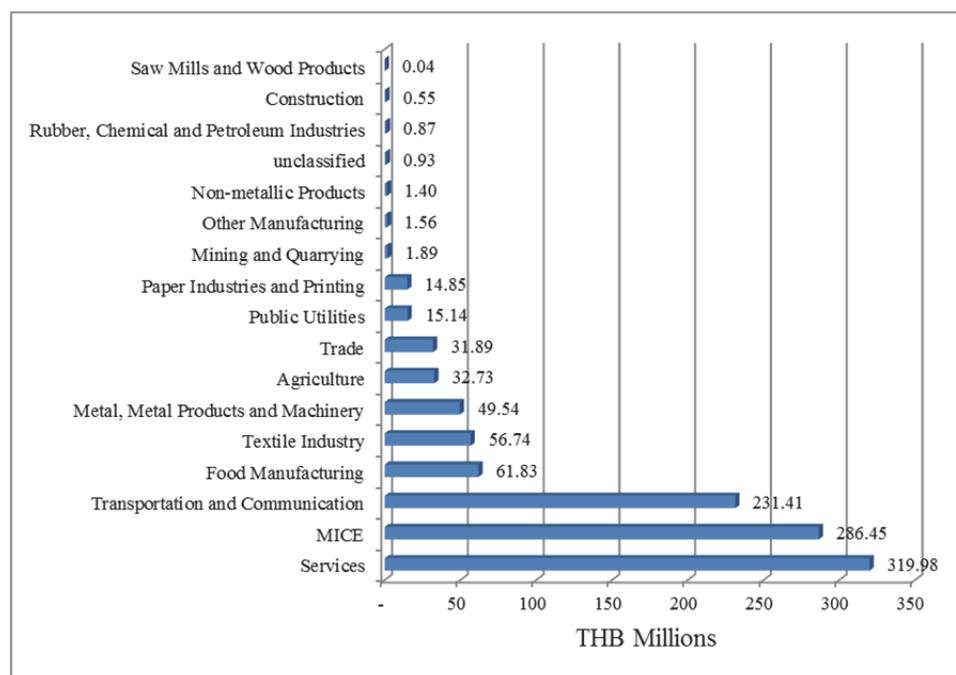


FIG. 2 TOTAL ECONOMICS ACTIVITIES (OUTPUT) ON KHON KAEN ECONOMY GENERATED BY MICE ACTIVITIES, 2012

## Conclusions

This study evaluates the economic impacts of MICE activity on the local economy, Khon Kaen province. The results from Input-Output model indicate an additional output generated by MICE activity is THB1,612.87 million. Moreover, the result shows that the indirect impacts (THB887.48 million) are four times larger than the direct impact (THB220.30 million). This implies that an increase in MICE activity generates relatively high increase in local purchasing from service firms and supplier. Employment effects are an additional 9,587 full time equivalent jobs. Induced impacts from the additional purchases of goods and services made by the employees within Khon Kaen economy are equal to THB505.10 million. There are some leakages out of Khon Kaen economy through imports. According to a survey, 80 percent of the delegates and their companions spend money for travel outside Khon Kaen economy. One-half of the professional exhibition organizers (PEO) and exhibitors are not the local company and finally they will take money out of Khon Kaen province. In order to stop the leakage, the number and competence of local professional convention service suppliers including professional exhibition organizers (PEO) and destination management companies (DMC) should be improved. In addition, the forward and backward linkages index for MICE activity is quite low which are 0.72 and 0.96, respectively. Base on the results, an increase in the final demand of MICE's output will have a small impact on industries that supply inputs in the production of MICE's output, or downstream industry.

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## ***Capital structure of the communication sector in Mexico***

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### **Abstract**

*The purpose of this research was to determine the mathematical relation between, the financial country factors and the company factors to incorporate debt in the capital structure used by the industries of the communication sector that quoted on the Mexican Stock Exchange in the periods 2000-2012. The long term debt was the dependent variable and through the E-views 8.0 program, the panel data technique was applied in order to determine the mathematical relation between the independent factors. The mathematical model and the factors used for this empirical study in the research and discussion were identified into the theoretical framework. The study results are from theoretical and practical interest, identifying and understanding the relationship of the main factors by including debt in the capital structure facilitates and contributes to the normative postulates' construction.*

**Keywords:** Capital structure, Factors of the company, and factors of the country.

### **Introduction**

The communication industries consists of several groups of services that include the sale and use of television, telephony (fixed and mobile line), satellite, and others whose primary activity communicating information between two or more territories. This sector has been very dynamic over the past decade in Mexico, dynamism is mainly due to the application of new technologies and services, although its modernization with the digitization of the network and the launch of the first domestic satellite began in the decade eighties when the government encouraged the updating of the rules of the sector as a result of the change of development model of a closed economy to an open economy.

The research is motivated because of the absence of policies, rules or models into the real life of the companies to generate their own capital structure, implying the reviewing of theories, the empirical studies, the existing hypotheses as well as the major postulates, to determine their mathematical relationship between debt and the capital structure in Mexico companies.

### **Theoretical framework**

The existence or not of an optimal capital structure for the companies, as well as the way it should be determined, has been one of the most controversial topics of financial literature since Modigliani and Miller (1958), published their article and showed their propositions of the irrelevance of the capital structure to the value of the enterprise.

It has been 58 years since the publication of the seminal work that gave origin to corporate finances as we know nowadays and at the same time caused that capital structures studies caught so much attention from the economy and financial areas. However, the broad research done on the capital structure theory, to this day, it's no conclusive in answers.

The theoretical models developed during the last years, have tried since to validate and generalize sometimes, the thesis of the irrelevance of Modigliani and Miller (1958); other times, the models have been tried to adjust the thesis of maximum indebtedness of Modigliani and Miller (1963). From the convergence of both lines of research on the decade of the 60's emerged a renovated theory of the capital structure postulating the existence of an optimal structure to the proposed problem.

In this research were reviewed the following theories: optimal capital structure, Theory of the Fiscal Tax Base, Theory of the Asymmetric Information, The Theory of the Agency Costs, The Free Cash Flow Theory, The Pecking Order Theory (POT); This last theory was formally proposed by Myers (1984), based in the preliminary work of Donaldson. (1961).

The empirical studies that support all the above mentioned theories, were also reviewed, highlighting among others, the studies done by Rajan and Zingales (1995), and the study of Wald (1999), these studies offered empirical evidence for G-7 countries. They were analyzed some institutional factors of the company, such as: The total assets (size of the firm), profit, sales (growth rate), and the capital (risk). In the empirical studies, as well as the financial theories, the knowledge has increased and evolved; however, in the different researches done hasn't been achieved the construction of a model that includes jointly all the factors considered capital structure determinants, among the published investigations, we can mention the ones made Filbeck and Gorman (2000), Bradley, Chung (1993), Van el Der (1989), Kester (1986), Harrel and Kim (1984).

The empirical evidence suggests that besides the specific factors of the company also the macroeconomic factors or institutional of each country are important of the capital structure (Booth, Aivazian, Demirguc-Kunt, and Maksimovic, (2001), Antoniou, Guney, and Paudyal (2008), Gaytan and Bonales (2009), Dias, Thosiro and Cruz, (2009), Dias and Toshiro (2009). Nevertheless, the most part of the theoretical debate and empirical about the incorporation of the debt in the capital structure, has stayed conditioned by well-developed the capital markets and with a financial architecture well structured, Singales (2000).

Arias, M., Arias, L., Pelayo and Cobián (2009), argued that is necessary to do an specialized research about this matter in the Mexican companies with the purpose of achieving a better understanding about their contracting and debt decisions, in order to design appropriate financial instruments to their financial needs and to facilitate and support their growth.

### **Macroeconomic factors of country and capital structure**

The recent empirical evidence suggests that the specific factors of every country are important aspects in forming the capital structure in the companies of emerging markets, (Booth, Aivazian, Demirguc-Kunt and Maksimovic, (2001); Antoniou, Guney and Paudyal, (2008); Gaytan and Bonales (2009); Dias, Thosiro and Cruz, (2009); Dias and Toshiro (2009). Suggest that the specific factors in the explanation of decisions of debt contracting of companies are related to the economic environment and institutional mechanisms of each country, as the financial sector, tax system, legal system and accounting practices.

In the studies done about the main factors of the country, considered as determinants in building the capital structure of the companies, has been found that they have a significant impact, among others the following factors: i) Income tax rate ), ii) inflation, iii) interest rate iv) the exchange rate. Therefore in this research of the manufacture and services sector this four macroeconomic factors of the country were considered.

### **Microeconomic factors of the companies**

It has been looked for to identify the microeconomic factors of the companies that could be relevant to form their capital structure, with the purpose of testing and validating the theories supporting them.

Among the factors of the companies that can act as significant in forming of his capital structure, in the empirical studies done by Dias, Toshiro and Cruz. Gaytan and Bonales (2009), Dias and Toshiro (2009), they foun significant relation when incorporated debt in the capital structure, in the following factors: i) total assets, ii) operation profit, iii) capital, iv) net sales. Therefore in this research of the communication sector were include these four microeconomic factors of the companies.

## **Hypothesis**

The Income tax rate, the interest rate, the operation profit, the exchange rate and the capital are factors that are negatively related; on the contrary the inflation, the total assets and the net sales are factors that are positively related, incorporating debt in the capital structure used by the companies of the communication in Mexico.

## **Methodology**

The econometric model of the panel data was chosen and was used to calculate the mathematical relationship of the factors, the sample of the factors was used for the period from 2000 - 2012, the technique of this model combines data of temporary dimension and cross-section cut. The analysis of the panel data, studies the data set, putting together the cross section cut and the time series. The available information is processed and presented in two dimensions, generating multiple observations for each economic unit, enriching the empirical analysis.

The econometric model of panel data will be used to process information, which includes a sample of factors for a determined period of time, so it combines temporary dimension and cross-sectional data. The model is also known as longitudinal joint, grouped data, combination of data in time series and transversal, micro panel data, event history analysis (Gujarati, 2003).

The panel data technique allows developing and testing complex models, according to Carrascal (2004), applies on the following areas: a) forecast sales, b) studies and forecasting costs, c) Financial analysis, d) Macroeconomic prediction e) Simulation, f) Analysis and evaluation of any statistical data. It also allows to observe the causal inferences of independent factors on the dependent factors, such inferences of causality would be very difficult to understand if isolated it was only applied the technique of "cross-sectional data" or the technique of time series data".

The panel data analysis (or longitudinal) joint simultaneously the cross-sectional study with the time series study which captures the heterogeneity of economic agents and incorporates the dynamic analysis. (Rivera, 2007), (Mayorga & Muñoz 2000).

The key feature of panel data, which distinguishes them from the combinations of cross section, is the fact of having and following the same entities or companies over a sustained period of time (Wooldridge, 2001). In the data organization, the data for the thirteen years of each company are located contiguously, the first year before the second. For almost all practical purposes, this is the usual sort of panel data sets. The availability of information is presented, therefore, in two dimensions, generating multiple punctual observations for each economic unit (Mur & Angulo, 2006).

In economics is frequent that data sets time series combine in cross-sectional with units or that in the cross-sectional they are considered firms, countries, states, etc., so that an application of techniques for separate study leaves unanswered questions. The panel data analysis studies the group putting together the cross-sectional data technique with time series. (Rivera, 2007), (Mayorga & Muñoz 2000).

A panel data set (or longitudinal) states simultaneously from cross-sectional data and time series. This is when you have comments on certain characteristics of a set of agents (individuals, countries, companies, etc..) over

a continuous period of time. The available information is presented in two dimensions, generating multiple punctual observations for each economic unit (Mur & Angulo, 2006).

The model recognizes two effects, firstly the individual effects which refer to those who affect unequally each of the agents contained in the sample study and second to the temporary effects which affect both all individual units of study that do not vary with time. This allows studying changes in the benefits of a single company over a period of time as well as a variation on the benefits of several businesses together (Pindyck, 2001).

Thanks to this method the effects that are not observable in data purely cross-sectional or time series can be detected and measured, thus they enrich the empirical analysis in a way that would not be possible if only the other methods were used in an isolated way. (Rivera, 2007), (Gujarati, 2003).

### Model specification

It was used the fixed effects model. This model takes into account the unique characteristics of each unit (company) of the cross section, causing the intercept vary for each unit, however, assumes that the angular coefficients are consistent between the units. The estimation was performed using the method of least squares (GLS) because it provides the most robust results for the characteristics of our study sample, at the same time the White contrast was used to identify heteroscedasticity and this was corrected by cross section weighting.

The dependent variable is represented by the long-term liabilities presented by each of the companies in the sample, also, within the regressors and as the independent variables, are the integration of each of the internal factors of the firm that could affect the debt integration in capital structure, which are specified within a common factor, so, EViews will include a single coefficient for each variable; to correct the heteroskedasticity problem the calculation of variances and standard errors consistent to White heteroskedasticity will be included; to avoid the multicollinearity problem, initially each of the variables will be analyzed on a bivariate way and jointly afterwards, adjusted by the exclusion of factors technique; to verify a possible autocorrelation, we will use the statistic from Durbin-Watson.

The model that we will follow is the fixed effect, establishing a ratio of interception by differential intersection dichotomous variables, with the journey across weighting option, using the following equation:

$$Y_{it} = \alpha_0 + \alpha_1 D_{2i} + \alpha_2 D_{3i} + \dots + \alpha_n D_{ni} + \alpha_{i+1} + \alpha_2 X_{2it} + \alpha_3 X_{3it} + \dots + \alpha_n X_{nit} + \mu_{it} \quad (1)$$

With  $i = 1, \dots, N$ ;  $t = 1, \dots, T$ .

Where:

$i$  = refers to the individual or unit of study (cross section)

$t$  = time dimension

$\alpha_0, \alpha_1, \dots, \alpha_n$  = vector of intercepts of  $n$  parameters

$\alpha_{i+1}, \dots, \alpha_n$  = is a vector of  $K$  parameters

$X_{it}$  = is the  $i$ -th observation at time  $t$  for the  $K$  explanatory variables

The total sample of observations in the model would be given by:  $N \times T$ . (Mayorga and Muñoz, 2000) and (Pindyck and Rubinfeld, 2001).

## Source and data collection

The specific variables of the companies were obtained from the financial statements published in the financial yearbook of the Mexican Stock Exchange, the source is very reliable, according to the specific laws, the companies listed on the Stock Exchange have the obligation to generate reports at the end of each quarter (Schneider, 2001).

The macroeconomic data were obtained by databases and publications made by the Bank of Mexico. The study was not probabilistic, because all the companies from the communication sector that were listed in periods 2000-2012.

This research considered the dependent variable: The Long-Term Liabilities. We also considered eight independent variables, of which four are company-specific variables: Total Assets, Net Sales, Operating Income and Capital, and the other four are the country's macroeconomic variables: Income Tax Rate (ITR), Interest Rate, Inflation and Exchange rate.

TABLE 1: THE COMPANIES FROM THE COMMUNICATION SECTOR

1	América Móvil S.A.B de C.V.	Telcel , Radio Mobil Dipsa S.A. de C.V., Telmex, Claro (Argentina , Brasil, Chile, Colombia, Costa Rica, República Dominicana, Ecuador , El Salvador, Honduras, Guatemala, Nicaragua, Panamá, Paraguay, Perú, Puerto Rico, Uruguay), Embratel, Net, Sample Claro, Trac Fone (Estados Unidos)	310
2	Grupo TMM S.A.B. de C.V.	Administración portuaria integral Acapulco S.A. de C.V., terminal marítima de Tuxpan S.A. de C.V., API Tampico, Almacenadora de depósito moderno S.A. de C.V., Auto convoy mexicano S.A. de C.V., Inmobiliaria TMM S.A. de C.V., otros	8
3	Empresas Cablevisión S.A.B. de C.V.	Cablevisión, YOO.	21
4	Grupo Radio Centro de México S.A.B de C.V.	XEQR-FM 107.3, XERC-FM 97.7, XERC-FM 93.7, XHFO-FM 92.1, XHFAJ-FM 91.3, XEQR-AM 1030, XEJP-AM 1150, XERED-AM 1110, XHRED-FM 88.1, XERC-AM 790, XEN-AM. 690	31
5	Teléfonos de México S.A.B. de C.V.	Integración de servicios TMX S.A. de C.V., Alquiladora de casas S.A. de C.V., Compañía de teléfonos y bienes raíces S.A. de C.V., Consorcio red uno S.A. de C.V., Teléfonos del noroeste S.A. de C.V., Uninet S.A. de C.V., Telmex USA S.A. de C.V.	385
6 - 7	Grupo Televisa S.A.B de C.V.	Cablemas S.A. de C.V., Cablevisión S.A. de C.V., Club América S.A. de C.V., Corporativo Vasco de Quiroga S.A. de C.V., Consorcio Nekeas S.A. de C.V., CVQ Espectáculos S.A. de C.V., Editora Factum S.A. de C.V., Editorial Televisa S.A. de C.V., Factum MAS S.A. de C.V., Sky DTH S. de RL. de C.V., Innova Holdings de R.L. de C.V., Innova S. de R.L. de C.V., Grupo Distribuidoras Intermex S.A. de C.V., Grupo Telesistema Mexicano S.A. de C.V., G-Televisa S.A. de C.V., Televisión Independiente de México S.A. de C.V., Multimedia Telecom S.A. de C.V., Sistema Radiopolis S.A. de C.V., Televisa Juegos S.A. de C.V.	43
8	Tv Azteca S.A.B. de C.V.	Forum Per-Terra S.A. de C.V., Azteca Holdings S.A. de C.V., AIC Televisión Azteca S.A. de C.V., Azteca Novelas S.A. de C.V., Red Azteca Internacional S.A. de C.V., Comerciacom S.A. de C.V., Estudios Azteca S.A. de C.V., Operadora Mexicana de Televisión S.A. de C.V., TVA Guatemala S.A. de C.V., TV Azteca Sucursal Colombia, Fundación Azteca, Banco Azteca, Grupo Salinas, Club de Futbol Monarcas Morelia, Club de Futbol Atlas.	346
TOTAL	GROUPS 8	CORPORATE 70	COMPANIES 1144

Source: Own elaboration, based on financial data, of the Mexican Stock Exchange 2000-2012

## Analysis and interpretation of results

Application of the multivariate technique of panel data, that involved the dependent and independent variables will show the existence of the correlation between the variables confirming or rejecting the hypothesis formulated. The application of the stepwise method will show us the variables that will improve the levels of adjustment of model econometric.

After applying the multivariate technique of panel data, that involved the dependent and independent variables, the economic model showed the existence of a high correlation between the independent variables, causing multicollinearity. Is, some independent variables showed a significance greater than 5%. So the null hypothesis was not rejected. The null hypothesis for each complementary hypothesis was defined as:  $H_0: B_i = 0$ , where  $i$  is the independent variable to the level of significance of 5%

### Alpha of Conbach

Is the average of all possible split-half coefficients resulting from the different ways of dividing the items of the scale, this coefficient varies between 0 and 1, and a value equal to or less than 0.6, usually indicates unsatisfactory reliability of internal consistency. An important property is that the coefficient alpha value tends to increase with the increasing number of items of the scale. Therefore, the coefficient alpha can be artificially inflated by inadequately inclusion of various reagents on the scale redundant. (Malhotra, 2008).

The reliability of the database developed with the results of the elaborate survey was tested through SPSS-version 20.0 software testing Cronbach's alpha was applied to measure their reliability, taking into account the average of the coefficients, results They are presented below:

TABLE 2: STATISTICAL RELIABILITY

Alpha de Cronbach	N elements
.829	9

Source: Data Spss-output version 20.0 program, using survey data.

The statistic Cronbach's alpha is considered a correlation coefficient (Molina 2008), its usefulness lies in state whether the various items of the scale are measuring a common reality, that is, if the answers to these items do not have a high correlation between yes, it means that some of the statements of the scale are not reliable measures of the construct.

It is concluded that the scaling performed with 9 items to obtain a value excellent of Cronbach's alpha of 0.829 correlation. The reliability of the scale is high so that it is possible to continue the analysis.

### Proof (VIF).

The Inflation Factor of the Variables (VIF) calculated considering only the variables of the redefined model after applying the stepwise method. The result showed a decrease in the average variance inflation factor to 21.63, which is into the acceptable ranges test. (Table 3).

TABLE 3: THE INFLATION FACTOR OF THE VARIABLES (VIF)

<b>(VIF) WITH SIGNIFICANT VARIABLES</b>			<b>(VIF) WITH ALL THE VARIABLES</b>		
<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>	<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>
<b>Total Assets</b>	41.43	0.024137	<b>Total Asset</b>	131.07	0.007629
<b>Capital</b>	40.91	0.024447	<b>Capital</b>	47.45	0.021074
<b>Interest Rate</b>	2.14	0.467105	<b>Interest rate</b>	5.72	0.174754
<b>Inflation</b>	2.03	0.492222	<b>inflation</b>	4.92	0.203215
<b>Mean VIF</b>	<b>21.63</b>		<b>Net Sales</b>	64.99	0.015387
			<b>Parity</b>	5.56	0.179778
			<b>Operating Income</b>	33.41	0.029930
			<b>Income tax</b>	3.09	0.323967
			<b>Mean VIF</b>	<b>37.03</b>	

Source: Own elaboration, based on financial data, of the Mexican Stock Exchange 2000-2012

#### **Hausman test**

It was applied a panel data regression with random effects in order to generate the information needed to apply the Hausman test. The result of the Hausman test showed that it is relevant in this research, use the multivariate panel data technique (Fixed effects)

#### **Multivariate data technical panel**

The final results for the communication sector after adjusting and applying the econometric model panel technique, are shown in table No. 4.

TABLE 4: THE FINAL RESULTS FOR THE COMMUNICATION SECTOR

Dependent Variable: LONG-TERM LIABILITIES?				
Method: Pooled EGLS (Cross-section weights)				
Date: 03/23/16 Time: 14:40				
Sample: 2000 2012				
Included observations: 13				
Cross-sections included: 8				
Total pool (balanced) observations: 104				
Linear estimation after one-step weighting matrix				
White cross-section standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14876625	7603946.	-1.956435	0.0534
CAPITAL?	-1.663809	0.223719	-7.437065	0.0000
INTERES RATE?	-79088314	22643351	-3.492783	0.0007
TOTAL ASSETS?	1.182678	0.119136	9.927158	0.0000
INFLATION?	1.18E+08	58452492	2.016156	0.0467
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.945186	Mean dependent var	63323075	
Adjusted R-squared	0.938632	S.D. dependent var	66028713	
S.E. of regression	20402702	Sum squared resid	3.83E+16	
F-statistic	144.2187	Durbin-Watson stat	1.007402	
Prob (F-statistic)	0.000000			

Source: Own elaboration, based on financial data, of the Mexican Stock Exchange 2000-2012

The multivariate regression panel data fixed effects shows that parity and equity are negatively correlated and that the total assets is positively correlated to incorporate long-term liabilities, showing a model explanatory power of 0.938632

TABLE 5: FACTORS THAT HAVE MATHEMATICAL RELATION BY INCLUDING DEBT IN THE CAPITAL STRUCTURE OF THE COMMUNICATION SECTOR COMPANIES.

Concept	Capital (-)	Interest Rate (-)	Total Assets (+)	Inflation (+)
Significance	***	***	***	**

\*\*\* Significant at the 0.001 level

Source: Own elaboration based on the output results of the E-Views software (see tables No.4)

## **Capital**

The application of the statistic proves the affirmation that the formulated hypothesis holds, the countable capital is related in a negative way in the decisions that incorporate the debt of the communication companies. Those results, agree with Mason's job (1990), Friendly Lang (1988), the important finds that they got from the United States, match with the obtained results in this empiric study, showing negative meaning related to the passive long term.

## **Interest Rate**

In the companies of communication sector, the result shows that Risk free interest rate is negatively related with the incorporation of liability (debt or leverage), matching the results of studies conducted by Barry , Mann, Mihov, and Rodriguez (2008), who found that firms issue more debt when interest rates are lower than historical levels.

## **Total Assets**

In the companies of communication sector, we obtained a positive mathematical relationship of total assets with long-term liabilities. The total assets seem to be the most important factor in financing, especially for long-term debt, (Vigrén, 2009). This result agrees with the results shown in the classic article on this issue at the international level of Rajan and Zingales (1995), who researched the fundamental aspects of the capital structure of the company for the (G-7) countries during the period 1987-1991, finding that the total asset is a factor to incorporate debt, arguing that large companies tend to have a higher level of indebtedness. Other researchers like Frank and Goyal (2009), as well as Dias, Toshiro and Cruz. (2009) and Dias and Toshiro (2009), who obtained evidence in Latin American companies, including Mexican, agree with Rajan and Zingales.

## **Inflation**

In the companies of communication sector, the result shows that inflation has a positive mathematical relationship with the incorporation of liability (debt or leverage), this result coincides with the result obtained by Gaytan and Bonales (2009), the study of multinational companies belonging to the electronics industry, established in the state of Jalisco, Mexico, they also found that the inflation rate has a positive relationship to incorporate debt in capital structure.

## **Conclusions**

In the research the positive or negative relationship were identified of the quantitative principal factors of the country in the companies of communication sector. The mathematical model for used identify the positive or negative relationship of the principal factors it is known as statistical technique of "panel data".

The mathematical model, once defined and applied showed multicollinearity. The problem of multicollinearity demanded redefine the model, in the redefinition it was used method stepwise to improve levels of adjustment and explanation, also decreased and improved the existence of multicollinearity with the application of the test (VIF). Finally was identified the main factors that have mathematical relation with incorporating long-term debt in the capital structure of the communication sector.

The multivariate regression of panel data (fixed effects), showed the following in the companies of communication sector: capital and interest rate, have negative however the total assets and inflation have positive correlation with incorporating long term liabilities.

The results are useful for generating standards and guidelines that facilitating decision making for incorporating debt in the capital structures of companies of the communication sector in Mexico.

The results will decrease uncertainty and support the decisions about tangible and intangible assets of investment projects done by companies in the communication sector.

Factors emanating from the qualitative characteristics such as culture, power, country risk, and personal values, are aspects that can influence and change the results, reason why we suggest his inclusion in future researches.

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**Note: “Contact author for the list complete of references”**

## *Assessing the Risk-Return Trade-Off in Frontier Markets Using Exchange-Traded Funds*

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### **Introduction**

In search for performance and diversification, bold investors ready to go where few investors have gone before have begun spicing up their portfolios with an exotic asset category increasingly identified as frontier markets. Many factors have led them to gradually consider strategic allocations to these areas, not the least of which is the fact that emerging economies have become more correlated with developed economies.

This study has several goals. It looks at whether the size of these markets and, in many cases, their lack of liquidity make it more difficult for large investors to establish meaningful positions, assuming the markets' performance is as described in the articles mentioned above. To address this issue the study focuses on the risk-adjusted performance of frontier-markets ETFs. Although there is only a handful of these ETFs, they offer nonetheless an interesting selection of investment strategies ranging from an encompassing approach to these markets, to a focus on specific areas to bold bets, considering the liquidity issue, on single countries.

Seeking a rounded approach to the risk-adjusted performance of these funds, the study tests them using several metrics, each focusing on a specific risk — their total volatility, as measured by the Sharpe ratio, their downside volatility, using the Sortino ratio, and systemic risk as measured by beta, which is stressed by the Treynor ratio.

Frontier-market ETFs' average daily trading volume is also thoroughly examined, as it indicates how easily (or not) these funds can be traded. Their premium and discounts from net asset value are also carefully assessed, so as to observe the extent to which the arbitrage mechanism, a very important characteristic of ETFs, works in these markets. The cost of exposure to these markets is also looked at via the funds' expense ratios.

In sum, these funds are examined from various angles and perspectives to determine whether they indeed offer the reported performance benefits beyond the potential diversification they also seemingly provide. It's only then that the study vouches for these markets, which, we must remember, are still in the early stage of economic development.

### **Spicing Up a Portfolio with Frontier Markets**

Before we delve into the reasons that have led many investors to consider exposure to frontier markets, it's important to take a step back and understand this group of countries a bit better, in terms of their specificities and what differentiate them from emerging markets.

### **What Are They?**

Commonly referred to as frontier markets, these are countries recognized as being less developed than the emerging countries. Although their capital markets are less advanced, they are nevertheless purported to have investable stock markets capable of presenting investors with benefits. Even though the index compilers who are beginning to show interest in them often disagree on the assignment of a market as "frontier," Table 1 shows most of the countries falling into that category.

Like any index, those represented in Table 1 are very dynamic, as countries are moved in and out of them according to the inclusion criteria for the different indexes maintained by the four compilers shown in the table. Countries believed to have reached a higher level of development are moved up to their emerging markets indexes in place of others deemed as having been incapable of maintaining their position in the higher index. Those are usually demoted in the frontier-markets index. For example, in May 2014, MSCI upgraded the United Arab Emirates and Qatar, previously in its frontier-markets index, to emerging-market status in view of perceived enhanced regulation, more transparency, and higher maturity on the part of their issuers. This is indicated by “\*” under the MSCI column in the table.

On the other hand, Argentina and Morocco were downgraded from emerging markets to frontier markets in May 2009 and November 2013, respectively. Subsequently, acting alone, the Financial Times Stock Exchange Index 100 (FTSE) took the additional step in September 2014 of demoting Argentina from its frontier-markets index to "unclassified market status," citing the country's "stringent capital controls." These are the only changes I am aware of at this writing, although other changes may have occurred since this study was completed. The study's intent, of course, is to make investors aware of the dynamic nature of these indexes and the occasional disagreements their compilers might have with one another due to marginal differences in their methodologies and eligibility criteria, and not to keep an exact tab on their respective holdings.

### **What Are Their Specificities?**

These countries can represent significant country-specific risks. These risks include the political instability that's still prevalent in many of them, social unrests frequently shaking their towns and cities, "religious" extremism that seems to be inexorably spreading way beyond their borders, and widespread corruption. They also share other risks, such as reliance in many countries on commodities as the only source for their foreign reserves, and regulatory laws that are often manipulated by the party in power for its own advantages, which could create barriers for foreign investors. As was the case for Argentina, the regulatory environment can deteriorate to the level where the index compiler has no choice but dismiss the country from its compilation.

With all of these risks, why would anyone want to invest in these markets? In fact, there are many reasons why frontier markets are interesting to global investors. For example, International Monetary Fund (IMF) statistics indicate extremely high growth rates in comparison with developed economies and even emerging markets. Also, being known to only a few, their stocks often offer attractive (low) valuations in relation to their price-to-earnings ratios, even when issued by high-growth companies. Moreover, the fact that frontier markets are relatively illiquid may have decreased their volatility, in view of the quasi-absence of "hot money" representing edgy investors who often react to the slightest bit of bad news, as was the case for emerging markets before the tear they've been on lately. They also depend more on growth in domestic consumption than on exports to developed markets, which makes them less correlated with such markets. All of these are palpable qualities for global investors increasingly interested in placing bets on these countries.

<b>Table 1</b> Constituents of Major Frontier Indexes					
Region	Country	MSCI	S&P	FTSE	Russell
Americas	Argentina	v	v	-	v
	Ecuador	-	v	-	-
	Jamaica	-	v	-	v
	Panama	-	v	-	-
	Trinidad and Tobago	-	v	-	v
Africa	Botswana	-	v	v	v
	Ivory Coast	-	v	v	-
	Gabon	-	-	-	v
	Ghana	-	v	v	v
	Kenya	v	v	v	v
	Mauritius	v	v	v	v
	Morocco	v	-	-	-
	Namibia	-	v	-	v
	Nigeria	v	v	v	v
	Tanzania	-	-	-	v
	Tunisia	v	v	v	v
	Zambia	-	v	-	v
Europe	Bulgaria	v	v	v	v
	Croatia	v	v	v	v
	Cyprus	-	v	v	v
	Estonia	v	v	v	v
	Kazakhstan	v	v	-	v
	Latvia	-	v	-	-
	Lithuania	v	v	v	v
	Macedonia	-	-	v	v
	Malta	-	-	v	v
	Romania	v	v	v	v
	Serbia	v	-	v	v
	Slovakia	-	v	v	v
	Slovenia	v	v	v	v
	Ukraine	v	v	-	v
Middle East	Bahrain	v	v	v	v
	Jordan	v	v	v	v
	Kuwait	v	v	-	v
	Lebanon	v	v	-	-
	Oman	v	v	v	v
	Qatar	*	v	v	v
	UAE	*	v	-	-
Asia Pacific	Bangladesh	v	v	v	v
	Pakistan	v	v	-	v
	Papua New Guinea	-	-	-	v
	Sri Lanka	v	v	v	v
	Vietnam	v	v	v	v

"V" specifies that a country is included in the index, while "-" means it is not  
 "\*" indicates that a country has been reclassified as an emerging market.  
 Sources: MSCI S&P, FTSE and Russell, as of Aug 31, 2015

## **Other Reasons to Consider Frontier Markets**

Frontier markets provide excellent reasons for investors to consider them as practicable building blocks in investment portfolios. As an extension to the previous section, following are only a few of the many reasons why an increasing number of investors are considering strategic allocations to these markets.

### **Broaden the Scope of a Portfolio**

With globalization gradually reaching the far fringes of the world, a growing number of managed funds are opting not to be left behind in seeking exposure to frontier markets. They view the markets as an opportunity to broaden their international investment exposure to areas that were closed to foreign investors not so long ago. In fact, some even consider these markets the “final” frontier of investing.

Considering that there are more than a few countries still left out of all these groupings of economies, this study prefers to stay away from such closed-ended statements, which don’t give enough credit to global investors’ ability to consistently reassess their portfolios by steadily extending their reach to geographical areas never before considered, in the meantime strengthening the power of diversification. Other countries, currently overlooked by global investors, could become the next attractive investment locations once they sort out the issues keeping foreign investors at bay.

### **Other Benefits**

Unlike emerging markets, most of which have become mature and increasingly coupled with developed countries, frontier markets are still clearly distinct from their more developed counterparts and from one another. In comparison to the former, they have securities markets characterized by lower market capitalization and liquidity, as they are mostly hard to access. In sum, they are still in the early stages of development, and investing in them is considered risky because they are still working through pervasive regulatory and political quirks.

It’s often the case that when emerging markets underperform, frontier markets actually outperform, and vice versa. That’s because frontier markets continue to largely focus on local demand, whereas a number of emerging markets have become increasingly reliant on developed countries for their exports. Consequently, most emerging markets are subject to the same intermittent woes of developed economies. That is a reality that global fund managers must reckon with.

Research has shown that the 2008 global financial crisis has had far-reaching effects on international markets, including a tightening of cross-market correlations in their equity indexes. To verify this assertion, the total returns performance of the MSCI Frontier Markets Index (FM), a compilation of high-growth companies across 24 frontier markets, was evaluated against the performance of major relevant indexes: the MSCI Emerging Markets Index (EM), capturing companies from 23 emerging markets; the MSCI World Index (WORLD), representing large and mid-cap equity companies in 23 developed markets; the S&P 500 Index (SPX), widely recognized as a gauge of the overall U.S. stock market, and Barclays US Aggregate Bond Index (BARC), which offers a broad exposure to U.S. investment-grade bonds.

Table 2 shows the resulting correlations based on the indexes’ weekly total returns from 2012 to 2015. The period over which these correlations were calculated was about four years, compared with about six years for the average business cycle, according to the National Bureau of Economic Research,<sup>1</sup> the recognized authority on U.S. business cycles. But the table certainly captures the significant turbulence that took hold of world markets in the past two years or so. If world markets are indeed becoming increasingly interconnected as reported by several market observers, it’s not easily noticeable in the correlations shown in Table 2.

**Table 2 Cross Market Correlations (9/10/12 to 9/14/15)**

	WORLD	FM	EM	BARC	SPX
WORLD	1				
FM	0.31205	1			
EM	0.529498	0.414875	1		
BARC	-0.18489	-0.04991	-0.00352	1	
SPX	0.816233	0.396628	0.666776	-0.18253	1
World--MSCI World Index					
EM--MSCI Emerging Markets Index					
FM--MSCI Frontier Markets Index					
SPX--S&P 500 Index					
BARC--Barclays US Aggregate Bond Index					
<i>Source: Author's calculations based on weekly log returns</i>					
<i>from data collected from the represented index compilers</i>					

As a rule of thumb for interpreting the size of a correlation, its values are considered moderate to weak the lower they fall below 0.50, viewed as a threshold for its significance. If we look at the table's bottom statistics, we easily notice that FM is the least correlated of the equity markets with SPX at 0.40. It's about 68% (0.40 versus 0.67) lower than that of EM's correlation with SPX. Even if emerging markets cannot be considered as highly interlocked with the United States over the period considered in view of their modest correlation with SPX, the correlation is high enough to support market observers who contend that a number of these countries are increasingly reliant on the United States, not only as a key market for their products but also as a source of reasonably priced capital.

The MSCI World Index is unquestionably dominated by U.S. companies, which represent 58% of the index,<sup>2</sup> explaining the high 0.82 correlation between WORLD and SPX. But the rest of the developed economies represented in the index do not seem as closely correlated with FM, as indicated by its correlations with WORLD in comparison to its correlations with SPX, which is a pure representation of the U.S. market: 0.31 with the former compared to 0.40 with the latter. The lowest correlation recorded by FM is with BARC, a gauge of U.S. investment-grade bonds, at -0.05.

In sum, with regard to EM, Table 2's correlations indicate that the markets this index represents are becoming increasingly intertwined with developed economies as they continue to mature, globalization takes hold, and economic policy becomes more coordinated. Not even the historic volatility of the recent past seems able to slow down their coupling with their more developed counterparts. Hence, if there is a compelling case to be made for diversification, it comes above all from FM, whose correlation statistics with SPX and WORLD, the selected benchmarks for developed economies, are relatively low: 0.40 with SPX and even lower at 0.31 with WORLD, and certainly most desirable at -0.05 with BARC, the chosen bond index.

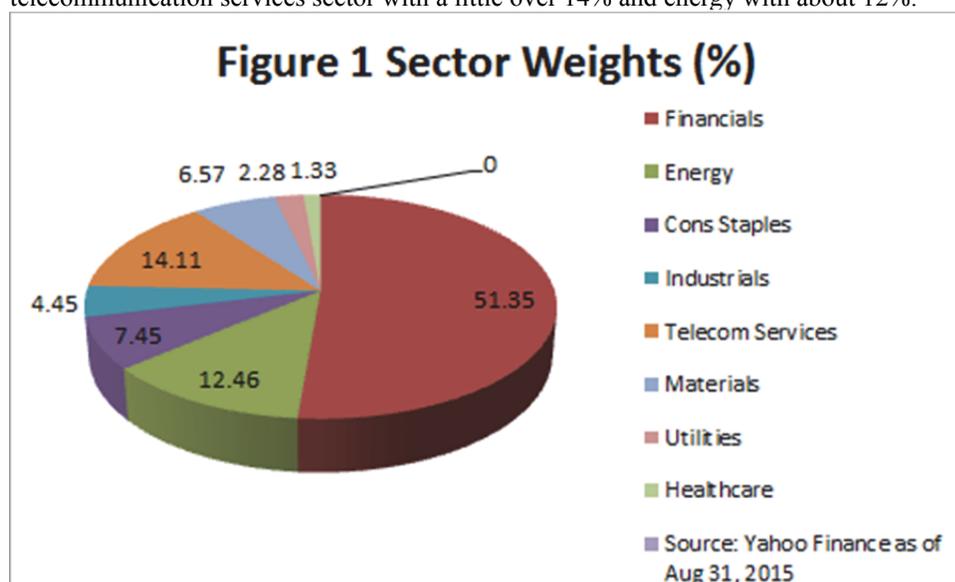
All three correlations surely make FM an effective diversifier for most portfolios and hence strengthen the decision to cover these markets in their own stand-alone study. Their power as a diversification tool doesn't mean, however, that they are safe. They are all but riskless, as we will see by looking under their hood, so to speak, at the characteristics of MSCI's FM index before moving on, later on in this study, to the ETFs that track them.

### **Beware: Index Concentration Is Substantial**

Index concentration is extensive in terms of both sector and country weights.

#### **Concentration in terms of sector weights**

Figure 1 indicates a huge concentration of risk in terms of the sectors represented in the index. The financial sector clearly dominates FM with an overwhelming 51.35% share, followed far behind by the telecommunication services sector with a little over 14% and energy with about 12%.



Source: Compiled by the author from Yahoo Finance data as of August 31, 2015

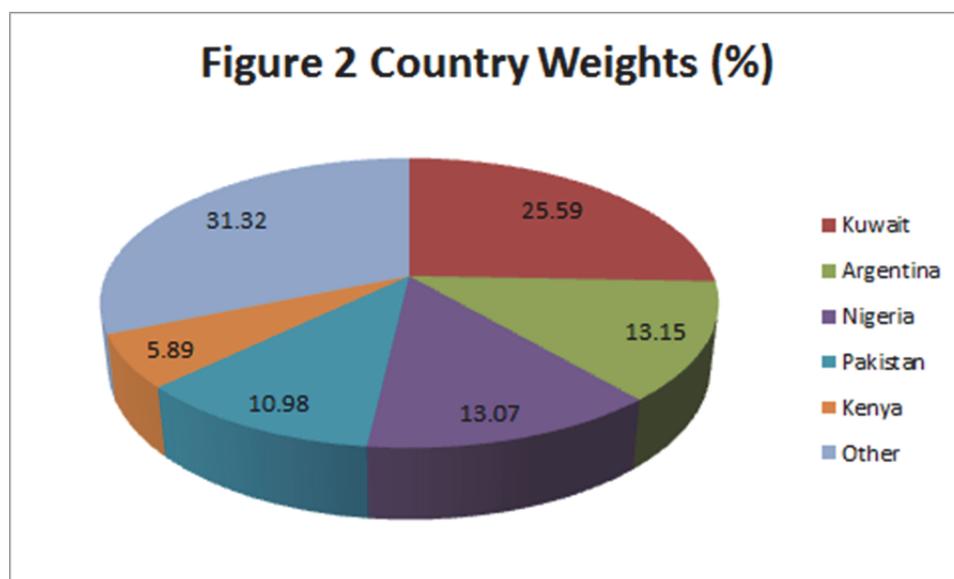
This should not come as a surprise in view of the fact that among FM's top ten index constituents representing 28.8% of the index as shown in Table 10.3, about half (14.71% as per the third column of the same table: 5.11% + 3.59% + 2.08% + 2.04% + 1.89%) are contributions from financial companies, of which Kuwait alone represents 8.70% (5.11% + 3.59%). Although the energy sector comes far behind financials with only 12.46%, per Figure 1, FM concentration risk is once more indicated in Table 3 by YPF, for Yacimientos Petrolíferos Fiscales, an Argentine energy company that represents no less than 39.3% of FM's energy sector, per the last column of Table 3. Moreover, although health is a minuscule 1.33% of the index per Figure 1, Table 3 shows that more than half of it (60.6%) is accounted for by KRKA, a Slovenian company specializing in the production of pharmaceutical and animal health products.

#### **Concentration in terms of country weights**

Figure 2 indicates that FM's lion's share goes to only 5 frontier market countries out of the 17 represented in the index. Their stake in the index is a whopping 68.68%, while the other 12 frontier markets share the remaining 31.32%. By far Kuwait dominates the index with a weighting of about 26% thanks to three powerful companies: the relatively stable and regional powerhouse National Bank of Kuwait, considered the first indigenous bank in the Persian Gulf region; Kuwait Finance House, perceived as one of the best-run Islamic banks in the world; and Mobile Telecommunications, one of the biggest telecommunication operators in the Middle East.

Company	Country	Mkt Cap ( USD Billions)	Index Wt. (%)	Sector	Sector Wt. (%)
NATIONAL BANK OF KUWAIT	KW	4.56	5.11	Financials	10.2
YPF D ADR	AR	4.17	4.68	Energy	39.3
KUWAIT FINANCE HOUSE	KW	3.2	3.59	Financials	7.2
NIGERIAN BREWERIES	NG	2.3	2.57	Cons Staples	31.1
MAROC TELECOM	MA	2.2	2.47	Telecom Srvcs	18.1
MOBILE TELECOM CO	KW	2.08	2.33	Telecom Srvcs	17.1
BANCO MACRO B ADR	AR	1.86	2.08	Financials	4.2
KRKA	SI	1.83	2.05	Health Care	60.6
GRUPO FIN GALICIA B ADR	AR	1.82	2.04	Financials	4.1
GUARANTY TRUST BANK	NG	1.69	1.89	Financials	3.8
<b>Total</b>		<b>25.71</b>	<b>28.81</b>		

Source: Yahoo Finance as of Aug. 31, 2015



Source: Compiled by the author from Yahoo Finance data as of August 31, 2015

Nigeria, whose economy has been growing at an average rate of 7% a year over the past decade<sup>3</sup> and has recently overtaken South Africa as the biggest economy in Africa, is also nicely and justifiably represented in the index with a 13.07% weighting per Figure 2, slightly below Argentina's 13.17%. As Table 3 indicates, the country succeeded in placing two of its companies in the index's top ten constituents. These are Nigerian Breweries, the country's oldest (1946) and largest brewery serving mainly Nigeria, and Guaranty Trust Bank, a financial institution with vast business outlays spanning mostly Anglophone West Africa and the United Kingdom.

In spite of still being ranked at the bottom of the UN's Human Development Index<sup>4</sup> and frequently rattled by high-level corruption and insecurity, it's companies like these two, as well as a few other dynamic businesses that have yet to make it into the FM index, that have raised the Nigeria's profile in the eyes of global investors with an appetite for risk.

Overall, indexes such as FM and the various funds that track them, including ETFs, are offering clear opportunities for those who choose to stray from the beaten paths of investing. Nonetheless, it's important for investors to be smart about their choices and remember that these economies are still loaded with other risks, in addition to the pronounced concentration risk that was just addressed.

### **Other Risks Investors Should Be Aware Of**

Aside from the concentration risk that is clearly present in these frontier-markets indexes, there are also other risks as capable of impairing the portfolio performance of unwary investors.

#### **Bringing frontier-markets growth down to scale**

Although many frontier markets exhibit high economic growth rates, investors need to do their math and remember that it's easier for a small economy starting from a low base to record a high growth rate than a more imposing economy with a much larger base. Indeed, it's much easier for a frontier economy with a 2014 GDP of \$61 billion like Kenya, another member of the FM index, to show a 5% growth rate than a country like, say, Japan, currently the world's third-largest economy with \$4.6 trillion GDP for the same year.<sup>5</sup> To the credit of the frontier markets in the FM index, however, it's difficult for any country to sustain that kind of growth year after year, one of the factors that landed them in the index in the first place.

This fast growth is generally attributed to these markets building much-needed infrastructure, a type of investment that has a larger effect on GDP growth in a small economy than it would on a more mature one. There is a limit, however, to how many roads, bridges, and edifices these countries can build, and those that won't move quickly to other types of economic activities to sustain their rapid growth are guaranteed to quickly fall behind. This is one of the reasons many knowledgeable investors don't consider investing in these countries a leisure activity. Many of the funds that found success in these countries won't get involved without boots on the ground, meaning the involvement of live-in local experts trained to capably assess the situation without unreasonably relying on the often politically inflated if not stale official statistics.

#### **Assessing the ease of getting out**

The ease of getting out of these markets is another risky proposition that investors need to carefully assess before making them part of their global portfolios. Indeed, it should be clear to them right away that liquidity in these markets is far from what they are accustomed to in the more established economies, or even in most emerging markets.

Remember that not too long ago, emerging markets were widely feared as sort of "roach motels," a reference to the popular early-1980s television commercial for the "Black Flag Roach Motel," a trap for cockroaches. "They get in, but they don't get out," the ad proclaimed. This disturbingly vivid image caught the imagination of global investors and kept many away from the emerging markets for years.

Hence, before discussing the various characteristics that make frontier markets appealing to investors seeking the advantage of being early to them, hoping to ride them to loftier highs, and even to those purely looking at them from the perspective of their important portfolio diversification benefits in view of their low correlation with developed markets, it's important to first assess the concern of trading in and out of these markets, which after all are still at the fringe of the investment universe.

In sum, bargain-hunting investors interested in increasing their exposure to frontier markets while the stock prices of their high-growth companies are still low must also be highly aware that their much smaller investor base could prove incapable of moderating significant price declines, especially when they are experiencing market turbulence, a rather frequent event in their case. The “roach-motel” risk that stuck to emerging markets in years past could certainly apply to many frontier markets today.

## Frontier-Markets ETFs

With the increasing rise of frontier markets, it didn’t take long for the ETF industry to jump in and provide investors with another means of investing in these countries.

## Overview of the Frontier-Markets ETFs

As could be easily abstracted from the above discussion describing the general characteristics of these markets and their relative novelty to investors, it shouldn’t surprise anyone to see only a handful of ETFs linked to these markets in Table 4.

**Table 4** Taking Stock of Frontier Markets ETFs

Ticker	Name	Issuer	Asset Class	Development Level	Region	Related Index	AUM	Inceptiondate
ARGT	Global X FTSE Argentina 20 ETF	Global X	Equity	Frontier Markets	Latin America	FTSE Argentina 20 USD	14,761,278	3/3/2011
PAK	Global X MSCI Pakistan ETF	Global X	Equity	Frontier Markets	Asia-Pacific	MSCI All Pakistan Select 25/50 Index	5,728,436	4/23/2015
NGE	Global X Nigeria Index ETF	Global X	Equity	Frontier Markets	Middle East & Africa	Solactive Nigeria TR USD	26,901,000	4/3/2013
FRN	Guggenheim Frontier Markets ETF	Guggenheim	Equity	Frontier Markets	Frontier Markets	BONY New Frontier DR TR USD	45,073,600	6/12/2008
FM	iShares MSCI Frontier 100 ETF	Blackrock	Equity	Frontier Markets	Global Ex-U.S.	MSCI Frontier Markets 100 NR USD	514,560,000	9/13/2012
MES	Market Vectors Gulf States Index ETF	Van Eck	Equity	Frontier Markets	Middle East & Africa	MV GDP GCC NR USD	12,305,000	7/24/2008
VNM	Market Vectors Vietnam ETF	Van Eck	Equity	Frontier Markets	Asia-Pacific	MV Vietnam NR USD	433,329,000	8/14/2009
GULF	WisdomTree Middle East Dividend ETF	WisdomTree	Equity	Frontier Markets	Middle East & Africa	WisdomTree Middle East Dividend TR USD	28,752,000	7/16/2008

Source: ETF Global LLC

The eight ETFs reported in the table were brought to market by five different fund managers. Global X is certainly the most prolific with three ETFs, followed by Van Eck with two, but neither is the largest in terms of assets under management (AUM), as the title goes to Blackrock with its iShares MSCI Frontier ETF (FM), managing about \$515 million. FM by far dominates the rest of the field except for Van Eck’s Market Vectors Vietnam ETF (VNM), a close second with a little over \$433 million in AUM. The largest of the rest of the ETFs represented in the table is the Guggenheim Frontier-markets ETFs (FRN), launched on June 12, 2008, which also happens to be the first frontier-markets ETF brought to market. But it manages a trivial \$45 million in spite of its head start.

The other striking characteristic of these ETFs is that no two of them track the same index. As the importance of frontier markets continues to rise and the field becomes more crowded, that characteristic is anticipated to become less representative of this market. Of the eight funds shown in the table, four track single-country indexes, three of which — Argentina, Pakistan, and Nigeria — were previously described in terms of the vibrancy of their economies in relation to other frontier-markets economies. Van Eck’s Market Vectors Gulf States Index ETF (MES) tracks the most liquid companies of the Middle East, and WisdomTree Dividend ETF (GULF) does the same for both the Middle East and North Africa. MES particularly tracks the seven Arab states bordering

the Persian Gulf, including Kuwait, which this study described in terms of the dominance of its companies and the interest they have gotten from index compilers. The inclusion of Egyptian and Moroccan companies in GULF, however, might turn out to be quite puzzling if not confusing to a lot of investors, due to their being located in Africa. This is especially true of Morocco, because of its location in the far northwest corner of the continent bordering both the Mediterranean Sea and the Atlantic Ocean. This, in my opinion, could make the acronym “GULF” quite confusing to investors expecting to be exposed only to companies located in the Arab countries of the Persian Gulf.

The remaining two — the previously mentioned FRN and FM — follow two different indexes: BONY New Frontier DR TR USD and MSCI Frontier Markets 100 NR USD, respectively. Interestingly enough, no ETF tracks the global frontier-markets indexes developed by S&P, Russell, or FTSE, according to the ETF Global database. If there were such ETFs, they’ve surely been closed, since an Internet search didn’t return any other frontier-markets ETFs. The ETF industry is indeed littered with such market casualties.

Finally, note that all ETFs in Table 4 represent the equity asset class in view of the undersized status of these markets’ other asset categories. As their economies become more mature, frontier markets ETFs tracking other asset categories are expected to be brought to market as has happened with the now-more-mature emerging markets before them. Concerned by their lack of liquidity, many experts advise investors seeking exposure to them to unfailingly trade into them without limit orders.

Lastly, in spite of global markets being bloodied by the large drawdowns of the 2008 crisis regardless of asset class or category, three of the eight ETFs listed in 4 were brought to market during that year: FRN, GULF, and VNM on June 12, July 16, and August 14, respectively. Bringing funds known to be associated with highly illiquid markets during such a year underscores once more the importance of ETF providers being first in the market regardless of its surrounding circumstance.

### **Return Performance**

Table 5 shows the cumulative returns of the eight ETFs over increasing time horizons ranging from one month for all of them to five years for those that have been around for that long. Note that the table is peppered with N/As, indicating that the data needed to calculate returns is not always available for the newer ETFs. At the bottom of the table, the return performance of the SPDR S&P 500 ETF (SPY) for the same holding horizons is added, as a means to assess the opportunity cost to invest in these countries in lieu of the United States.

Ticker	Name	Issuer	Region	1 Month	3 Month	6 Month	1 Year	3 Year	5 Year
ARGT	Global X FTSE Argentina 20 ETF	Global X	Latin America	-3.37%	-16.66%	-12.80%	-15.55%	7.10%	N/A
PAK	Global X MSCI Pakistan ETF	Global X	Asia-Pacific	-6.63%	-1.56%	N/A	N/A	N/A	N/A
NGE	Global X Nigeria Index ETF	Global X	Middle East & Africa	-0.12%	-17.61%	-3.50%	-44.67%	N/A	N/A
FRN	Guggenheim Frontier Markets ETF	Guggenheim	Frontier Markets	-8.64%	-15.90%	-18.06%	-32.50%	-35.88%	-39.00%
FM	iShares MSCI Frontier 100 ETF	Blackrock	Global Ex-U.S.	-4.57%	-10.78%	-12.85%	-22.60%	N/A	N/A
MES	Market Vectors Gulf States Index ETF	Van Eck	Middle East & Africa	-7.56%	-8.28%	-9.52%	-21.47%	37.48%	38.18%
VNM	Market Vectors Vietnam ETF	Van Eck	Asia-Pacific	-12.14%	-10.80%	-19.61%	-29.77%	0.38%	-26.04%
GULF	WisdomTree Middle East Dividend ETF	WisdomTree	Middle East & Africa	-8.41%	-11.98%	-15.71%	-22.54%	35.90%	45.59%
SPY	SPDR S&P 500 ETF	State Street Global Advisors		-6.02%	-5.90%	-5.76%	0.44%	14.17%	15.70%
	Avg (exc SPY)			-6.43%	-11.70%	-12.23%	-23.58%	9.86%	6.89%
	Median(exc SPY)			-7.10%	-11.39%	-12.85%	-22.60%	7.10%	6.07%
	High (exc SPY)			-0.12%	-1.56%	-3.50%	-15.55%	37.48%	45.59%
	low (exc SPY)			-12.14%	-17.61%	-19.61%	-44.67%	-35.88%	-39.00%
Source: ETF Global, LLC				0.41%	5.80%	6.47%	24.02%	4.31%	8.81%

### A macro view

Except for the table's shortest horizon, during which the performance of the listed funds seems to have been similarly shattered regardless of their geographical location by August 2015's remarkable volatility, SPY's cumulative performance clearly dominates the average cumulative performance of frontier-markets ETFs for all time horizons longer than one month. At about 24% (0.44% versus -23.58% for frontier markets), the widest spread corresponds with the one-year horizon. During the past year or so U.S. equity markets were far from firing on all cylinders, but in view of Table 5's return statistics, they weren't nearly as affected as their much smaller counterparts in the frontier markets by the global equity crises: the Greek crisis and its fallout in Europe — a significant market for their products — and more recently concerns over a slowdown in China and the ensuing weakening in the prices of commodities, which often constitute frontier markets' main exports.

With the U.S. Federal Reserve set to tighten its monetary policy for the first time after the 2008 global financial crisis — although because of the slow pace of inflation and global markets being rattled by volatility, it put off the move again at its September 2015 meeting — investors in both frontier and emerging markets, factoring in the end of easy money, continue to reduce their allocation to them. The return statistics shown in Table 5 support the opinion of industry professionals who agree that frontier and emerging markets are currently pricing in the Fed's future decision, leading some to warn the Fed about tightening its monetary policy too aggressively.

### A micro view

Table 5 also allows us to examine each fund's individual return performance. This helps us to determine which ETFs have particularly lagged in terms of their individual contributions to these funds' overall average performance.

Starting with the one-year horizon — because, as previously noted, it delivered the widest return spread in relation to SPY — all funds show negative cumulative returns, ranging from a disconcerting -15.55% to a dreadful -44.67%. The latter underperformance belongs to Global X Nigeria Index ETF (NGE), which did not hit the market until August 3, 2013, as shown in Table 4.

This startling result means that the only ETF that targets Africa’s largest economy has yet to reward those who invested in it, which could jeopardize the prospects for its survival. It currently sits on only \$27 million in assets, as indicated by Table 4. As with the other markets, there are surely glaring inefficiencies, but could there be other reasons why NGE performed 12 full percentage points less than the second-worst performer over the same time horizon (Guggenheim Frontier Markets ETF (FRN) with -32.50%)? Political instability, widespread corruption, religious extremism, and other pesky issues Nigeria is experiencing could collectively be the exposed face of a truth that runs much deeper.

Markets like Nigeria provide absolute proof of what it means to have competent boots on the ground. These are markets where active management is an absolute necessity. On the positive side, assuming NGE doesn’t end up being shut, it is perhaps positioned for a significant rebound after such a dreadful performance once the global economy is back on track and volatility abates.

## Risk Performance

The risk performance of frontier markets is analyzed with the help of the statistics shown in Table 6. The cells populated with N/As indicate that the related ETFs don’t have enough data history to allow the calculation of these statistics. This is especially true for the longer time period, in view of the fact that many of these ETFs are relatively new to the market.

Ticker	Sharpe Ratio			Treyner Ratio			Sortino		
	1-Year	3-Year	5-Year	1-Year	3-Year	5-Year	1-Year	3-Year	5-Year
ARGT	-0.75	0.01	N/A	-0.18	0.01	N/A	-1.22	0.02	N/A
PAK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NGE	-1.31	N/A	N/A	-1.62	N/A	N/A	-2.32	N/A	N/A
FRN	-2.03	-1.15	-0.76	-0.44	-0.23	-0.16	-3.05	-1.73	-1.12
FM	-1.74	N/A	N/A	-0.63	N/A	N/A	-2.37	N/A	N/A
MES	-1.03	0.41	0.13	-0.37	0.14	0.05	-1.61	0.69	0.25
VNM	-1.3	-0.03	-0.3	-0.39	-0.01	-0.1	-2.01	-0.02	-0.47
GULF	-1.29	0.46	0.18	-0.34	0.12	0.05	-1.89	0.73	0.31

Source: author

## Sharpe ratio

Let’s begin with the Sharpe ratio, a statistic that incorporates both risk and return, of these funds. Two of them have only one year worth of this statistic (NGE and FM) whereas four (FRN, MES, VNM, and GULF) have Sharpe ratios extending out to five years because of their longer histories. Since PAK was not brought to market until April 23, 2015, it doesn’t have enough history to sustain the calculation of even the one-year Sharpe ratio.

Starting with the funds that exhibit a more substantial history and thus allow for a more meaningful trend analysis, all four indicate a substantial drop in the Sharpe ratio from the five-year period to the one-year period. These results, which should not be a surprise, reflect their decreasing returns and rising volatility of the past few years in response to the overall market turmoil. Although the results are disconcerting across the board, FRN seems the most affected of the lot, with a drop from -0.76 for the five-year period to a more dismal -2.03 for the recent one-

year period. This fund, which invests around 80% of its assets in depositary receipts, according to its manager,<sup>6</sup> must have particularly suffered from the series of shocks that have jolted U.S. markets of late.

With a more recent market arrival allowing only for the calculation of the one-year Sharpe ratio, FM indicates the second-poorest performance after that of FRN with -1.74. Although many other factors must have contributed to its underperformance in view of the poor global market conjuncture, MSCI's May 2014 move of the rich countries of the Persian Gulf from the frontier-markets index it tracks to its emerging-markets index must have been a significant contributor. As to NGE, its dismal -1.31 one-year Sharpe ratio is probably the result of the political and sectarian violence that have bogged down Nigeria for quite some time now. All of the other funds are also showing negative Sharpe ratios, albeit not as pronounced as those of the three aforementioned funds.

### **Sortino ratio**

As noted in other studies, many statisticians and market analysts alike consider the Sortino ratio an improvement over the Sharpe ratio because it captures downside volatility without penalizing upside volatility. But like the Sharpe ratio, the higher it is the more desirable the investment must be. For the four funds with the longest histories, the trend from the five-year to the one-year horizon is even bleaker than that given by the Sharpe ratio. As an illustration, Table 6 shows FRN going from -1.12 to a dreary -3.05, compared with a move from -0.76 to -2.03 for the Sharpe ratio. In the most recent period, a remarkable difference of 50% (-3.5% versus -2.03%) between the two ratios points to the significant impact that downside volatility, a bigger concern for investors than upside volatility, might have had on these markets. As with the Sharpe ratio, FM and NGE show the second- and third-worst one-year Sortino ratios. Perhaps Nigeria's ongoing troubles have contributed significantly to its market's downside volatility, which investors often refer to as bad volatility. Indeed, in addition to its exposure to the current market troubles affecting all frontier economies without exception, Nigeria is on the cusp of more worrisome issues that the market considers even more severe because they seem to have dug deeply into the fabric of Nigerian society. One can only guess that NGE could have exhibited a much worse Sortino ratio if it wasn't for the vitality of its high-growth companies, as noted earlier in the study.

### **Treynor ratio**

The Treynor ratio includes beta in its calculation of risk-adjusted returns. As such, it indicates the extent to which investors are compensated for their exposure to the movements of the fund's related index. In doing so, it focuses on systematic risk the way the Sortino ratio stresses downside volatility. Beginning with the funds for which there is enough data to calculate this ratio over the table's three time horizons, we notice once more that all of the ratios are negative. In fact, this finding also extends to the rest of the funds for which there is data. Although all negative, these numbers are not as marked as with the Sharpe and even less so with the Sortino ratio. The trend from bad to worse is overall more subdued. This is quite reasonable, since Treynor uses beta in the denominator of its ratio, a more confined statistic than the standard deviation used by Sharpe. With beta measuring only the fund's sensitivity to the movement of the market, and not the total volatility represented by the standard deviation, as expected the result is a mathematically higher value for the Treynor ratio than for either the Sharpe or Sortino ratios. The rest is just a matter of interpretation. For example, if NGE is exhibiting the least-favorable Treynor ratio, it's most likely because its beta is boosted by the fund's sensitivity to the events that have shaken up all frontier markets, but also, in its case, by the continuing suspicions that global investors harbor toward the country's ongoing political and social upheavals.

	Expense	Number of	3-Month	Discount/	Annual
Ticker	Ratio	Number	ADTV	Premium	Turnover Ratio
ARGT	0.74%	26	8935	-1.04%	95.29%
PAK	0.88%	34	6460	-1.67%	N/A
NGE	0.68%	21	50188	3.77%	54.75%
FRN	0.70%	73	28992	0.61%	94.00%
FM	0.79%	102	287551	2.31%	61.00%
MES	0.98%	63	4335	-1.91%	77.00%
VNM	0.70%	30	507160	0.73%	67.00%
GULF	0.88%	74	10764		N/A

Source: ETF Global, LLC

### Other Key Statistics

There are also other considerations regarding these ETFs that investors should be aware of.

#### Low average daily trading volume

It also helps to look at a fund's average daily trading volume (ADTV) as a gauge of market liquidity. The higher the ADTV, the more easily the fund can be traded. According to the statistics shown in Table 7, ADTV ranges from 4,335 shares traded daily for MES to 507,160 shares for VNM. This wide range indicates that some funds trade more frequently than others. Surprisingly, the largest ADTV is associated with VNM, a single-country fund, not with the more inclusive FM, a global fund that tracks an index in which 17 frontier-market countries are represented. In fact, FM comes a distant second to VNM with a little over half of its ADTV (287,551 versus 507,160). This is a compelling testimony that paints a bright image of a country that emerged, not too long ago, quite bloodied from two successive wars<sup>7</sup> to become one of Southeast Asia's fastest-growing economies despite being ruled by a Communist party that doesn't show willingness to give up its monopoly on political power.

Several Vietnamese companies have prospered from the country's strong and stable growth and inexpensive, abundant labor, mostly composed of former farmhands driven to towns and cities by the country's transition from agriculture to manufacturing and services. These companies have unquestionably become a draw for global investors attracted by Vietnam's many intrinsic strengths, as shown by VNM ADTV's statistics.

#### Wide premiums and discounts

Premium and discounts associated with ETFs constitute another set of important statistics worth looking into. Under normal circumstances, ETFs continue trading while the underlying securities on which their NAV is calculated are done changing hands at 4:00 p.m. From that point on, any visible discrepancies between their NAV and the price at which they trade present arbitrageurs with opportunities to bridge the gap. In the established markets where the arbitrage process works fairly efficiently, these discrepancies, whether they constitute premiums or discounts to NAV, are arbitrated out fairly quickly. This has become especially true since the advent of electronic trading that allows high-frequency traders to quickly take advantage of these market opportunities. But the same cannot be said of the much less liquid frontier markets, where premiums and discounts are usually much larger, as shown in Table 7, and persist for significant time periods because of the higher cost of the creation and redemption

process. Indeed, whereas in most developed markets the order to create or redeem ETF shares is routinely given during the trading day and the shares become available at the end of the day, the process can be far more complex in the less-developed markets, especially those that only recently opened to international investors. In these markets, a variety of complications — such as cash-only settlements because of constraints on transactions made by foreigners, often leading to the trustee acquiring the shares instead of the creator; higher price risk in putting together the underlying basket; and taxes on the transferred shares — make their delivery more intricate, causing them to trade at either a premium or a discount compared to the underlying basket for longer periods of time. The very small overlap of these markets' hours with European and U.S market hours can create difficulties for even authorized participants and issuers alike to create or redeem shares in a timely manner. In addition to the fact that these ETFs trade at different hours than the portfolios they track, the underlying holdings lack liquidity. Needless to say, the fact that the funds trade at a premium to NAV could potentially hurt latecomers for a long time. The details of the creation-redemption process as seen in Table 7 differ substantially across funds. Expressed as a percentage of the published value of their holdings, or NAV, all frontier-markets ETFs represented in the table show a measurable premium or discount depending on the forces of supply and demand. They range from 3.77% for NGE to -1.91% for MES. Investors must hence be aware that these ETFs can veer significantly from NAV. Pushed aggressively as cheap and easy tools to investors eagerly seeking exposure to these markets, they may be just as eagerly dumped at the first sign of trouble when investors experience their lack of liquidity and realize that the other investors they are trying to sell to are also running toward the exit. A long and short investment strategy cannot work as smoothly in these markets, because all investors seem to be of the same opinion when trouble hits.

### **High expense and turnover ratios**

Managing these ETFs is also a costly proposition, with annual expense ratios averaging 0.80% as shown in the table. This high cost stems from the many reasons mentioned above, including the cost and effort to assemble the underlying baskets in not-so-liquid markets. The high annual turnover ratio experienced by their underlying portfolios is another reason for the high cost. Imagine the cost associated with having to buy and sell stocks as frequently as the turnover figures in Table 7 suggest. With the highest turnover ratios of the group at 95.29% and 94%, respectively, funds like ARGT and FRN must turn over nearly all of their holdings every year. These and other funds in the group that are also facing high turnover face a number of challenges in the course of their brave efforts to keep track of their respective frontier-markets indexes in the face of illiquidity. Lastly, in addition to all of the aforementioned risks plus the illiquidity characterizing these markets, investors must also be aware, as explained in Study 3, of the high capital gains distributions such frequent changes could lead to.

### **Summary**

Frontier markets are countries with less-established equity markets than those of their emerging-market counterparts. Only a small number of hardened investors are willing to consider them as a means to widen the global exposure and diversification of their portfolios.

These investors do not hesitate to look beyond the numerous risks these hard-to-access markets often pose. For those who prefer to see the unique risks of frontier markets more spread out, Blackrock provides FM, a global fund that incorporates a number of them. There are also investors who are attracted by a specific geographical area due to attributes they deem valuable. For them, Van Eck and WisdomTree propose MES and GULF, respectively. Both funds focus on a region of the Middle East rich in oil. As for the hard-core category of investors who see single-country frontier-markets ETFs as the way to go, issuers offer no less than four such funds. Hence, although only eight funds propose exposure to frontier markets, there is a little bit of something for every investor interested in them.

Regardless of how their risk-adjusted returns are measured, this study determined that their cumulative performance severely lags that of the more conventional SPY. They also remain highly costly due to the fact they

are operating in highly illiquid markets. Investors also have to deal with the fact that these funds often change most of their underlying holdings, which not only lifts their expense ratios to lofty levels but also makes the investors uncomfortable with the high capital gains distributions that could ensue as a result of this high turnover.

That said, what then makes investors resolute in their decision to seek exposure to these markets? It's the fact that all of the negative outcomes could be outweighed by their undeniable diversification benefits, an outcome that modern portfolio theory has taught us to highly value. From a diversification perspective, we saw in the beginning of the study that MSCI's frontier-markets index, a well-regarded index of these countries' equities, exhibits even more favorable correlations with the world's major indexes, including the S&P 500, than its index of emerging markets because, unlike countries represented in the latter group, these lesser-developed economies tend to concentrate on local demand.

This study also observed that this index correlation with Barclays US Aggregate Bond Index is negative, making a combination of ETFs tracking the two, in whatever proportion chosen by investors, potentially beneficial to their portfolios. It goes to show that frontier-markets funds can add meaningful diversification to a portfolio if investors are capable of going beyond the palpable risks these nascent markets still present.

#### End Notes

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<sup>1</sup> <http://www.nber.org/>

<sup>2</sup> [https://www.msci.com/resources/factsheets/index\\_fact\\_sheet/msci-world-index.pdf](https://www.msci.com/resources/factsheets/index_fact_sheet/msci-world-index.pdf) (as of Aug 31, 2015)

<sup>3</sup> See "IMF Executive Board Concludes 2014 Article IV Consultation with Nigeria" in <https://www.imf.org/external/np/sec/pr/2015/pr1591.htm>

<sup>4</sup> <http://hdr.undp.org/en/content/human-development-index-hdi>

<sup>5</sup> <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

<sup>6</sup> <http://guggenheiminvestments.com/products/etf/frn> as of September 2015

<sup>7</sup> Vietnam fought first against the colonial power France, then against South Vietnam, which was backed by U.S. troupes.

## ***Risk management on attracting FDI to infrastructure projects in emerging markets: A conceptual model***

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### **Abstract**

*Attracting international private capital through foreign direct investment (FDI) to infrastructure projects in emerging markets is critical, considering shortage and high costs in domestic markets. The success of this process involves the understanding of the risks associated with these investments and setting effective strategies to mitigate these risks. Literature comprises a wide variety of risk models and management strategies, although they neither propose a uniform terminology nor evaluate the impact of those strategies on projects performance. The aim of this paper is to contribute to International Business and Project Management literatures with theoretical considerations and the proposition of a conceptual model that evaluate the effectiveness of risk mitigation strategies. Institutional theory, FDI attraction and entry modes are employed as theoretical lenses of the model, while discussion on projects risk and performance assessment incorporates liability of foreignness and outsidership concepts. The suggested model contemplates three perspectives of risks: country, sector and project; considers mitigation strategies related to capital structure and financing, entry modes and project governance, and evaluates the effectiveness of these strategies through the impacts on projects performance. In the last section, final considerations and limitations are presented, along with the suggestions for future research.*

**Keywords:** FDI, Infrastructure; Emerging Markets; Risk Management; Entry Modes; Internationalization Strategies

### **Introduction**

What are the critical risk factors faced on the attraction of FDI to infrastructure projects in emerging markets and how to manage them? The objective of this paper is to answer this question, suggesting a concise, yet comprehensive, structure to analyze critical risk factors of such projects and a conceptual model of mitigation strategies that incorporates an innovative element of effectiveness evaluation of these strategies.

Emerging or developing countries present infrastructure gaps that exceed local public or private financing possibilities and even projects execution capability. Therefore, it is critical to attract foreign private capital and strategic experienced partners to accomplish these investments (Hill, 2012). Urrunaga and Aparicio (2012) show the relevance of infrastructure to economic growth, while Nourzad et al. (2014) argue that the effect of FDI on host countries income per capita depends on the domestic infrastructure base. Specifically, these pieces of research indicate that emerging countries demand economic growth, to what they need to invest on infrastructure and the key to that is to attract FDI.

Immediate corollary is the imperative to understand the determinants to attract FDI (Asiedu, 2002; Blonigen, 2005) to infrastructure (Kirkpatrick et al, 2006) in emerging markets (Groh, Wich, 2012). Emerging countries, in general, have weak institutional environments and higher political instability, making investments in infrastructure riskier or less secure than in developed countries, considering poorer regulatory quality and higher uncertainties to private investors (Ramamurti, Doh, 2004). On the other hand, needs are pressing (Schwab, Sala-i-Martin, 2015) which is usually an incentive to investors.

Treatment to this question considers three contexts. First, the issue of attracting FDI. Difficulties, barriers, needs and impacts related to the attraction of foreign capital to productive investments in host countries is subject of such wide

literature, going back decades of research, that an appropriate review would be an impossible task to tackle here. Seminal works addressed subjects like the creation of multinational enterprises and international productive capital flow (Hymer, 1960; Williamson, 1975; Rugman, 1981; Hennart, 1982; Schnitzer, 2002) and the internalization theory (Buckley, Casson, 1976), but from an economic perspective and a focus on the risks and benefits of production and transaction of intermediary products cross borders. Much of these studies were associated to the investigation of foreign capital invested by the manufacturing industry.

Prior research had also incorporated concepts such as the “*liability of foreignness*” (Johanson, Vahlne, 1977; Zaheer, 1995) or the institutional distance (Xu, Shenkar, 2002; Berry et al., 2010), that extend the concept of risks related to cultural distance into multiple dimensions such as economic, political, administrative, financial, cultural, demographic, knowledge, global connectivity, and geographic. Many studies applied to specific contexts like Meyer, Nguyen (2005) to inward FDI to Vietnam; Silva et al (2013) to the electric power sector in Latin America; or Turolla (2013) to the water and sanitation sector also in Latin America. Others discuss entry strategies into new markets (Meyer et al., 2009; Johanson, Vahlne, 2009), investigate the determinants to attract FDI in Africa (Asiedu, 2002); the literature reviews by Blonigen (2005) or Groh, Wich (2012) about determinants or risks associated to exchange rates, taxes, political and legal systems; FDI effectiveness (Nourzad, 2008; Nourzad et al, 2014), to refer just a few important researches on the research field.

Second, is important to draw attention to the context of emerging markets. If attracting FDI to developed countries is already subject to the consideration of several issues, the case for emerging countries is even more difficult, as mentioned earlier. Ramamurti e Doh (2004) discuss two critical risk factors linked to developing countries: (i) political instability; and (ii) institutional environment. The main corollary, according to the authors, is “the risk that a new government will renege on promises made to investors by earlier governments is higher than it would be in developed countries” (Ramamurti, Doh, 2004, p. 157), because they have higher political instability and weaker institutions. Within these imperfect and unstable environments, it is possible to face extreme situations such as interventions, corruption and unilateral expropriations of assets (Roth, Kostova, 2003; Wright et al., 2005).

Third, the context of the infrastructure sector deserves special attention. Investments in infrastructure are complex in nature. According to Ramamurti and Doh (2004), there are specific risks associated to infrastructure. Main issues relate to: (i) market failures, caused by natural monopolies due to economies of scale and to the impossibility of external competition; (ii) obsolescing bargain, because of capital intensity, assets specificity and immobility and political salience associated to the sector. This scenario implies a more active, even dual, role to public authorities, as they are required to both regulate and attract FDI to the sector (Kirkpatrick et al., 2006).

The above mentioned contexts can be considered through the theme of associated risks treatment. Previous exposition highlighted some risk factors: institutional, political, macroeconomic, liability of foreignness and institutional distance, from a perspective of the host country to such investments. In addition, risks associated to the sector of infrastructure such as market failures and the obsolescing bargain. Thus, a question comes to mind: how to face these risks, or what strategies use to eliminate or reduce the impact of risks? Project Finance literature provides useful answers related to capital structure (Brealey et al., 1996; Vaaler et al., 2008; Sawant, 2010), to modalities (Bing et al., 2005; Little, 2011; Lee, Schaufelberger, 2014), and entry modes and governance of investments (Doh et al., 2004; Chowdhury et al., 2009; Henisz et al, 2012), and a comprehensive quantitative study on the relations between risks and mitigation strategies seems still a gap on the literature. Additionally, it would be important to evaluate if these risk control, mitigation or management strategies are effective, i.e. evaluate if the adoption of such strategies contributes to a successful implementation of the projects, to what is important to add Project Management and Engineering and Construction literatures that investigate capital projects performance (Flyvbjerg et al., 2002, 2003, 2004, 2009; Creedy et al., 2010; Cantarelli et al., 2012).

However, it has not been found within the literature a model that incorporates and links all elements above mentioned, risks > mitigation strategies > performance. This link is important to understand the most appropriate

way to ensure a better performance of projects, which is the primary objective of the selection of a set of risks management or mitigation strategies. Previous studies either explore only one perspective of risks such as institutional (Mia et al., 2007; Orr, Scott, 2008; Mustakerov, Borissova, 2013), or only assess risks and do not associate to strategies to mitigate them (Dias, Iannou, 1996; Ramamurti, Doh, 2004; Boudet et al., 2011), or discuss mitigation strategies, but on an individual basis (Brealey et al., 1996; Esty, 1999, 2001; Hainz, Kleimeier, 2006; Little, 2011, on Project Finance; or Chowdhury et al., 2009; Henisz et al., 2012; Lee, Schaufelberger, 2014, for governance structures), nor evaluate if those strategies effectively work.

Differently from the mentioned works, this paper intends to contribute to frame this situation in a general theoretical model of risk factors associated to FDI in infrastructure projects in emerging markets, presenting mitigation and management strategies to these risks and incorporating the effectiveness evaluation of such strategies. The managerial relevance of this study refers to the global capital allocation to a highly important sector to countries economic growth and on the potential optimization of projects costs. Academically, it contributes on the evolution of the understanding on critical subjects to IB such as FDI and emerging markets, incorporating elements such as project management and performance evaluation to institutional and entry mode theories.

The structure of this paper is as follows. Next section presents a literature review on: (i) risk and investments attractiveness models; (ii) mitigation strategies on Project Finance; and (iii) infrastructure projects performance on Project Management, indicating the relevance of covering the gap found in the literature and suggested by this study. Third section proposes a conceptual model developed based on the assessment of previous section elements and the suggestion of building propositions. The final section concludes this paper, recognizing limitations and suggesting extensions and future research avenues.

## **Literature Review**

Although apparently there is a reasonable diversity of themes and issues to be addressed for the treatment of the proposed issue, the review of the literature suggests a relatively objective framework. There are three main points addressed: the identification of project risks; the definition of risk mitigation strategies; and the impact of these strategies on project performance.

### ***Risks***

The literature assessment resulted in two major findings: (i) the terminology of infrastructure projects risks is not yet pacified, and (ii) there are very different models of project risks and/or attractiveness analysis. Although prior research are all relevant (later discussed) and made important contributions to the field of study, the findings suggest that research has not yet reached a more concise and robust model. In the last 20 years, well-structured qualitative models based on surveys with experts emerged (Dias and Iannou., 1996; Mia et al, 2007), but do not test their effectiveness; also robust econometric models (Doh et al., 2004), but only for a specific context and also without regard to project performance. There were also found multi-objective combinatory models (Mustakerov, Borissova, 2013), but that only evaluates the attractiveness of countries, and checklists of risk factors (Clarke, 2014), using more modern theories of real options but based only on a very specific case study. Models are presented below in further detail.

Dias and Iannou (1996) developed one of the most cited references in the literature of risk models and project attractiveness, even after two decades of its publication. The Desirability Model (DM) is a multi-attribute assessment model, developed with the help of 14 global experts (8 "insiders" and 6 "outsiders") through questionnaires. It is divided into two Classes: the Company's Competencies and Project's Attractiveness, which are broken down into 7 categories, and these, on 23 attributes, which can be understood as risk factors. It considers factors such as: organizational capacity, knowledge and financial resources of the company that will run the project, the specific project team, its technical and financial viability and the macro environment (political and legal) of the country of implementation. They conclude that the DM model, while decomposing the investment selection problem

into more manageable components, helps decision making by forcing structuring in important dimensions, the attributes, that provide a mechanism for the sensitivity analysis and the generation of improvement alternatives.

Ramamurti and Doh (2004) focus on the risks related to the country in which the project will be implemented (Institutional Environment and Political Instability) and on risks specific to the infrastructure sector, primarily those arising from market failures (natural monopoly and non-tradable outputs) and obsolescing bargain (like assets specificity and immobility and sector political exposure). The research results suggest implications to investors, as the need to recognize the infrastructure sector particularities; and to the host countries of investments, such as the need to strengthen institutions and to adopt transparent processes. In subsequent work, Doh et al. (2004) extend the model considering variables in country (GDP, GDP per capita, Taxes), industry (Sector Openness, Current Stock, Regulatory Status), firm and project levels (Size, Governance, Entry Mode and Technology) and apply regression techniques to 500 Telecom projects in 100 developing countries. By studying the balance between private and public investments in infrastructure, the results show that private participation is positively associated with country variables, such as economic development and investment liberalization, and with the specific project, showing preference to greenfield projects and shared ownership, or "joint ventures".

Mahalingam and Kim (2007) present a "legal paradigm" for private investors systematically identify, allocate and insure risks of infrastructure projects in four categories: Socio-Environmental; Political; Economic-Financial and Technological, and conclude that despite the paradigm have been successful in mitigating many risks, also had many failures, which suggests continue the search for a more robust model. The work of the World Economic Forum (Mia et al., 2007) proposed two attractiveness indices for infrastructure projects: IPIAI - Infrastructure Private Investment Attractiveness Index, the country level, and IQGI - Infrastructure Quality Gap Index. IPIAI is structured into eight pillars (Macro-environment, Legal System, Political Risks; Ease of Access to Information, Capital Markets, Track Record of Private Investment in Infrastructure, Government and Society, and Government Readiness for Private Investment), broken down into 62 variables, most assessed by questionnaires answered by executives present at the Forum. IQGI is composed of five sub-indices: General Quality; Roads; Ports; Airports, and Electricity. The research concludes that the IPIAI together with IQGI offers a better mechanism for investment decisions than Forum's GCI - Global Competitiveness Index, because it has a more narrow focus on infrastructure.

Boudet et al. (2011) develop a conceptual model that organizes the "drivers of conflict" in global infrastructure projects in three categories: Contextual Factors (host countries social, political and economic characteristics); Project Elements (size, host country shareholding, supplier's procurement process, multilateral agencies participation) and Local Impacts (social, economic and environmental effects of the project). Some results are mixed showing various impacts of country-level features depending on the sector; others are more unanimous as the emergence of conflicts in projects with the involvement of one or more international financial institutions or with local factors such as limited supply of energy to the project. Authors conclude that several risk factors associated with infrastructure projects can be minimized with robust designs. Blanc-Brude and Makovsek (2013) focus on the construction risks and divide them into two dimensions: (i) Exogenous, idiosyncratic factors and, generally, insurable represent the specific conditions of the project, such as soil, climate, engineering challenges, geo- and archaeological issues; and (ii) Endogenous, address the governance of costs and consider the problem of agency and moral hazard, i.e., the agent responsible for the construction is neither responsible nor have incentives to control costs. This research shows that projects construction risks using project finance are better managed and that costs deviations in the implementation should be close to zero, which is an important progress in the subject as it combines performance to the adoption of a risk mitigation strategy, Project Finance, but, still, addresses only risks related to the construction stage.

Mustakerov and Borissova (2013) also research the attractiveness of countries for FDI through a multi-criteria combinatorial optimization decision model. They investigate the attractiveness of 24 countries of Eastern Europe and former Soviet republics, using 10 variables ("indicators") related to the ease of doing business in the

country, a set they aggregate as "regulatory environment", such as building permits obtention; investors' protection; taxes; contracts enforcement and insolvency resolution. The ranking algorithm proposed in the model is tested only to countries economic indicators, but the authors suggest that the approach can be extended to different sets of indicators. Finally, Clarke (2014) develops a checklist of risk factors based on a single case study, the construction of a water desalination plant. It discusses the management of risk factors by adopting real options and insurance package, watching basically the irreversibility of the investments and entrepreneurs risk aversion.

The analysis of the prior literature indicates that foreign investment in infrastructure in emerging markets need to pay attention to three categories or perspectives of risk. The first relates to the specific risks of the country. As mentioned, the unstable institutional and political environments of emerging markets increase the risk of investment in these countries. Previous models use different terminologies for this perspective: macro political and legal environment (Dias, Iannou, 1996); institutional environment and political instability (Ramamurti, Doh, 2004); Country (Doh et al, 2004); Political and Economic-Financial (Mahalingam, Kim, 2007); IPIAI (Mia et al, 2007); Contextual Factors (Boudet et al, 2011); ease of doing business indicators (Mustakerov, Borissova, 2013). This perspective is supported by the institutional theory (North, 1990) and the Uppsala model and the "liability of foreignness" (Hymer, 1960; Johanson, Vahlne 1977; Zaheer, 1995).

The second perspective refers to the specific risks of the sector. Literature also presented additional risk factors resulting from the infrastructure industry, managed by markets regulation approach and the consideration of the "liability of outsidership" (Johanson, Vahlne, 2009) and entry modes. Previous models suggest: industry-specific (Ramamurti, Doh, 2004); Industry (Doh et al., 2004); IQGI (Mia et al., 2007).

Finally, the specific risks of the project. Some projects attractiveness analysis models in the literature consider projects specific risk factors: project attractiveness and technical and financial feasibility (Dias, Iannou, 1996); Firm and Project (Doh et al., 2004); Exogenous and Endogenous (Blanc-Brude, Makovsek, 2013); Socio-Environmental and Technological (Mahalingam, Kim, 2007); Project Elements and Local Impacts (Boudet et al, 2011); irreversibility of investments (Clarke, 2014).

This categorization is in line with Peng's (2008) framework, that summarizes the progress of research in Global Strategy on three perspectives or visions: (i) "institutions based view", related to the Country perspective; (ii) "industry based view", in the case of this chapter represented by the infrastructure sector; and (iii) "resource based view", a more micro view, focused on the company, and here translated as Project. From these findings, the first proposition of this paper is extracted:

***Proposition 1: The conceptual model of foreign investment in infrastructure projects in emerging markets should evaluate three perspectives of risks: Country; Industry and Project.***

The theoretical support of Proposition 1 is found in the review of the following literature. First, the interest on the institutional theory perspective in studies on companies and sectors internationalization is growing. The idea that the institutional profile of a market (country), consisting of regulatory, cognitive and normative elements (DiMaggio and Powell, 1983) of formal rules and informal constraints (North, 1990), can influence the social context of organizations and direct their actions in the markets has been the subject of several studies in recent years as Xu and Shenkar's (2002) and Kostova and Roth's (2002) to name a few, introducing concepts like "psychic (or institutional) distance". Even traditional authors of the IB field incorporated the importance of institutions as "rules of the game" and that may affect the opportunities for MNEs, which is the specific case of Dunning and Lundan (2008).

For emerging markets, this idea is even more critical given the institutional environment marked by imperfections and instability, reaching extremes as interventions, corruption and unilateral expropriation of assets, as shown in the pieces by Wright et al. (2005) and Roth and Kostova (2003), which can affect entry strategies in such markets, as discussed in the interesting work of Meyer et al. (2009). Direct corollaries of the effects of poor institutional

environment are the strategic importance of foreign companies to "legitimize" in local markets thus reducing their "liability of foreignness", for which they use local partners, and the urgent need to find mechanisms for mitigating these political risks while structuring their participation in projects, where PF proves quite useful.

The institutional perspective on megaprojects and infrastructure projects is the subject of several studies in recent years, both in the IB and Engineering and Construction fields. Orr and Scott (2008) examine 23 cases of companies involved in global large-scale projects and the increase of implementation costs due to not understanding host countries institutional environment. Their results include discussions about the types of transaction costs (institutional) that entrants incur, develop propositions on institutional exceptions and a resolution model. These ideas are enlarged and derive a more comprehensive model in the interesting work of Henisz et al (2012) which aims at a unified theory of project governance. It is designed to infrastructure projects, sector where they realize the ubiquitous existence of relational contracting, that change throughout the life cycle of projects generating what they call "displaced agency" risks. For this purpose, integrate perspectives of economics, law, sociology and psychology to cover regulatory, normative and cognitive-cultural governance mechanisms, pillars of the institutional theory, and discuss modalities and solutions as PPPs, hiring local companies, alliances and joint ventures.

In the same vein, the work of Boudet et al. (2011) analyzes data and factors of 26 infrastructure projects (sanitation and oil pipelines) located in 31 countries and associated with the emergence of political and legal conflicts. For this objective, develops a conceptual model that organizes the drivers of conflict in global infrastructure projects in three categories: (i) contextual factors (social, political and economic characteristics of the host countries); (ii) project elements (size, shareholding of the host country, suppliers procurement process, multilateral agencies participation), and (iii) local impacts (social, economic and environmental effects of the project). Some outstanding results of the research are the increase on the potential for conflict when multilateral agencies participate in the project, when there are many connections with NGOs or when there are many pro-active public consultations on the project. Yanosek et al. (2007) discuss the growing participation of emerging markets private investors in infrastructure projects in emerging markets (referred to as "South-South investors") and some issues that led to this scenario as weak regulation, politicization of projects, lack of transparency in public bids, uncertainty of payments and political risks that drive investors from developed countries away.

The other direct implication of the risks of institutional environments in the internationalization strategies of firms relates to the concept of liability of foreignness spotted in the classic works of Hymer (1960), Johanson and Vahlne (1977) and Zaheer (1995). The fundamental concept is that the internationalization process starts by markets with institutional environments closer to home country (less psychic distances) and progresses to more "distant" markets and to more permanent investments (from simple exporting to using of local intermediaries and, finally, a wholly owned subsidiary), thus reducing the risk of not knowing these markets. In the latest work of Johanson and Vahlne (2009), the authors review the model to incorporate the concept of liability of outsidership in which they see internationalization as a process of creation a multilateral network of companies. It is through these network relationships that firms learn about markets, create knowledge and build trust, achieving legitimacy in markets.

For infrastructure projects, especially in emerging markets, the construction of these networks and the associated learning is critical for success in entry in unfamiliar surroundings, as Henisz et al. (2012) show. The authors work out such ideas in the discussion on governance mechanisms for infrastructure projects, either through what they call "unified governance" through PPPs or via "network governance" with the co-optation of local partners as labor force and investment from local pension funds; or through alliances or joint ventures.

A side finding from the literature review above is the disregard of an important feature of capital projects, as infrastructure ones: its life cycle, which sets out the various stages through which the project passes. The literature discusses these stages singly, either treating the structuring, identification and risk allocation stage (Esty, 2001; Bing et al., 2005; Vaaler et al., 2008; Lee, Schaufelberger, 2014), or analyzing only the construction or implementation stage (Flyvbjerg et al., 2002, 2003, 2004; Creedy et al., 2010; Cantarelli et al., 2012; Blanc-Brude, Makovsek, 2013). The more comprehensive understanding of the stages of the project life cycle is important to the development of a more robust framework of analysis of projects, as will be presented in the following sections.

### ***Life cycle of an infrastructure project***

The life cycle of complex and infrastructure projects is well portrayed in the FEL (Front End Loading methodology). It consists of three stages of development followed by three decision gates. These stages occur during projects definition and planning, and the goal is to reduce the number of changes and unforeseen events or uncertainties that may arise during the execution phase of the project. The three stages of definition and planning of capital projects for the FEL methodology are (Morrow, Yarossi, 1994; Morrow, 1997): (i) FEL1 - Business Planning; (ii) FEL2 – Facilities Planning; and (iii) FEL3 - Project Planning. After these three stages of definition and planning, the methodology follows with the implementation stage (focused on detailed engineering and the execution of works), followed by testing and commissioning before the project operation stage.

We can understand a capital project following three basic stages: 1-Structuring and planning; 2-Implementation and 3-Operations. Stage 1 condenses FEL stages above, and focuses on planning assumptions, considering risks involved, such as financing and entry modes for international investments, and the definition of mitigation strategies, and for the context of this paper this stage is labeled as Project Finance. Stage 2 refers mainly to the implementation of project works and demands control of related technical risks and a focus on the overall performance of the project implementation, and here is summarized as Project Management. Stage 3 is the longest one, considering it covers the lifespan of the project, focusing on operational cost and overall performance issues. This paper discusses in depth the first two stages.

#### ***Stage 1 - Project Finance***

The strategies most commonly used to mitigate or manage these risks during the project finance stage have been previously mentioned and briefly are: (i) Project Finance modalities as a financial and contractual structure of segmentation and allocation of risks among the stakeholders of a capital project (Bing et al., 2005; Little, 2011; Lee, Schaufelberger, 2014); (ii) Entry Strategy (or Mode), which defines whether the investment will be a "greenfield" project or the acquisition of a divestment, in general a former state owned asset (Doh et al., 2004); and (iii) Governance, which stipulates whether FDI will go to a wholly owned subsidiary or for a "joint venture" associated with other local and international partners (Doh et al., 2004; Chowdhury et al., 2009).

The study of the relationship between projects performance and the adoption of risk mitigation tools is greatly affected by the project capital structure. The case of infrastructure projects is interesting because it involves a basic matter of risk transfer: in the case of public works, the risk is entirely absorbed by the government (Finnerty, 1999). In PFs there is a transfer of risks to entrepreneurs. This situation is dealt with at country, sector and company levels by Doh et al. (2004) to emerging markets and by Bing et al. (2005) primarily for projects in the UK, while Ghura and Goodwin (2000) perform an empirical analysis of various regions and Creedy et al. (2010) analyze causes of risks for road construction. The work of Lee and Schaufelberger (2014) reviews primary risks, mitigation methods and analyzes the results of five case studies, proposing risk management strategies for infrastructure projects under BOT models. It divides risks into two categories: general risks and project specific risks, and suggests strategies for each one. The main result is the importance of the active support of the local government as the main factor of profitability and economic viability of the projects.

Hainz and Kleimeier (2006) also consider Project Finance as a risk management tool and suggest the participation of multilateral agencies as "political umbrellas". Chowdhury et al. (2009) examine the growing role of multilateral development financial institutions as investors in private funds for infrastructure in emerging markets. Both Meyer, Nguyen (2005) and Meyer et al. (2009) discuss the influence of institutions and the search for resources on entry strategies in emerging economies. While Henisz et al. (2012) focus on interpreting contractual risks of infrastructure projects as governance challenges on three pillars: regulatory, normative and cognitive-cultural, and propose a "unified governance" via PPPs as mitigation strategy of these risks.

Espinoza (2014) goes on to propose an alternative valuation method of infrastructure projects, the DNPV (decoupled net present value), which aims to be both a valuation methodology and a risk management tool. In this case, risks associated with the project are quantified using concepts of contingency claims and insurance premiums assessment, designed to protect future cash flows and thus treated as additional project costs. Under this explanation, it is considered the following proposition:

***Proposition 2:** The conceptual model of foreign investments in infrastructure projects in emerging markets should consider risk mitigation strategies: Project Finance arrangements; entry modes, and governance.*

## **Stage 2 - Project Management**

The last element intended to be considered is the implementation or execution performance of the project. The very purpose of the adoption of the above related strategies is to mitigate the main risks associated with the implementation of infrastructure projects. Literature review conducted to date suggests that there is not a theoretical, conceptual or operational model that assess the effectiveness of the use of mitigation strategies described above. In other words, a conceptual model that relates the adoption of strategies with the implementation performance of foreign direct investment project.

Project management is a relatively new discipline, expanding and has received attention from other academic fields of study in the last twenty years (Söderlund, 2004). The foundation of the PMI - Project Management Institute, an international nonprofit organization that brings together professionals and that perhaps is the most active, date of 1969. That is, the more robust body of knowledge in this area was created in the 1970s and 1980s. It has been mentioned earlier in this article the development of FEL methodology, more suitable for complex capital projects in the second half of the 1990s. Still, the academic production in the area is already important, with many specialized journals (International Journal of Project Management; Journal of Construction, Engineering and Management; Journal of Management in Engineering; Engineering Project Organization Journal; Transport Reviews), and would not fit in this paper a comprehensive review of the literature. It is worth mentioning some work and relevant authors in the grounding of the theme. Flyvbjerg et al. (2002) question the accuracy of cost estimates in public works. Flyvbjerg et al. (2003, 2004) focuses on the study of the frequency and causes of cost overrun in transportation projects, covering 258 projects in 20 countries, researching relations with the size and the governance of the project, whether state owned, private, or other public format. Flyvbjerg et al. (2009) analyze psychological and governance reasons for wrong planning and estimates of infrastructure projects costs.

Other significant and more comprehensive works can be found in Creedy et al. (2010), which analyzes the risk factors that impact the road construction costs; in Cantarelli et al. (2012) which analyzes cost performance of projects in the Netherlands; in Ahsan (2012) that analyzes cost and schedule performance of international development public projects in Asia, indicating the host country government bureaucracy as the main cause of delays in projects, and finally, the work of Blanc-Brude and Makovsek (2013), which begins with a distinction between exogenous risks (idiosyncratic, but generally insurable) and endogenous risks (related to exposure to uncertainty), and then execute a statistical analysis of the performance of 75 projects from a private database (French Bank - Natixis) in relation to compliance with the original budget (cost overrun) and ends with an assessment of the impact of the insurance package (performance bonds, indemnities, guarantees, civil) in project cost control.

What seems to be a constant in the literature is the concern with the implementation performance analysis of the project, understood as the assessment of cost and schedule deviations from baseline planning. In general, researches analyze the causes of deviations (Flyvbjerg et al., 2003, 2004; Creedy et al., 2010; Ahsan, 2012), and few, assess whether the risk mitigation strategies contribute to improve performance (Blanc-Brude, Makovsek, 2013), which seems more interesting to be considered as risk factors will always be present. The difference is how the project deals with such risks, and this is the issue which raises the following proposition:

**Proposition 3:** *The conceptual model of foreign investments in infrastructure projects in emerging markets should assess the effectiveness of risk mitigation strategies, measuring their impact on the project implementation performance*

### Conceptual Model

From the elements and concepts discussed above, this paper also proposes a conceptual model for evaluating the effectiveness of risk mitigation strategies that affect foreign investment in infrastructure projects in emerging markets. The model is composed of three components, according to the previous review: (i) risk perspectives; (ii) Mitigation Strategies, and (iii) the impact of strategies on project performance.

The Risk component presents the three perspectives summarized from the literature. The country perspective addresses aspects related to macroeconomic issues of foreign investment target market, such as GDP (Doh et al., 2004), GDP per capita and GDP growth (Groh, Wich, 2012) and tax system (Blonigen, 2005). Also the assessment of the host country institutional environment is critical, considering aspects such as legal and political system (Groh, Wich, 2012), and risks of corruption and expropriation of assets (Roth, Kostova, 2003; Blonigen, 2005), and which can be measured by indices such as the ICRG - International Country risk Guide (Kaufmann et al., 1999a, 1999b, 2009.) that incorporates 22 factors of risk in the political, financial and economic areas. Finally, the issue of liability of foreignness as a risk related to the lack of knowledge on new markets (Zaheer, 1995) and that can be assessed from the concept of institutional distance (Kostova, Roth., 2002; Berry et al., 2010).

The sector perspective aggregates the risks related to the infrastructure sector, here summarized in two aspects. First the importance of regulatory quality (Ramamurti, Doh, 2004; Hill, 2011; Groh, Wich, 2012), also linked to the institutional environment in country perspective, given the role of the state as regulator of markets (Kirkpatrick et al., 2006). It is also considered the liability of outsidership (Johanson, Vahlne, 2009), as a risk of lack of knowledge of relevant stakeholders in the sector, which should cause the joint participation of local and international institutions on investment (Chowdhury et al., 2009; Boudet et al., 2011, Meyer et al., 2009).

The project perspective should incorporate the risks related to the specific project being considered for investment. In this case, the highlights are the technical, technological and engineering aspects that impact the investment decisions as raised by Mahalingam, Kim (2007), Creedy et al. (2010) and Blanc-Brude, Makovsek (2013) among many other relevant works in the area. Because of the difficulty in quantifying these risks in a comprehensive and regular way, this study chooses to encapsulate the risks inherent to the specific project in the size aspect, indicated by the total amount of the investment (Doh et al., 2004; Boudet et al., 2011.).

The second component of the model shows the risk mitigation strategies that can be adopted in the structuring of projects, and, as explained in the previous section, are related to the Project Finance stage. Contracting modalities and capital structure are evaluated, such as BOO - Build, Own, Operate; BOT - Build, Operate, Transfer; PPP - Public-Private Partnership; concessions; and Management and Lease contracts, referring to service contracts (Bing et al., 2005; Little, 2011; Hill, 2012; Lee, Schaufelberger, 2014); entry modes, differentiating between brownfield and greenfield projects (Doh et al., 2004); and project governance structure, differing primarily between "wholly owned", or full control, and "joint venture" in which control is shared with other companies and institutions, analyzing the participation of other investors such as domestic local companies or international and multilateral financing agencies.

The third component of the model is what evaluates the effectiveness of mitigation strategies, analyzing the impact of the project implementation performance. The idea is to evaluate project performance through the deviations in costs against the original budget of the project and analyze the relationship with risk mitigation strategies adopted.

Considering the issues presented earlier, the suggested model is shown below in figure 1:

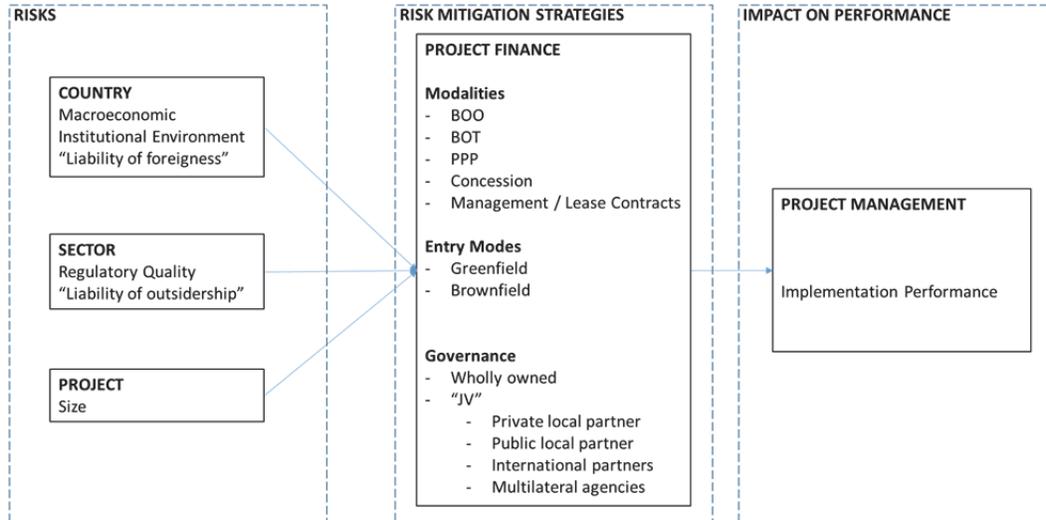


FIG. 1 CONCEPTUAL MODEL OF FDI IN INFRASTRUCTURE IN EMERGING MARKETS

The application of this model can help identify, for example, what modalities of financing and capital structure are more appropriate to certain level of institutional environment, or if there are differences between types and project sizes. It can also contribute to the resolution of issues such as: what most affects the entry mode and the governance of the project? The regulatory quality or the institutional distance between the host country and the home country of FDI? Or, which risk mitigation strategy most affect the project implementation performance?

The relevant questions above, among others also of interest to the field of study, may be analyzed in future studies of empirical quantitative analysis, with an operational model that indicates the study variables using a robust database, and that develops research hypotheses that the above conceptual model suggests.

### Final Considerations

The objective of this paper was the development of a conceptual model of FDI in infrastructure projects in emerging markets. It was demonstrated the diversity of risks treatments, interpretations and terminology associated with such projects in the literature, which also showed the recurrence of certain risk factors in the schemes proposed by the authors. At the same time, little is mentioned regarding the different stages of the life cycle of capital projects.

The suggested conceptual model incorporates these two challenges: to extract a concise and objective categorization, although comprehensive, of relevant risks associated with the context, expressed in the Country, Sector and Project Perspectives, as well as the treatment of these risks over the life cycle stages of these projects, translated as Project Finance and Project Management.

Thus, this paper contributes to the literature in three ways. First, while reviews current models and terminologies of risk and attractiveness assessment of investments in infrastructure, it extracts a compact, simple and

scalable organization of risks affecting these projects. Second, it associates the identified risks with various mitigation strategies, instead of analyzing only one strategy as it is commonly suggested in the literature. Finally, it incorporates evaluation of the effectiveness of these strategies relating to the performance of project implementation. As a result, a robust and easy to apply investment in infrastructure in emerging markets analysis model is proposed.

The infrastructure projects investment, insurance and financing industries can also benefit from this model because it easily becomes an attractiveness analysis and project development management tool, which also provides a comparison structure for investments. Policymakers can also use the model as input to revise infrastructure sector regulatory legislation and to improve institutional environment, especially in investments protection legal systems.

Still, this paper presents its own limitations. The suggested model is built to a particular context, FDI in infrastructure in emerging markets. While it is possible to expand to broader contexts, as for developed countries and eventually to investments in other sectors, it is critical to also broaden the literature review. Another limitation is that the model does not cover the Operations stage of infrastructure assets, translated as the measurement of returns and overall financial performance of the investment. This would require a deepening in the identification and incorporation of operational risk factors, such as demand risks and operating costs, that go beyond the boundaries of this research.

Some tracks for future research are derived from the above considerations. The most straightforward is the empirical test of the model. The definition of testable hypotheses from the model and the application of quantitative statistical techniques on a database, could examine, first, the relationship between risks and a set of mitigation strategies, which could facilitate and speed up the structuring of complex projects, such as the infrastructure ones. Then it would be important to evaluate the effectiveness of the adopted mitigation strategies, when analyzing the impact of such strategies on the implementation performance of the projects, which could generate insights on financing structures and costs, entry modes and governance of these investments. Another possible direction would be the expansion of the model to other contexts, as explained earlier, such as its application for developed countries and other sectors, which could generate significant comparisons and contribute to the evolution of knowledge in the IB course.

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## ***Financial crisis and Local Banks. A study of the Italian Banking System***

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### **Abstract**

#### *Objectives.*

*This paper focuses on bank-firm relationship in an economic deeply changing environment. The objectives of the paper are two-fold: to understand, compared to the overall banking system, if the lending activities and economic-financial performances of Italian local banks have changed after the outbreak of the financial crisis; and to understand what are the conditions that allow to develop a model of a local bank capable of supporting the development routes of SMEs, by an appropriate risk/return profile.*

#### *Methodology.*

*In order to answer the first research, the paper present an empirical analysis, covering the period 2007-2011, of Italian Cooperative Credit Banks (a particular category of local banks) compared with the system of bank groups with operability spread over much of the Italian territory and not. The empirical comparative analysis has the aim to see the effects of the crisis on the relationship bank-firm through the reading of the impact on the dynamics of lending and on the profiles of structure, riskiness, profitability and efficiency of the banks under examination. In order to provide an answer to the second research question, the paper provides some insight of evolutionary nature reflection in the bank-firm relationship.*

#### *Findings.*

*In agreement with the doctrinal postulates of the relationship lending the empirical analysis shows how the financial then real crisis has not induced Cooperative Credit Banks to restrict credit to local firms. The survey evidences have however highlighted some critical elements that are reflected inevitably on the local bank's risk-return profile.*

#### *Research limits.*

*As based only on quantitative data of statement, the empirical analysis represents a limit in this kind of research.*

#### *Practical implications.*

*This work will be useful to stimulate the debate of experts as well as to focus on the studies of local banks in particular in the light of their anti-cyclic role.*

#### *Originality of the study.*

*Even if abounding in subjects about local banks and relationship lending literature faces only marginally the effects of global crisis on business profiles of local banks.*

**JEL Classification:** G21, G24, G28, G32

**Keywords:** Local Bank, Relationship lending, Credit risk, Global crisis

### **Introduction**

Local vocation banks or, simply, “local banks”, “territory banks” or “relationship banks”, “community banks”, “development banks”, or “district banks” (Baccarani, Golinelli, Rullani, 2013; Bonfanti, 2009), have been, in the recent past, subject, as major or national banks, to great changes due to the pressure of market and regulation

factors on the one hand, while on the other hand, to the effects and implications of financial crisis started in August 2007 and the recession of real economy that followed.

However the developing transformation has confirmed how local banks have reduced at level system, overweight financial activities compared with lending activities (Minnetti, 2011, 2013); really local banks, usually small banks, as for example, cooperative banks (BCCs), have shown a certain vitality to defend and, in some cases, to increase their competitive market positioning in the observance of the essential reasons of their mission.

First of all, this contribution of research intends to examine the role of local banks in the present, competitive scenario particularly to their connection with the enterprises world.

More precisely, we want to verify if during the years of crisis these institutions have continued to represent the primary interlocutors of SMEs, their traditional reference clientele in consideration of commitments, supporting in any case, financial requirements and credit rationing in a lower measure in comparison with what registered at “system level”.

At the bases of the study the hypothesis is to understand whether and how by exploiting the traditional strengths of the rooting on the territory and the ability to develop and privilege relation connections with their own customers in the relationship banking approach, local banks have assisted the productive sector and have been able to face the hard, economic situation which started with the summer recession of 2007 with an relevant Italian slowdown of bank loans and a strong deterioration in the quality of credit assets.

Even if in general, this phenomenon has taken different features according to the size of the bank.

During the years between the most acute phase of crises, loans issued by major banks have registered growth rates clearly below what discovered with reference to smaller banks. On the contrary, the deterioration of exposures has interested mostly small, minor banks. Further, the study intends to understand whether and how the economic and financial profiles (structure, profitability, efficiency and risk) of local banks (BCCs) have changed as regards the effects of financial and economic crisis.

The Cooperative credit is a system based on a network comprising 404 cooperative banks called Banche di Credito Cooperativo (BCCs).

In particular, the study is carried out by the formulation of two research questions: R.Q.1) In the period 2007-2011 compared with the total banking system, what were the effects of financial crisis on lending activities and economic-financial performances of Italian BCCs? R.Q.2) What are the conditions that allow to develop a model of a local bank capable of supporting the growth, development routes of SMEs, by an appropriate risk/return profile?

On the base of research questions there is built the research structure that develops methodologically as follows.

The second paragraph offers a review of the main theoretic contributions on the local bank and the relationship banking as a relational approach with customers. The theme of the relation between a local bank and relational system with clientele arises as a premise in the discussion aimed to capture the reflections on credit dynamics to SMEs.

In order to answer the first research (R.Q.1), the third and fourth paragraphs present an empirical analysis, covering the period 2007-2011, of Italian BCCs compared with the system bank groups with operability spread over much of the Italian territory and not.

The empirical comparative analysis has the aim to see the effects of the crisis on the relationship bank/firm through the reading of the impact on the dynamics of lending (core business of local banks) and on the profiles of structure, riskiness, profitability and efficiency of the banks under examination.

In particular, the third paragraph offers an analysis of the dynamics of credit of the sampled banks; borrowing, in the method, Minnetti's scientific contribution (2013), the analysis of the dynamics of "lending" activity is carried out examining the trend in the 2007/2011 period of three balance sheet/income statement items to be significant for the representation of the relationship between a local bank and a company: Credits with customers; Non performing loans; Credit write-down (Value adjustments on credit).

The empirical analysis continues in the fourth paragraph with the looks of the different profiles of the BCCs through a system of ratios so distributed for each profile: structure (Net assets ÷ Total assets, Total collection ÷ Total assets, Due from customers ÷ Direct deposits); riskiness (Value adjustments on credit ÷ Credits with customers); profitability (Net interest income ÷ Net interest and other banking and insurance income, Profit/loss for the year ÷ Net assets); efficiency (Cost income ratio: Operating expenses ÷ Net interest and other banking and insurance income).

As we anticipated and in line with the objectives of the paper, surveyed banks are sampled in two categories respectively denominated, banking groups (dimensionally large banks, with widespread operation at national level and by nature with little local vocation) and BCCs (local small banks and highly suited to the operational area).

With the reference to the first once, the analysis examines the last five financial statements (period 2007/2011) of a sample of 14 banks organized as limited companies (Spa) and having widespread operation throughout the national territory, while the sample of BCCs consists of all the institutes operating in Italy (404) in the form of cooperative bank.

The overall sample has a good statistical significance since it covers the 59% of the universe of active banks at the end of 2011.

The financial statement are processed not as absolute values, but as rates of change in comparison with 2007 (taken as the base year).

In order to provide an answer to the second research question (R.Q.2), the fifth provides some insights of evolutionary nature reflection in the bank-enterprise relationship.

In particular, here useful considerations are formulated about the need for the local bank to enrich the operational and relational contents of the relationship with companies, each with its own complexity, through the development of services to the support and sometimes to the accompaniment of SMEs live path in the respect of the role of the local bank and milieu in which the bank and enterprise operate.

### **Local Bank and relationship lending: a literature review**

This section of the paper provides an overview of the main national and international studies about the role and characteristics of local banks and relationship lending as a relational approach to customers.

About the role and characteristics of the local bank there has developed an intense debate, still on going, born in the late 90's when they started off the merger transactions among banks in the Italian banking system.

With the term “local” they identify a very wide universe of banks that covers this case in point also very different among them.

According to Alessandrini (1994), the local bank stands out from the national bank as characterized by a strong interdependence with the social and economic community (regional or sub-regional area) in which it operates.

Also Ferri (1995) and Pagano (2000) share this approach by defining “banking localism” a phenomenon associated to the small sizes and credit institutions with registered office and much of the distribution network in a certain administrative context (Province or Region).

Comana (2006) focuses on regional banks, that he defines as those intermediaries which carry out their activities in a territorial area, though not delimited geographically within the borders of a region.

The study of Bonaccorsi Di Patti, Eramo, Gobbi (2005) introduce a quantitative parameter: the local bank would have an active less than 7 billion euros, including in this process both small banks (assets between 1 and 7 billion euros) and the minor banks (assets of less than 1 billion euros).

According to Bongini, Di Battista, Zavarrone (2007), a bank is defined of small size if three hypotheses at least prevail: the long-term relationship, the peer monitoring and functional proximity between business centres of the bank and the operating office of the enterprise to be financed.

In another contribution Alessandrini, Presbitero, Zazzaro (2008) focus on the role of “district bank”, stressing that the specific nature of the enterprise-bank connection within these areas depends on both the characteristics of district firm and the type of the local credit market which characterizes the reference territory and that it is easier that in the district areas an exclusive and lasting relationship is consolidated.

From the point of view of the competitive model, we know what the advantages of local banks are (Farabullini and Gobbi, 2000; Guiso, Sapienza, Zingales, 2004): the operating cultural geographical proximity with the company, the managing of customers’ relationship; the acquisition of information on the territory and clientele, which translates into an informative advantage in the evaluation of loans; the short and fluent organizational structure, that determines the ability to get information and rapidity in reaction and in decision.

All that results in a strong commercial penetration in the retail market and in a direct and privileged knowledge of the enterprises granted, through a customer monitoring facilitated by the localism itself and the possibility of social control that goes beyond a formal contrast.

To them some elements of criticality are opposed in an equally clear manner and recognizable: in acquiring the skills and resources for the construction of more sophisticated management models to be employed in the finance and credit area; in the diseconomies of scale in their use; in the articulation of a diversified loan portfolio that optimizes the risk degree; in the expansion of the range of products/services to offer to business customers.

In the summary evaluation that is usually proposed, through an approach to its customers typically relational, the local bank is best placed to know and assess the needs of their territorial companies and to channel the savings on it, making this way the funding circuits more direct and reducing phenomena and costs of multiple intermediation.

As regard the theme of relationship lending, literature fails to provide a single definition. Starting from the 90’s different authors provide definitions complementary among them.

The contribution of Ongena and Smith (2000), analyzes the theme in terms of: «Relationship that goes beyond the execution of simple and anonymous financial transaction». Also Boot (2000) provides a definition of relationship banking, so expressed: «The provision of financial services by financial intermediary who: i) carries out expensive investments to acquire confidential information about each customer funded, which, often, become the exclusive property of the middleman broker; ii) estimates the profitability of the “informative” investments done and the opportunity to repeat them later».

To define the concept of “relationship lending” also significant is Elsas’ (2005) contribution: «An implicit long term contract between a bank and its debtor».

The aforesaid research contributions show how in the relationship lending the granting of credit is determined by a number of so called conditioning factors:

- Clientele relationship that unites the trusted one to the bank by the existing loan contracts and/or deposit.
- The assumption of “direct” and “confidential” information, beyond the known ones. The same information can be renewed and enriched during the course, overtime of the relationship, non only of lending, but increasingly extended to other services offered by the bank.
- The wealth of information accumulated remains the exclusive domain of the bank.

Recently the attention of researchers has focused on the ability of financial intermediaries to gather soft information (qualitative information usually reserved). Berger and Udell (2002, 2006) define, more precisely, the long-term banking relationship as a credit assignment technology that depends on the production of soft information.

The relationship banking goes beyond the loan and can include additional financial services as well as feasible by investment banks and non banking financial brokerage.

Boot (2000) argues that the most appropriate term would be “relationship intermediation”; however our focus is on relationship lending. This concept emphasizes that the bank is the one that makes the investment necessary to obtain specific information from the borrower; as result, the customer can accept or not to establish a relationship with the bank (Freixas, 2005).

Banks can use a variety of technologies for their loan business, that includes the technologies of transaction and different loan relations (Boot and Thakor 2000; Berger and Udell 2002).

Relationship lending sees the bank to adopt behavioural patterns, in the relations with trend business customers, tending to close monitoring, to renegotiation of mortgages, to implicit long-term contractual agreements and to the collection of “soft” (reserved) information over time.

On the contrary transaction lending privileges quantitative, standardized information and a relationship with a user oriented individual transaction (transaction) – in relation to that it measures the profitability of the customer – rather than the ratio as all.

The transactional bank does not bother to collect confidential information (soft information) but it focuses on the development of objective indicators of qualities (financial ratio) by which to evaluate their own client in respect of each product delivered.

As the information used (hard information) is available also to other intermediaries, financial credit institution assumes no privileged position and then, in the face of considerable saving of costs for the collection of information, it does not benefit of the monopolist income generated by the knowledge of the actual risk profile of the customer.

Overall, in transaction lending the loan is subject to the collection of transparent high quality information; from this favouring borrowers able to report, credibly, their solvency.

Relationship lending is indicated especially in dealing with customers characterized by the physiologically “opaque” information structure, (for example young companies with little tradition in the relationship with the banking system and/or without guarantees).

Jayarathne, Wolken (1999) and Berger, Udell (2002) show how small banks hold significant competitive advantages in relation to the management of reserved information. In effects, recent research contributions emphasize the role of small banks in the soft information collection and the importance of their organizational structure to be used (Stein, 2002; Takats, 2004; Berger and Udell, 2002; Berger, Miller, Petersen, Rajan, Stein, 2005); in particular, many recent studies have focused on organizational and operative variables of banks and on the link between these ones to the effective use of the information in the process of assignment.

These studies intersected with the studies on the proximity between the customer and the bank and focus on the internal organization of the latter, starting from the assumption that organizational forms characterized by multiple decision levels - typically pyramidal organizational structure – compared with flat organizations, they seem less suited to use effectively non encoded and non standardized information, so called soft (Stein, 2002).

For this hypothesis, empirical support was provided by the study by Berger, Miller, Petersen, Rajan, Stein (2005), which shows how, compared to small banks, larger intermediary banks tend to provide loans to customers located further away, to larger companies and to make a greater use of coded information (so called “hard”).

Literature on relationship lending has identified many benefits and some costs of these relations; first of all, Boot (2000) who gives a very detailed explanation on the cost-benefit relationship lending and related implications. Later, integrating them with some recent contributions, Boot’s (2000) key insights will be summed up.

The adoption of relationship lending in bank-company relation has several important advantages. In fact, the exchange of confidential information between banks and enterprises enable enterprises to have a great amounts of credit, to create value for shareholders and improve company performance.

Relationship lending makes easier, in particular, the exchange of information between the debtor and the payer. Debtors prove to be more inclined to reveal information to banks due to the increased confidence of relationship (Yosha, 1995): «The relationship bank-enterprise takes on connotations strictly confidential. The information revealed to the bank are not disclosed to other lenders or to competition and, in the same time, they allow the company to obtain the credit needed to finance its investment projects, without having to reveal publicly the same information. Their acquisition allows, in the same time, to the bank to perform its monitoring activities. So, confidentiality produces positive effects for the company as it reduces the risk of credit rationing. This aspect becomes especially important when funds are used for R&D projects».

The low information asymmetries favoured by relationship lending allow to go beyond problems of moral hazard and adverse selection inherent to credit markets. In particular, the idea is that the longer the relationship between banks and business is, the closer is the informational link between the parties and more reliable appears to the bank the owner-entrepreneur; this avoiding the risk of moral hazard (Diamond, 1984, 1991) and reducing agency costs triggered by the management behaviour (Weinstein and Yafeh, 1998; Jensen and Meckling, 1976; Chiesa, Palmucci, Pirocchi, 2009).

Relationship lending allows, beside other benefits, a greater flexibility in renegotiating contract terms and some discretion in modifying technical form of loan (Boot, 2000).

Thanks to the soft information owned assets and to the medium-long term targets, the bank can therefore guarantee the company more flexible conditions. However, customer relations induce the debtor to behave more virtuously for two reasons: the former is due to the continuous monitoring of the bank; the latter resides in warranty, or implied promise, that the bank will offer new loan disbursement in the future to better conditions (in terms of cost, amounts and guarantees).

In short, the stability of relationship favours not only the ex ante determinations of contract conditions but also the ones of any future loans (Rajan, 1992).

### **Impact of economic downturn on the banks' loan**

In the light of the content and evolution of the literature on banking localism and relationship lending, we have proceeded to carry out an empirical verification aimed to examine the dynamics of the loans granted by local banks during the crisis years in order to understand how their core business (credit intermediation services) was impacted by the economic financial environment of recent years.

Empirical research has allowed us to verify if the international crisis has produced significant impacts on the management mode of relationships with customers by BCCs, defined as “territory banks”, favouring therefore, a change in their operational identity from an intermediary more focused on traditional intermediary lending, to an intermediary with a more significant ability to diversify his offer model in the sector of movable brokerage.

Coherently with the objectives of the paper, the surveyed banks are sampled into two categories named, national banks and BCCs respectively.

Referring to the former, the analysis examines the last five financial statement (2007/2011 period) of a sample of 14 banks (that is 14 banking groups considered among the larger ones dimensionally based on the classification made by ABI) with widespread operation throughout the national territory (Table 1), while the sample of BCCs consists of all institutions operating in Italy (404) in the form of cooperative bank.

*TABLE 1: THE BANKING GROUPS INVESTIGATED*

Intesa Sanpaolo
Unicredit
MPS
UBI
Banco Popolare
Banca popolare dell'Emilia Romagna
Banca Popolare di Milano
Banca Popolare di Sondrio
Banca Sella
Banca Marche
Banca popolare di Vicenza
Carige
CREDEM
Credito Valtellinese

In relation to BCCs, the check was performed through the use of Federcasse data base while the financial statement data of 14 banking groups were obtained through access to their corporate websites.

The total sample has a good statistical significance since it covers 59% of the universe of active banks at the end of 2011. Financial statement data are processed not as absolute values, but as rates of change compared with 2007 (Taken as the base year). With reference to the performance of the first magnitude of the balance sheet analyzed, that is the “Credits with customers”, there are some differences between BCCs and bank groups (Table 2).

TABLE 2: CREDIT WITH CUSTOMERS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking Groups</b>				
Credits with customers	10,41%	9,45%	11,16%	11,13%
<b>Local Banks (BCCs)</b>				
Credits with customers	12,21%	21,82%	31,46%	34,98

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

During the reporting period (2007-2011) “due from customers” reveal increasing for both categories of banks investigated.

However, the BCCs register higher percentage changes of growth; besides to record a rate annual average growth of loans to customers that is 25,12%, more than double compared with that for banking groups (10,53%), they are characterized by the systematic and increasing trend of annual growth rates. Banking groups, instead, are characterized for the dynamics in lending more fluctuating (and less intense).

On the whole, therefore, local banks maintain in the period examined, their competitive position, showing a good dynamic characteristic.

This first empirical evidence underlines the presence of a direct relationship between the size of the bank and the dynamic of credit extended to customers and a strong preference for local banks to adopt business models focused on traditional lending (marked by the centrality of loans to customers) following the management approach of relationship lending and less on movable brokerage.<sup>1</sup>

To this regard, it is also useful to analyze the weight of such activities within the operations of the bank by calculating the ratio Credits with customers ÷ Total assets.

The good dynamics of loans to customers have seen BCCs register a minor reduction of the parameter. The datum, as a whole, confirms what is already clear and the fact that local vocation banks are more structured on lending activity, that remains central in the corporate policy and that continues to be their own mark (Table 3).

TABLE 3: CREDITS WITH CUSTOMERS ÷ TOTAL ASSETS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking Groups</b>				
Credits with customers (% Total assets)	-3,91%	-1,81%	-2,38%	-4,01%
<b>Local Banks (BCCs)</b>				
Credits with customers (% Total assets)	0,72%	-0,26%	0,50%	0,50%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

Strictly complementary to the analysis of the dynamics of loans is the examination of impaired exposures, represented prevalently from “non performing loans” (Table 4) and “credit write-down” (Table 5).

TABLE 4: NON PERFORMING LOANS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking Groups</b>				
Non performing loans	25,49%	46,83%	107,68%	154,24%
<b>Local Banks (BCCs)</b>				
Non performing loans	31,89%	93,16%	159,71%	235,84%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

The trend of non performing loans from 2007 to 2011 indicates for banking groups a constant percentage increase, with the datum that grows systematically in the period under observation.

The dynamic of BCCs is worse so that it marks in the 2007-2011 period an average rate of change of 235,84%.

These evidences underline how the lending process has been, generally, characterized by the significant deterioration in credit quality during the years of international crisis.

Despite the growth of bad debts joins the universe we surveyed, BCCs register the highest percentage values, above all starting from 2009 when the crisis is reflected also on real economy; these evidences are consistent with the results of the empirical researches by Tutino, Colasimone, Brugnoli (2012) and Minnetti (2013).

In particular Tutino’s analysis on the credit granted by Italian Banks, distinguished by size, over the years of international crisis, shows that there is an inverse relationship between growth impaired loans and bank size.

As Tutino says: «The reasons of heterogeneity found in the trend of credit to clientele according to bank size, can and must be traced in the different specificities found in the brokerage model adopted by banks and in different arising vulnerabilities. In other words, there is a significant relationship between specific features of the brokerage model adopted, underlying management strategies and performance of the credit to customers. The smaller size Banks, characterized by a business model more oriented to traditional lending business with customers than the larger ones and characterized by less vulnerable strategies and political management intermediation

strategies, are the ones that during the recent financial crisis, have argued, more vigorously, the real economy by providing credit to customers».

The findings from Tutino’s analysis, therefore, provide useful information to explain and, somehow, justify the greater non performing loans that characterized the operation of BCCs then bank groups.

The increased deterioration of the quality of the credit issued has been the cost that small banks, traditionally oriented to lending business, have had to incur, in order not to lose their competitive position and their identity of local bank.

In this respect, we would like to stress as to the different dynamic, in front of bank groups, of non performing loans, must match a grip of awareness of local banks of the need to pursue, preserving the identity of local banks, an increased financial diversification of their offer model (Arnone, Bechi, Modena, 2013; Arnone, Modena, Quintiliani, 2013).

Empirical evidences on non-performing by the bank are also confirmed in relation to the performance of “value adjustments on credits” (Table 5). Starting from the business year of 2010, the analysis shows how banking groups record a decline in the parameter, differently from BCCs that, instead, see the value grow systematically in the period under observation.

TABLE 5: CREDIT WRITE-DOWN

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Gruppi bancari</b>				
Credit write-down	136,52%	345,26%	259,68%	240,58%
<b>Banche locali (BCCs)</b>				
Credit write-down	61,08%	100,14%	123,88%	192,46%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

In synthesis the data extracted from the sample of selected banks show how local banks, in the period under review, recorded a growth in lending to customers, core business and the main item of balance sheet, that grew in whole more than what has been experienced for more dimensionally large banks and with widespread operations nationwide.

On the contrary local banks have reported growth rates of non performing loans and credit write-down higher than other banks.

Consistently with the results of Minetti’s analysis (2013), also our investigations, therefore, allow us to say that in the years of the crisis, local banks have continued to support the entrepreneurial fabric, while remaining faithful both to their role as privileged partners of businesses and families in the territory and a business model based on credit intermediation.

This allowed them to ration credit to firms to a lesser extent than larger banks, even if, not being able to limit the negative effects of adverse economy with a dynamics of performing loans and credit write-down showing a problematic trend.

### The effects of the crisis on the performance of BCCs and banking groups

Complementary to the analysis developed in the previous paragraph, here we try to grasp how financial crisis has impacted on the profiles of structure, riskness, profitability and efficiency of banks under observation. The analysis of different profiles of sampled banks is conducted by a set of ratios.

As regard the analysis of the structure profile, the first ratio “Net assets ÷ Total assets” provides a measure of the capitalization level of banks. Observing the trend of ratio (Table 6) is evident how the earliest years of international crisis, small banks and banking groups have seen the impact of their net assets on total assets both suffer a gradual fall; however BCCs compared with national banks recorded the steady and systematic reduction of the ratio.

TABLE 6: DYNAMICS OF STRUCTURE INDEX: NET ASSETS ÷ TOTAL ASSETS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Gruppi bancari</b>				
Net assets ÷ Total assets	-5,96%	0,11%	-8,02%	-15,89%
<b>Banche locali (BCCs)</b>				
Net assets ÷ Total assets	-4,08%	-5,62%	-5,01%	-16,52%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

Remaining in the analysis of the profile structure, the second ratio, under observation, “Total collection ÷ Total assets” expresses the incidence of debts with customers and debts represented by bonds, savings deposits, certificates of deposit, spot against forwards on total assets.

This ratio provides a measure of heavy level debt supported by banks. Small banks, compared with bank groups, record a stable growth of the parameter that is more intense until 2009 (Table 7).

The recession and the aggravation of the crisis of sovereign debts has made more difficult and costly the placement of bond issues, while the increased competition in funding close to customer led to an increase in the interest rates on deposits.

The combined effect of these two factors, as it emerges from the dynamics of parameter, has influenced on the composition of the debts of banking groups, by imposing them the research of forms alternative to traditional funding; vice versa, local banks, pegged to traditional models of corporate lending, are characterized by the lack of poor financial flexibility and low propensity to develop more complex fundraising activities of those ones either to pursued.

TABLE 7: DYNAMICS OF STRUCTURE INDEX: TOTAL COLLECTION ÷ TOTAL ASSETS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking Groups</b>				
Total collection ÷ Total assets	-0,03%	0,11%	-5,55%	-7,48%
<b>Local Banks (BCCs)</b>				
Total collection ÷ Total assets	4,07%	6,71%	3,80%	0,29%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

Continuing to examine the structure profile, the third ratio “Due from customers ÷ Direct deposits” expresses the intermediation ratio referred only to the operation exchanged with customers. This ratio provides a measure of the propensity of banks to carry out lending operations, “stricto sensu”, and therefore it can help us to express some consideration about the strength of relationships that these banks have established with customers. This because, as by prior empirical evidences, the lending and the funding represent the core business of the macro category of local banks of which BCC s are a particular expression.

The ratio dynamic (Table 8) confirms what has been shown in literature about the distinctive characters of the operations of local banks. Respect to banking groups, BCCs show substantial and stable decline of the indicator; this decline is justified by the progressive increase in direct deposits as a channel privileged by small banks to obtain financial resources.

For their part, after a decline in the years immediately following the arising of international crisis, banking groups register the stable growth of the index; this last empirical fact highlights the lower incidence of funding in operational choices of banking groups and support the hypothesis formulated in literature that sees dimensionally bigger banks moving towards the business models of corporate banking.

*TABLE 8: DYNAMICS OF STRUCTURE INDEX: DUE FROM CUSTOMERS ÷ DIRECT DEPOSITS*

	<b>Average rate of change</b>			
	<i>2007-2008</i>	<i>2007-2009</i>	<i>2007-2010</i>	<i>2007-2011</i>
<b>Banking groups</b>				
Due from customers ÷ Direct deposits	-3,06%	0,07%	3,13%	2,90%
<b>Local Banks (BCCs)</b>				
Due from customers ÷ Direct deposits	-3,22%	-6,53%	-3,18%	-0,29%

*Source:* Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

With reference to the analysis of the risk profile, the indicator used to catch the dynamics of credit risk in the credit cooperative system is delivered in terms of “Value adjustments on credit ÷ Credits with customers”.

As a result of global crisis, the values of this indicator have decreased significantly for banking groups, but increased, without knowing set backs for small cooperative banks (Table 9).

This different dynamic confirms what emerged before analyzing the trend of non performing loans during the period considered.

Despite a less favourable economic and financial environment, BCCs have implemented an indiscriminate and intense policies of allocation of credit by agreeing to bear the cost of higher deterioration in the quality of loans.<sup>2</sup>

These findings allow us to affirm that small banks, with operations traditionally anchored to lending activities, must necessarily revise their scoring models, in order to ensure better integration between hard and soft information (Del Prete, Pagnini, Rossi, Vacca, 2013).

The question of the information advantage of him who is physically closer to the territory, than bank groups with notoriously centralized structures that rely on objective information (hard information) or “per tabulas”, requires to be better rationalized, coming out of a too simplistic representation.

It's really true that hard and soft information requires a more balanced mix (having passed in the credit approval practices by the excesses of the mere personal knowledge of customers to those of impersonal knowledge) but the rhetoric of "looking at the entrepreneur's eyes" must be disproved as a means to establish its reliability as a credit counterpart.

His history is important, but is not sufficient to assess the quality of the projects that he has in mind to realize and it cannot be a diriment element when no positive factors emerge from official documentation.

*TABLE 9: DYNAMIC RISKINESS INDEX: VALUE ADJUSTMENTS ON CREDIT ÷ CREDITS WITH CUSTOMERS*

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking groups</b>				
Value adjustments on credit ÷ Credits with customers	-244,08%	-323,69%	-270,67%	-299,33%
<b>Local Banks (BCCs)</b>				
Value adjustments on credit ÷ Credits with customers	43,55%	64,29%	70,30%	116,67%

*Source:* Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

With reference to the analysis of the profitability profile, the first ratio being surveyed is "Net interest income ÷ Net interest and other banking and insurance income". This ratio provides information on the scale of bank deleveraging. Lower values of this ratio denotes the increased ability of the bank to generate income outside traditional lending activities. In comparison with 2007, average rates highlight some differences between the two categories of banks placed under observation, particularly interesting (Table 10).

*TABLE 10: DYNAMIC PROFITABILITY INDEX: NET INTEREST INCOME ÷ NET INTEREST AND OTHER BANKING AND INSURANCE INCOME*

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking groups</b>				
Net interest income ÷ Net interest and other banking and insurance income	19,92%	1,58%	-1,37%	-0,28%
<b>Local Banks (BCCs)</b>				
Net interest income ÷ Net interest and other banking and insurance income	1,89%	-11,41%	-10,21%	-8,09%

*Source:* Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

With reference to banking groups the ratio shows an increase until 2009 and then a decrease, but with low intensity in the following years. Change rates, rather marginal, indicate how banking groups, despite the difficult economic climate, have managed to achieve in the contest of production processes of income flows, a balanced mix between money management and management of the services.

The systematic, variable rates, of negative sign recorded by small BCCs can be interpreted as inclination of local banks to extend, in the logic of relationship banking, the range of products/services offered with a mix of high-value-added services and having consultancy and innovative content; from this, more able to assist the customer's

business at a time when they face extraordinary transactions (such as services relating to placement and trading on behalf of customers).

The dynamics of ratio leads us to develop some reflections on the condition that can encourage or discourage the expansion strategies of the areas of operations (business areas) of local banks.

As Minnetti says (2013): «If financial activity favoured by the direct knowledge and continuity of relationship over time, is and will continue to represent the core business of local banks, there is the need for them to create an effective intervention space in offering innovative and complex services that is visible and recognized by the market».

Minnetti's considerations lead us to highlight plausible operating limits of local banks that prevent or slow down the implementation of strategies of diversification or deleveraging: availability of personnel with appropriate skills; availability of products/services to offer in addition to the traditional ones.

Such limits will necessarily require operational solutions, such as personal side, investment in training and search for adequate expertise to diversify business areas.

Side products/services, operational solutions specifically adoptable could lean towards a rethinking of organizational assets in favour of organizational assets of network type with aim of seeking economies of scale and economies of skills and reaching sizes that can ensure economic survival.

With reference to the advantages of banking network, it is interesting the research work by Modena and Polese (2008) offering a particular configuration of networks applied to local banks namely polycentric network.

In this particular reticular organizational structure each local bank acts as an equal partner in activities such as the designation of the government, the evolution of participation process and the release of resources.

In this system, all nodes, that is individual local banks, have the same size and maintain a reciprocal relationship with all relevant territorial and socio-economic actors.

In this framework, local banks could keep their competitive advantage compared to the larger ones, strengthen their economic situation and become a vehicle for innovation.

Continuing our analysis on the profitability profile, the second and final ratio under observation "Profit/loss for the year ÷ Net assets" measures the return on equity of the bank.

The crisis has caused a decline of this indicator either for BCCs and banking groups. (Table 11).

TABLE 11: DYNAMICS OF PROFITABILITY INDEX: PROFIT/LOSS FOR THE YEAR ÷ NET ASSETS

	Average rate of change			
	2007-2008	2007-2009	2007-2010	2007-2011
<b>Banking groups</b>				
Profit/loss for the year ÷ Net assets	-24,19%	-24,22%	-24,27%	-24,92%
<b>Local Banks (BCCs)</b>				
Profit/loss for the year ÷ Net assets	-4,88%	-16,59%	-32,81%	-16,27%

Source: Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

Excluding 2010, banking groups register a parameter contraction much more intense than BCCs. For small cooperative banks the contraction of return on equity begins to assume an alarming rate starting from 2009. In particular in 2010 the decrease is more than 30 percentage points; in 2011, the decrease was less pronounced. These empirical evidences show how the unfavourable economic situation, outlined as a result of crisis, is worrying for all types of banks surveyed. Whatever is the solution to adopt, there is no doubt that the shrinking of net interest income (lower profitability of lending activities) must be offset with the desirable increase in net interest and other banking and insurance income and in other net banking income. With reference to the analysis of the “profile of efficiency”, the ratio considered is the cost-income ratio that is “Operating expenses ÷ Net interest and other banking and insurance income”. Its reduction means that the incidence of costs, compared with the wealth produced, decreased so that the bank is more efficient.

In the years immediately following the outbreak of international crisis (and thus at the stage when it took the characteristics of a purely financial crisis, later real) banking groups show a lower efficiency; in effect, annual growth rates up to 2008, register greater percentage values with respect to BCCs. (Table 12).

*TABLE 12: DYNAMICS OF EFFICIENCY INDEX: OPERATING EXPENSES ÷ NET INTEREST AND OTHER BANKING AND INSURANCE INCOME*

	<b>Average rates</b>			
	<b>2007-2008</b>	<b>2007-2009</b>	<b>2007-2010</b>	<b>2007-2011</b>
<b>Banking groups</b>				
Operating expenses ÷ Net interest and other banking and insurance income	10,88%	-11,00%	-2,95%	-2,94%
<b>Local Banks (BCCs)</b>				
Operating expenses ÷ Net interest and other banking and insurance income	8,36%	18,77%	26,25%	20,73%

*Source:* Our elaboration on Federcasse data (BCCs) and Financial statement data (Banking groups).

Starting from 2009, when the financial crisis becomes real, banking groups see the shrinking of the incidence of their operating expenses, while BCCs recorded a progressive growth of the parameter.

The growth trend confirms the difficulty of BCCS to ensure optimal coverage of operating expenses thanks to income flows coming from trading and hedging activities (Net interest and other banking and insurance income and other net banking income); also, this empirical evidence shows how the business model of local banks, as primarily focused on traditional corporate lending and less oriented to corporate banking, underweight the offer of services with higher added value.

### **The adoption of an “integrated relationship lending” by local banks in the light of the international crisis**

The analysis of annual financial statements proposed here, in line with the emerging evidences from the literature review, has confirmed that the banks at local vocation, in the crisis years, have largely retained, if not slightly increased, their competitive position in the credit market.

The survey evidences have however highlighted some critical elements that contrast with the advantages highlighted in the review (see the second paragraph) and that are reflected inevitably on the local bank risk-return profile; such criticalities belong, in general, to the following:

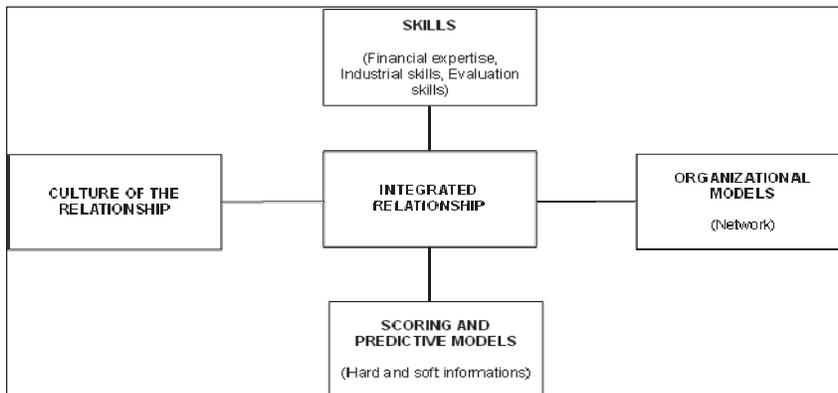
- Problematic trend of non performing loans (progressive deterioration of loan portfolio);
- Little diversified portfolio of loans and unable to optimize the risk profile;

- Low financial flexibility and low propensity to develop collection strategies more complex than those pursued;
- Scarcely adequate rating models in terms of combination hard-soft information;
- Poor range of products/services to offer to customers in addition to the traditional ones;
- Scarcity of skills and resources to develop policies for the diversification of business areas.

The proposals for improvements that emerge from this work are:

- The expansion in the range of services;
- Innovation in evaluation of creditworthiness assessment;
- Investment in training and appropriate professional recruitment to diversify business areas;
- Development of new organizational models (network building).

If small banks do not want to be crushed by the growing competitive dynamics which favour the largest banks, they will necessarily have to implement strategies to achieve a greater diversification of their business activities, considering the management culture of the relationship (namely the relationship lending approach) a strategic lever on which to focus in the redefinition of their vision and mission, to increase/to maintain their profit margins and offer that support of services and finance which identify the business of corporate banking. The following figure (Fig. 1) identifies desirable areas of strategic intervention that allow, effectively and above all rapid, the shift from business models focused primarily on traditional lending activities to business models that can promote closer integration between corporate lending and corporate banking.



*FIG. 1: AN INTEGRATED MODEL OF RELATIONSHIP (OR THE MODEL OF CORPORATE BANKING RELATIONSHIP)*

After all these considerations above exposed I wish point out that, in a context of crisis, local banks must necessarily play a role in different fields but closely related to the logic of continuing to be a solid reference point and capable for the companies they continuously operate.

As Minnetti stated (2013): «If, in fact, the lending has always been the fundamental reason for the existence of local banks, it is clear that it can be no longer the only funding for firms, especially for the dynamics ones and with potential development. Equity resources, share and bond issues on markets, structured financing operations are some of alternative funding formulas that firms could require to which the financial intermediary system, in its different components, must respond with the preparation of a package of solutions and tailored products/services».

In the same direction the Italian legislation moves. At the end of 2012 Italy has intervened to facilitate the debt instruments' issuance for SMEs (mini-bonds, commercial papers, project bonds, equity crowdfunding). In fact, with the "Decreto Sviluppo" (decr. Legge n. 83/2012) and "Decreto Destinazione Italia" (decr. Legge n. 145/2013), they have eliminated fiscal constraints that hindered the debt capital issuance by companies not listed on a stock exchange. The lawmaker's goal was to diversify the sources of financing for SMEs in order to reduce the credit crunch and their financial dependence from the banking system. Thanks to the new legislation SMEs, but not "micro-companies", are allowed to issue debt instruments with short-term (commercial paper), medium and long-term (mini-bond, project bond, equity crowdfunding).

It is clear that small banks have objective limits (cultural, skill and equity limitations) in order to start immediately business lines reentering in corporate banking, that can count on significant income flows.

But, on the other hand, they cannot remain passive and motionless in front of demands of change coming from their main customer, that is the world of SMEs.

In this sense, local banks must necessarily create shared tracks with other banks that are in the same situation by speeding up system initiatives and at the level of association to which they belong or to fix relationship of collaboration and/or partnership with specialized institutions.

Whatever the solution to adopt is, there is no doubt that local banks must play a role in the development of financial services to businesses in our country.

This on condition that the theme will be faced in an accurate, aware manner and performed adherent and functional models in accordance with the role of local bank and the milieu where the bank and the firm operate.

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#### **End Notes**

<sup>1</sup> Similar conclusions were reached by Tutino, Colasimone and Brugnoli (2012).

<sup>2</sup> A similar phenomenon was detected by Baravelli, Feliciotto, Mazzù (2002) for BCCs operating in Sicily, Italy.

## ***A Text-Analysis Approach Of Push And Pull Motivations In Heritage Festivals: Evidence From Three Italian Cases***

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### **Introduction**

Festivals are gaining an increasing relevance in the tourism sector (Getz, 2008), testified by a constant development of the offering, throughout the last thirty years (e.g., Gursoy, Spangenberg, and Rutherford 2006; Yang, Gu, and Cen 2011; Mason and Paggiaro 2012; Akhoondnejad 2016). Festivals have been also long recognized as a very effective tool for the sustainable development of entire regions (e.g., enhancing social cohesion and pride of local communities, see Saleh and Ryan 1993; Getz, 2008; Grappi and Montanari 2011; Lee 2014). Given this raising importance, marketing and tourism literature has increasingly focused on exploring festival contexts; visitors' motivations have received considerable attention (e.g., Xiang & Petrick 2006; Lee et al. 2004). This work contributes to the debate on festival visitors' motivation, by applying the push/pull factors framework to the specific context of small, local heritage festivals. A multiple case study is presented. Two contributions are provided: first, by exploring how the push/pull framework works for small, local heritage festivals, pointing out the *actual* relevance of the cultural and the location (pull) factors over more subjective, inner visitor motives (push); secondly, text analysis approaches have been used as research tools, developing an original framework of analysis.

### **Theoretical background**

The push/pull factors framework explains the existence of different kind of motives underlying the choice of a leisure destination (e.g., Dann 1977; Crompton 1979; Iso-Ahola 1982; Epperson 1983; McIntosh and Goeldner 1990). In general, 'push' factors (e.g., Crompton, 1979) are defined as those motivational factors arising from a disequilibrium in the motivational system accounting for intrinsic motivations in choosing specific leisure destinations (escape, novelty, social interaction, and prestige, etc.). Pull factors refer generally to the specific destination's features (e.g., local culture, natural attractions, physical amenities, Prayag & Ryan 2011). The push/pull framework is commonly applied in festival motivation research (e.g., Crompton & McKay 1997), but, as far as it is known, few applications exist referred to heritage festivals. In particular, for smaller heritage festivals, in which efforts are focused in creating an event with a strong cultural vocation (e.g., historical reenactment), it appears particularly useful for practitioners to understand the relationships between push/pull factors, to better appreciate the *actual* role of culture-related and location-related motives of visitors. Given the -generally- limited resources and capabilities of organizations in charge of these events, it becomes vital to understand the extent to which people are attracted either by the unique features of the event, by the unique features of the location (e.g., historical city centers), or just by leisure opportunities. Such understanding could help small organization devising more effective offerings, better focusing their resources. This study, exploratory in nature, aims to provide some initial insights toward a deeper understanding of the dynamics between push and pull factors in heritage festivals.

### **Methodology**

This work presents a multiple case study, comparing motivations of visitors in three different heritage festivals located in two north-eastern Italian regions. Three medieval events were analyzed: *Dama Castellana* (a reenactment held in Veneto region), *Tempora* in Aquileia; and *Tempus est Joucundum* in Gemona (both held in the

Friuli-Venezia Giulia region). An unstructured survey was administered among visitors, asking to freely list the five principal motivations leading them to visit the festival. For each event, at least 250 units were surveyed.

The collected data were analyzed adopting a text analysis-based methodology using the T-LAB software (v9.1). T-LAB (Lancia, 2004) combines statistical and semantic analysis techniques, and provides a wide range of tools. Given the absence of a similar work in festivals, it has been developed a piloting methodology, combining subjective criteria with some of the available software tools.

The analysis followed two methodological steps. First, the most recurring words were grouped in five major macro-groups representing the five major motivational factors (through a subjective process performed by the researchers independently). Then, the five, most recurring words were analyzed, by looking at predecessors and successors of every word.

Setting different occurrence thresholds, that is, deciding how many times a word must be repeated in the text in order to be included in the list of the most recurring words (4, 8, and 10 occurrences) allowed to exclude less significant words. As another methodological choice to ensure significance, they were included in the analysis only those keywords accounting for 80% of total word occurrences. Once groups were formed, the first five, most recurring words were considered, in order to check for the matching between the identified macro-groups of words and the five most recurring motivations in the examined texts. For these five words, predecessors and successors were identified. Finally, results of the three events were compared, looking for commonalities and/or differences in motivational factors.

## **Results**

Results suggested the importance of push motivations, even in contexts where the pull factors should be expected to be predominant (e.g., accuracy of the historical reenactment, quality of cultural contents provided). Secondly, motivations in two of the three events were tightly connected with the words “friends” and “curiosity”, indicating that the social component of the event represented the main attraction factor; this tendency was even more present in the *Dama Castellana* event. The third event (*Tempus*) presented a different hierarchy of motivations, with a huge predominance of the word “history” (a push factor in the taxonomy adopted by the study). This component can be considered as linked with the previous, social-related, words. The analysis of predecessors and successors suggested some relationships between specific characteristics of the event and cultural-related motivations. Particularly, the older the event (in terms of number of editions), and the higher the level of participant involvement in the event, the more likely participants will express culture-related motivations (quality of cultural contents provided).

## **Further research and managerial implications**

The importance of push motivations, also in contexts where the pull factors should be expected to be predominant, is well exemplified by the social/friendship factor, found as a powerful driver in visitors’ motivations. From this point of view, further research is required, in order to better understand the specific *weights* of the different motivational factors.

In an evolutionary managerial perspective of heritage festivals, it is imperative to deepen understanding of the role of push factors (e.g., social and “friendship” components), on which to develop popularity, the basic requirement of success. Once such social aggregation has been established, results suggest the need to create differentiation, through the provision of relevant and significant contents (i.e., accurate and involving historical reenactments), being able to “lock-in” participants, by providing a unique context for such social aggregation.

Moreover, the analysis of unstructured text materials through T-LAB can be seen as a tool for small cultural organizations managing festivals, to gain useful marketing and managerial insights, in a way that fits their limited resources endowments, due to the specific approach adopted, that is expected to be culturally closer to the mindset of the organizations (i.e., no statistical requirements or complex interpretation required).

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## ***Momentum Profits and Investor Behavior***

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### **Abstract**

*Profits earned from relative strength strategy of zero cost portfolio i.e. taking long position in winner stocks and short position in loser stocks from recent past are termed as momentum profits. In recent times, there has been lot of controversy and concern about sources of momentum profits, since existence of these profits might act as an evidence of earning non-normal returns from publicly available information directly contradicting Efficient Market Hypothesis. Literature review reveals conflicting theories and differing evidences on sources of momentum profits. In this paper an attempt has been made to re-examine the existing sources of momentum profits in Indian capital markets. The study focuses on assessing the effect of fundamental as well as behavioral sources in order to understand the role of investor behavior in stock returns and to suggest improvements to existing behavioral asset pricing models. The Paper adopts calendar time methodology to calculate momentum profits for six different strategies with and without skipping a month between ranking and holding period. Once the existence of momentum profits is confirmed, the paper tests the role that market risks play in existence of such profits by calculating CAPM and Fama French Three Factor adjusted profits. To test for any other sources - fundamental or behavioral, decomposition technique has been used to breakdown the profits into risk, serial auto-covariance and cross-serial covariance. The analysis confirms that investor behavior does play an important role in stock returns and incorporating both the aspects of investors' reactions in behavioral asset pricing models would help make them better.*

**Keywords:** Stock Price Movement, Momentum Effect, Investor Behavior, Under and Overreaction.

**JEL Classification:** G02, G04, G12

### **Introduction**

There exist two differing philosophies on reaction of a stock to its past returns. One, Mean Reversion (Poterba and Summers, 1988), i.e. recent past stock returns reverting to mean. This is a fundamentalist approach and comes from the concept of market efficiency, advocating that stocks with recent high past returns will observe the process of mean reversion in their prices in the longer horizon. Reason for this, as explained through Efficient Market Hypothesis (EMH), is that stock returns always revert to their mean completely reflecting available information in their prices. On the contrary, another approach is Momentum Effect, i.e. persistence of recent past performance of stocks. This viewpoint diverts from EMH and suggests that stocks continue to follow their recent past performance for a short period of time, irrespective of the available information. The effect has its roots in behavioral finance, with reasonable justifications from literature such as under-reaction to information (conservatism bias) (Campbell and Shiller, 2001; Barberis, Shleifer and Vishny, 1998), anchoring bias (Mullainathan and Thaler, 2000) and social bias (Shiller, 2003).

A wide array of research conclusively shows the presence of momentum profits in markets across the globe. Though agreeing on its presence, so far the researchers have not reached on an agreement upon the sources of momentum profits. There has been an ongoing debate on the cause of momentum profits. This paper adopts a relatively new technique from Du and Watkins (2007) to find source(s) of momentum profits that goes beyond the risk in Indian capital markets. Primary focus of this paper is on finding sources that are derivatives of inherent behavioral biases of investors.

Momentum profits are the profits earned by going long in winner portfolio and short in loser portfolio of stocks, on the basis of recent past returns (Jegadeesh and Titman, 1993). There is extensive international evidence on existence of momentum profits in a short horizon of 3 to 12 months (Rouwenhorst, 1998; Chan, Hameed and Tong, 2000; Moskowitz and Grinblatt, 1999; Hong, Lim and Stein, 2000; Lee and Swaminathan, 2000; Jegadeesh and Titman, 2001; O'Donnell and Baur, 2009; Chui et al., 2000; Sehgal and Subramaniam, 2012; Sehgal and Jain, 2011 & 2015; Valeed and Soha, 2012). There exists a number of competing theories in literature to explain momentum profits. Barberis, Shleifer and Vishny (1998), Daniel, Hirshleifer and Subrahmanyam, (1998) and Hong and Stein (1999) suggest investor's underreaction or delayed overreaction to the information being the reason. Lo and MacKinlay (1990) put forth lead-lag relationship between securities as a cause. Conrad and Kaul (1998) attribute momentum profits to risk.

Apart from the theories, there exist empirical evidences as well, for the sources of momentum profits. These empirical evidences are mixed and like theories, focus on variety of sources as a prime reason for momentum. Jegadeesh and Timan (1993) reject the proposition of risk or a reaction to common firm specific factors, suggesting behavioral factors as a possible source. However, Conrad and Kaul (1998) suggest that CAPM and Fama French Three Factor models do not account for all the risk existent in the markets. Therefore rejecting risk as a possible source just by CAPM and Fama French adjusted profits is incorrect. They further propose that if expected returns are assumed to be time invariant then unconditional mean returns of stocks can be used as estimators of their true expected returns. Based on the same assumptions Conrad and Kaul (1998) and Bulkley and Nawosah (2009) through simulation find that momentum can be explained by cross sectional dispersion in mean returns i.e. risk of the stocks. Jegadeesh and Titman (2002) refute Conrad and Kaul (1998) suggesting that they failed to take small sample bias into account and if unbiased empirical tests are performed cross sectional dispersion in risk explains no or very little of momentum. Bhootra (2011) similarly refutes Bulkley and Nawosah (2009) claiming the existence of microstructure bias in their empirical methods. Following the lines of Jegadeesh and Titman (2002), he also suggests behavioral factors as a source of momentum profits.

Gutierrez and Kelley (2008) motivated by all the controversy surrounding momentum profits attempt to re-examine them and suggest that they find significant long lasting momentum in weekly and monthly returns immediately after a brief reversal. Following these findings, Du and Watkins for their industry wise momentum profits and Ding Du for their one month and six month momentum profits adopt a different decomposition technique to find out sources of momentum once again. According to them this new technique will not only be unbiased but is also rightly applicable to the decile based strategy as proposed by Jegadeesh and Titman (1993). In the backdrop of the work of Du and Watkins (2007), we adopt their decomposition technique and have attempted to find sources of momentum profits for our six strategies. In this paper we begin with testing for the existence of momentum profits in Indian capital markets applying six short term strategies of 3/3, 3/6, 3/12, 6/3, 6/3, 6/6 and 6/12, with and without skipping a month between ranking and holding period. Following that, in the quest to find sources, this paper attempts to test for risk as a possible source by finding CAPM and Fama French Three Factor adjusted profits and then using DW decomposition technique tries to find possible sources of momentum in Indian capital markets.

The remainder of the paper is organized as follows: Section 2 describes the data and methodology. Section 3 examines the results of empirical analysis. Section 4 concludes the outcome of the study.

## **Methodology**

### **Data**

Stock price data of 500 companies comprising BSE 500 index has been taken from BSE archives. Reason for taking these companies is that they cover almost all major industrial sectors and account for almost 98% of the trading volume in Indian capital markets, thus providing us with a representative picture of the stock market.

Monthly returns have been calculated for all companies for the period of January 1998 to October 2015. Only stocks with available past R months returns qualify for the strategy.

### **Testing for Momentum Profits**

The calculated returns have been utilized in executing the momentum strategies under study. An R/H strategy means R months of ranking period and H months of holding period. At the beginning of each time period, all the stocks are ranked and sorted in descending order on the basis of past R month's average returns. Then decile are formed from the sorted list, such that upper decile consisting of stocks with highest returns forms winner portfolio and bottom decile having stocks with lowest returns forms loser portfolio. After that loser portfolio is sold and winner portfolio is bought forming a zero cost investment portfolio which is held for the next H months. The process is repeated for the entire period under study. To increase the accuracy of our strategies and avoid overlapping returns calendar time methodology utilized by Jegadeesh and Titman (1993) has been employed. Under this methodology, at the beginning of each month t stocks are ranked and held for next H months, in such a manner that at any given point of time we have H overlapping winner and loser portfolios, ranked from t-1 to t-H months. At the end of study period returns of both winner and loser portfolios are calculated by taking equally weighted average across all months. Following which profit, Long Minus Short (LMS), is calculated as net of winner (Long) and loser (Short) portfolio returns.

### **Finding Sources of Momentum**

Having found the presence of momentum in Indian capital markets, the paper now further attempts to find possible sources of momentum. Primarily researchers have advocated three different sources of momentum, One is dispersion in unconditional mean that is attributable to risk, second is serial correlation i.e. auto co-variances between stocks present return and past returns attributable to the under reaction or delayed overreaction to the firm specific information, and third is Cross serial correlation i.e. is co-variances between stocks present return and other stocks past returns attributable to the lead-lag relationship. In literature different researchers suggest different sources as the main cause. Conrad and Kaul (1998) suggest dispersion in unconditional mean returns explains momentum profits; Barberis, Shleifer and Vishny (1998), Daniel, Hirshleifer and Subrahmanyam, (1998) and Hong and Stein (1999), suggest positive serial correlations showing the under reaction or delayed overreaction as the main cause of momentum profits; Lo and MacKinlay (1990), resorts to the lead-lag relationship and put forth cross-serial correlations as the main cause; Jegadeesh and Titman (1993 and 2002) and Bhootra (2011) suggest behavioral factors as the cause and reject any assumptions of risk being the source; Ding Du (2012) uses DW decomposition technique and finds that US markets unconditional mean dispersions does explain momentum profits partly, and a reasonable portion of momentum profits is explained by cross serial correlation. However, they find presence of negative serial correlations and suggest that a reaction to firm specific information does not seem to affect future returns positively.

The paper tests the sources in two phases: first by testing the effect of risk as a possible source and second by employing a technique adopted from Du and Watkins (2007) that decomposes momentum profits into different sources, is free from small sample and micro-structure biases and is rightly applicable to the decile based momentum strategies employed in the paper.

### **Testing Risk as a possible source**

Researchers like Conrad and Kaul (1998) and Bulkley and Nawosah (2009) have talked about risk or dispersion in mean returns as the primary cause of momentum based profits. CAPM and Fama French Three Factor

are two most popular models for calculating expected returns based on different market risks. In order to test for risk as a possible source; CAPM and Fama French Three Factor adjusted momentum profits have been calculated and tested for the significance using Newey West HAC standard error t-ratios. The CAPM adjusted returns are calculated by regressing LMS profits with excess market return to find CAPM beta or risk factor using equation 1 and then removing the effect of market risk from LMS profits using equation 2.

$$LMS_t = const + \beta_m M_t + \varepsilon_t \quad (1)$$

Where  $M_t$  = excess market return at time t and  $\beta_m$  = CAPM beta or market risk

$$LMS_{adj} = LMS_t - \widehat{\beta}_m M_t \quad (2)$$

Similarly Fama French Three Factor adjusted returns are calculated using equation 3 and 4, shown below.

$$LMS_t = const + \beta_m M_t + \beta_s SMB_t + \beta_v HML_t + \varepsilon_t \quad (3)$$

Where  $M_t$  = excess market return at time t

$SMB_t$  = Small Minus Big (Fama French Size Factor based on market capitalization) at time t and

$HML_t$  = High Minus Low (Fama French Value Factor based on book-to-market ratio) at time t.

Also,  $\beta_m$ ,  $\beta_s$  and  $\beta_v$  are risk factors for market, size and value respectively.

$$LMS_{adj} = LMS_t - \widehat{\beta}_m M_t - \widehat{\beta}_s SMB_t - \widehat{\beta}_v HML_t \quad (4)$$

### Decomposition of momentum profits

Considering a general momentum strategy with R months ranking period and H months holding period, there are H portfolios under consideration at any given point of time. DW notes the similarity between Lo and Mackinley (1990) and Jegadeesh and Titman (1993) strategies and suggests that Jegadeesh and Titman (1993) momentum profits should depend on:

- Positive auto-covariance between the month-t return and the lagged H-month return.
- Negative cross-serial covariance at the same horizon.
- Dispersion in mean returns.

As per Jegadeesh and Titman (1990) strategy, expected profit in month t, E ( $LMS_t$ ) can be written as:

$$E(LMS_t) = E \left[ \frac{1}{n} (\sum_{i=1}^n L_{i,t} - \sum_{i=1}^n S_{i,t}) \right] \quad (5)$$

Where n is the number of winners (losers) in each month,  $L_{i,t}$  is the return of a winner asset in the investment period, and  $S_{i,t}$  is the return of a loser asset in the investment period.

The direct decomposition of portfolio returns into the three aforesaid components appears very difficult. However, DW suggest a turnaround for this problem, by first decomposing individual asset returns ( $L_{i,t}$  and  $S_{i,t}$ ) into three components and then utilizing equation (5) to get the components for portfolio return. For this purpose the following DW suggested regression equation is used:

$$r_{i,t} = \mu_i + \rho_i r_{i,t-1}^k + \varepsilon_{i,t} \quad (6)$$

Where  $r_{i,t}$  the return of asset  $i$  in month  $t$ ,  $\mu_i$  is the unconditional mean of asset  $i$ ,  $r_{i,t-k}^k$  is the cumulative return of asset  $i$  from month  $t-k$  to  $t-1$ , and  $\varepsilon_{i,t}$  is a zero-mean disturbance term.  $\rho_i$  by construction is the auto-correlation coefficient between the month- $t$  return and the lagged  $k$ -month return (i.e.  $\rho_i = cov(r_{i,t}, r_{i,t-k}^k) / var(r_{i,t-k}^k)$ ).

As DW suggests, because  $\mu_i$  is the unconditional mean of asset  $i$ ,  $\mu_i$  represents the return component due to the unconditional mean. Because  $\rho_i$  is the auto-correlation coefficient between the month- $t$  return and the lagged  $k$ -month return,  $\rho_i r_{i,t-k}^k$  represents the return component due to the auto-covariance between the month- $t$  return and the lagged  $k$ -month return.  $\varepsilon_{i,t}$  is net of the effects of the unconditional mean and auto-covariance between the month- $t$  return and the lagged  $k$ -month return. Therefore, if  $\varepsilon_{i,t}$  can generate momentum profits, it should be due to the cross-serial co-variances among assets that are not included in the model but included in the return. Thus, according to DW an asset return can be seen as consisting of three components for the purpose of momentum profit decomposition,

$$r_{i,t} = R_i + A_{i,t} + C_{i,t} \quad (7)$$

Where  $A_{i,t} = \rho_i r_{i,t-k}^k$  and  $C_{i,t} = \varepsilon_{i,t}$ .  $A_{i,t}$  is the return component due to the auto-covariance and  $C_{i,t}$  is the return component due to the cross-serial co-variances among assets. Though  $\varepsilon_{i,t}$  may contain effects of other sources of momentum profits it can be seen as a component due to cross-serial covariances. On applying equation (7) decomposition strategy to equation (5) we get,

$$L_{i,t} = R_i^W + A_{i,t}^W + C_{i,t}^W \quad (8)$$

$$S_{i,t} = R_i^L + A_{i,t}^L + C_{i,t}^L \quad (9)$$

DW then decomposes momentum profits into three components utilizing equations (5), (8) and (9) as follows:

$$E(LMS_t) = R + A + C \quad (10)$$

Where,  $R = E \left[ \frac{1}{n} (\sum_{i=1}^n R_i^W - \sum_{i=1}^n R_i^L) \right]$ ,  $A = E \left[ \frac{1}{n} (\sum_{i=1}^n A_i^W - \sum_{i=1}^n A_i^L) \right]$ ,  $C = E \left[ \frac{1}{n} (\sum_{i=1}^n C_i^W - \sum_{i=1}^n C_i^L) \right]$

Therefore, the underlying return-generating process for momentum stocks (i.e. winners and losers) can be written as:  $r_{i,t}$  = unconditional mean dispersion + return predicted by its own past return + return predicted by past returns on other stocks

From equation (10) advantage of DW technique can be seen, as it only requires expected return estimator to be unbiased and not for the cross sectional variance of sample mean returns to be an unbiased estimator of the cross-sectional variance of true expected returns; thus enabling an unbiased decomposition of momentum profits.

## Analysis and Findings

### Momentum Profits

To test the presence of momentum in stock returns in short horizon, in Indian capital markets, six short term strategies have been employed. Strategies are, 3/3, 3/6, 3/12, 6/3, 6/6 and 6/12. The empirical findings of the raw momentum profits obtained under each strategy are listed in Table 1 (without skipping a month between ranking and holding period) and Table 2 (with skipping a month between ranking and holding period) along with their t-ratios in brackets. The t-ratios are calculated based on Newey West HAC standard errors with lag value set to 12, to test the statistical significance of our resultant profits.

TABLE 1: WITHOUT SKIPPING

	<b>3/3 months</b>	<b>3/6 months</b>	<b>3/12 months</b>	<b>6/3 months</b>	<b>6/6 months</b>	<b>6/12 months</b>
<b>Long</b>	0.02966 (3.67)	0.02969 (3.51)	0.028 (3.53)	0.032 (3.4)	0.03084 (3.29)	0.02781 (3.29)
<b>Short</b>	0.01815 (2.12)	0.01937 (2.48)	0.02094 (3.17)	0.01584 (1.93)	0.01825 (2.46)	0.02047 (3.2)
<b>LMS</b>	0.01151 (2.95)	0.01032 (2.56)	0.00705 (1.86)	0.01616 (2.86)	0.01259 (2.12)	0.00734 (1.46)

TABLE 2: WITH SKIPPING

	<b>3/3 months</b>	<b>3/6 months</b>	<b>3/12 months</b>	<b>6/3 months</b>	<b>6/6 months</b>	<b>6/12 months</b>
<b>Long</b>	0.02846 (3.37)	0.0283 (3.31)	0.02654 (3.37)	0.03087 (3.23)	0.03001 (3.14)	0.02658 (3.2)
<b>Short</b>	0.01831 (2.17)	0.01903 (2.47)	0.02123 (3.24)	0.01602 (1.98)	0.01846 (2.49)	0.02094 (3.26)
<b>LMS</b>	0.01015 (2.82)	0.00927 (2.21)	0.00531 (1.44)	0.01484 (2.58)	0.01154 (1.84)	0.00563 (1.15)

Out of all the strategies (without skipping and with skipping) one with 6 months ranking and 3 months holding period, having 1.62% and 1.48% monthly return respectively, proves most successful. However, all the strategies under study yielded a profit. This shows that momentum effect is present in Indian capital markets and making profits through momentum is very much possible. Though it is higher for a shorter horizon of 3 months holding and seems to overcome contrarian effect well below 4 weeks. Therefore strategies skipping a month yielded lower returns to their respective strategies without skipping a month. To test exactly when momentum effect takes over contrarian effect the strategies need to be tested by skipping a time period less than a month.

### **Risk as a possible source**

Using the data for excess market returns, SMB returns, HML returns from IIM A working paper no. 2013-09-05, first LMS profits were regressed, once with excess market returns to obtain CAPM beta and then with all the three returns to obtain Fama French Three Factor betas. After that the risk adjusted LMS returns and their t-ratios were obtained. Details of the results obtained without skipping and with skipping are respectively shown in Table 3 and 4 below.

TABLE 3: WITHOUT SKIPPING

	3/3 months	3/6 months	3/12 months	6/3 months	6/6 months	6/12 months
<b>LMS (Raw)</b>	0.01151 (2.95)	0.01032 (2.56)	0.00705 (1.86)	0.01616 (2.86)	0.01259 (2.12)	0.00734 (1.46)
<b>LMS (CAPM Adjusted)</b>	0.01315 (3.1)	0.00978 (2.43)	0.00707 (2.07)	0.01147 (1.99)	0.01130 (2.07)	0.00599 (1.34)
<b>LMS (Three Factor Adjusted)</b>	0.01290 (3.08)	0.00878 (2.25)	0.00679 (2.08)	0.01033 (1.85)	0.00960 (1.87)	0.00458 (1.09)

TABLE 4: WITH SKIPPING

	3/3 months	3/6 months	3/12 months	6/3 months	6/6 months	6/12 months
<b>LMS (Raw)</b>	0.01015 (2.82)	0.00927 (2.21)	0.00531 (1.44)	0.01484 (2.58)	0.01154 (1.84)	0.00563 (1.15)
<b>LMS (CAPM Adjusted)</b>	0.01215 (3.49)	0.00998 (2.46)	0.00598 (1.79)	0.01249 (2.3)	0.01062 (1.94)	0.00471 (1.09)
<b>LMS (Three Factor Adjusted)</b>	0.01225 (3.45)	0.00971 (2.44)	0.00597 (1.84)	0.01218 (2.29)	0.00892 (1.74)	0.00332 (0.81)

From the above we see that momentum profits hardly gets affected, in fact gets increased, and are still statistically significant even after adjusting for risk. It is clear that risk plays no role in existence of momentum profits and can be rejected on the basis of two most popular models (CAPM and Fama French Three Factor) for returns based on risk.

### Sources of Momentum

For decomposition of profits data from section 2 is used and employing equation (6) has been applied to all the winner and loser stocks as per both 3 months and 6 months strategies. Then equation (10) has been utilized to find three sources of momentum profits for portfolio returns. Table 5 below provides details of the obtained results of the sources.

TABLE 5: DECOMPOSITION RESULTS

	<b>3/3 months</b>	<b>3/6 months</b>	<b>3/12 months</b>	<b>6/3 months</b>	<b>6/6 months</b>	<b>6/12 months</b>
<b>Net</b>	0.01151	0.01032	0.00705	0.01616	0.01259	0.00734
<b>R</b>	0.00884	0.00752	0.00313	0.00638	0.00427	0.00428
<i>%age</i>	76.79%	72.89%	44.32%	39.49%	33.89%	58.35%
<b>A</b>	0.00669	0.0025	0.0009	0.0129	0.00877	0.00491
<i>%age</i>	58.12%	24.23%	12.71%	79.87%	69.62%	66.90%
<b>C</b>	-0.004	0.0003	0.00303	-0.0031	-0.0004	-0.0019
<i>%age</i>	-34.91%	2.89%	42.97%	-19.35%	-3.51%	-25.26%

From decomposition results, it is evident that momentum profits have multiple sources (risk, auto-covariance and cross-serial covariance) instead of just one. It is also evident that all the three sources explain a considerable portion of momentum profits. Contrary to the observation made in risk adjusted profits above, it is observed that risk does play an important role in momentum and therefore cannot be ignored on the basis of just CAPM and Fama French models. This concurs with the suggestions of Conrad and Kaul (1998) that CAPM and Fama French Three Factor models do not cover all the risks present in the market and therefore rejecting risk as a possible source only on the basis of these two models, as suggested by Sehgal and Jain (2015) and Valeed and Soha (2012) is incorrect. However, risk only partly defines momentum and cannot be labeled as a primary reason for the profits. Behavioral sources such as under and delayed over-reactions and lead-lag relationships are also important contributory factors. Therefore, concurring to the findings for US markets by Barberis, Shleifer and Vishny (1998), Daniel, Hirshleifer and Subrahmanyam, (1998) and Hong and Stein (1999), behavioral factors such as investor under reaction or delayed overreaction does play a role in existence of momentum profits in Indian capital markets. Even though values of C might contain effect of other sources, its large value clearly shows that cross serial correlations plays an important role in momentum profits. Therefore, it is also important to understand the effect of other stocks' returns on returns of stock under study.

## Conclusion

Momentum anomaly has been long talked about in finance literature since Levy (1967) who claimed a trading rule for abnormal returns. Jegadeesh and Titman (1993) brought momentum effect back into discussion by showing that it overpowers contrarian effect for the period following 1 to 4 weeks immediately after portfolio formation and proves profitable until 3 to 12 months of holding. Thereafter large numbers of researchers have observed momentum effect in market around the globe. Some researchers also tried to attribute these momentum profits to a variety of sources such as risk, serial correlation and cross serial correlation. It is observed from the study that momentum profits does exist in short horizon in Indian capital markets, though differ in value for each

strategy (3/3, 3/6, 3/12, 6/3, 6/6 and 6/12). Also noted that 6/3 strategy was most profitable for both with or without skipping. After establishing the presence of momentum profits, risk adjusted profits on the basis of CAPM and Fama French Three Factor models were calculated to check for risk as a possible source of momentum profits. From the results it is evident that risk cannot qualify as a source for momentum. Post that, DW decomposition technique was employed in order to find the various sources of momentum profits in Indian capital markets and further check upon risk as a possible source. The result of decomposition suggests that momentum profits have multiple sources. On the basis of decomposition results rejection of risk as a possible source was found incorrect. All the three sources: risk, auto-covariance and cross-serial covariance define a fair portion of momentum, therefore demand attention. Existence of auto-covariance's and cross serial co-covariance's role in momentum profits indicates that behavioral influence cannot be rejected and it further confirms that existence of momentum hints towards the inefficiency of markets. Also, from the above findings, it is clear that the focus on investors' reaction to information available for other stocks is important and incorporating this into behavioral asset pricing models will definitely improve the predictive accuracy of such models.

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## ***The Eurozone Crisis: Not The Global Financial Crisis But Its Own Governance Is Responsible***

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### **Abstract**

*The paper deals with some experiences as gathered from our research in the area of the European Integration within the EU in general and with the current handling of the ongoing global economic and financial crisis in particular by the Union itself. That in addition to various other negative impacts on the Internal market and the overall macro and micro economic development in the EU has brought with itself also a direct threat to the very existence of its common currency Euro. The paper in more details presents some of the main reasons for these negative development and impact on Euro that are mainly the internal problems of the Eurozone governance. In principle they started right when the Euro has been launched, as the Maastricht criteria were met in full only by two out of twelve initial Eurozone members. In conclusions, the paper contains also some proposals for removing existing problems and thus creating also one of the main preconditions for the more sound and efficient economic development on the macro and micro levels in the Eurozone and the whole EU. First of all in case of the Euro it is unconditional respect to the Maastricht criteria without that the Eurozone will be in a real threat to demising sooner or later.*

**Keywords:** Euro, Eurozone, PIGS countries, Maastricht criteria, Maastricht Treaty, Quantitative easing.

### **Introduction And Why In Particular Euro Has Been So Negatively Effected by The Global Financial Crisis**

Regarding the still ongoing deep crisis in the Eurozone first of all, it is important to realize that the entire process of preparation and implementation of Euro has been a long term process that has originally started as an integral part of the process of the development of the European Economic and Monetary Union (EMU). In view of this relatively complicated inception of Euro as a common EU currency, it is important to take into account also the fact that the first initial steps towards future common currency have been laid down by the so-called Werner Plan yet in 1971. It was in order to overcome at that time threatening currency crisis that led to abolition of until that time existing a system of stable exchange rates among major world currencies. As a result, finally the ECU – European Currency Unit was introduced as a special currency unit that was not existing as a real currency but was serving as a kind of some financial and accounting and non-cash unit. However, only after 17 years in 1988 the European Council has adopted a strategy of gradual introduction of a true and real common European currency within the framework of the Economic and Monetary Union and on the basis of the so-called Delors Report in three relatively independent stages:

1) This first stage of 1 July 1990 – 31 December 1993 was marked by an abolition of any limitations on the free movement of capital within the EU. During this period on 7 February 1992 also the so-called Maastricht

Treaty on the European Union has been signed that among others adopted also the famous Maastricht convergence criteria that are serving as the basic criteria for EU member states to become eligible for entering into the European common currency that at that time had not yet had its official name.

2) Again with some delay the second stage 1 January 1994 - 31 December 1998 has introduced some institutional provision for the future common currency viz. the EMI - European Monetary Institute. During this stage also the name of the future common currency i.e. Euro has been approved in December 1995. After another year, in December 1996, the design of future Euro banknotes and coins has been approved and in June 1997 the so-called Stability and Growth Pact has been adopted as the necessary precondition for adoption of the future common currency.

However, the most important outcome of this stage has been the decision made by the Council of the EU that on the 2<sup>nd</sup> May 1998 has - although unanimously - adopted for the fate of the future Euro a rather controversial decision that altogether 11 EU member states are “meeting” the Maastricht convergence criteria and thus they are eligible for adoption of Euro since 1 January 1999. With the effect of 1 June 1998 the EMI has been replaced by the ECB – European Central Bank as the central institution being responsible for Euro as the new EU common currency.

3) The third, last and the most important stage in Euro preparations and implementation started on 1 January 1999. On that date, the mutual exchange rate system among the particular currencies has been unchangeably fixed up. What as it has been proved later was not the most favourable decision for the new common currency as it has thus fixed up also some differences in economics of the member states and thus putting some of them into somehow permanent disadvantageous position. Since that date, also the Euro has become the official “common” currency of the EU for 12 EU member states including the latest entrant i.e. Greece. They adopted the new common currency Euro on 1 January 2002. On that date also again by a certain paradox - with the three years delay after the date when the Euro has become the official currency of the EU - finally also the new Euro banknotes and coins have been put into real circulation and practical utilization.

In conclusion to this historical overview of the Euro inception and implementation it is important to realize, that if such a process lasts for so long, as it was in the case of Euro for more than thirty years from 1971 to 2002, there are possible two variants of the final outcome. The first one is that the product of such a long term preparation would be something absolutely perfect and fully functional. Unfortunately, as we have been witnessing it is not the case of the Euro and the Eurozone. The Euro case is the typical example of the second possible variant i.e. that the final product i.e. in this case the Euro and the Eurozone is the result of many compromises, exemptions, “double standards”, etc. as we are going to document that in the following parts of this paper.

### **Some Main Problems and Weaknesses Of The Preparation and Implementation of the EU Common Currency**

In a brief summary, the main problems and weaknesses of Euro due to its above complex and long preparation and many surrounding controversies have been as follows.

The entire process of preparation and implementation of Euro as a common currency has been too long, it was lasting for more than 30 years since inception of the Werner Plan so the momentum of the new currency has been during those years to some extent lost especially as far as the citizens of the EU are concerned with a quite natural question – if it is so complex and complicated and with so many compromises what is it all good for.

In spite of such a long preparation, one of the biggest systems shortcomings of the new common currency has been the fact that due to above longevity and complexity of its inception, it has been prepared only as a special currency in the form of common banknotes and semi-common coins but without any harmonization in the fiscal and

other related policies. So from the very beginning it was only a common currency in circulation but not in any of at least elementary fiscal especially taxation common policy. Due to this fact the Euro in different member states countries has very different “value” so to achieve one of its main objectives i.e. mutual comparability of prices in different countries is absolutely impossible.

Another important negative aspect of the new currency has been an unclear and confusing institutional provision and responsibility for the new currency. In addition to the ECB – European Central Bank as the main regulating and control authority for Euro it is also the shared responsibility of all central banks in all Eurozone member states what in practice means that there is a natural space for a kind of irresponsibility in taking a due care for their common currency. This inconsistency has come up and been manifested in full only since the beginning of the global financial and economic crises when all countries instead of their common approach to protect Euro started mainly to protect their own national interests through various national “initiatives” like e.g. a “scraping car bonus”, etc. And it has been so since the very beginning of Euro although not so much demonstrated as after the outbreak of the crisis. Otherwise, it could not happen that the catastrophic situation with public finances in Greece has been “discovered” only after more than 10 years since introduction of the Euro as a common currency and after “permanent and systematic” monitoring of the Maastricht criteria strict observance. And this is not only the grave mistake and irresponsibility of the ECB, but also all other institutions that are responsible and/or co-responsible for controlling macroeconomic performance and in particular Maastricht criteria like it is in case of the European Commission but also the Eurostat and to some extent also the European Parliament.

The Maastricht Treaty has had at least on “paper” very demanding, strict and obligatory so-called Treaty obligations i.e. criteria to be met not only by applicant countries in order they could become eligible for becoming the Euro club and/or the Eurozone members but also by permanently by all Eurozone members. In failing to do so it has been possible to punish the particular country by adequate fines as applied towards violators of any part of the treaty or any other part of the EU legislation. But unfortunately from the very beginning the interpretation of the Maastricht criteria in practice and requirements for their permanent observation has been very controversial, full of double standards etc. What finally led to the current deep crisis of Euro not because the global crisis but mainly due its internal controversies we have just presented.

### **The Key Problem of Euro: “ The Double Standards” In Meeting The Maastricht Criteria**

As mentioned in the end of the previous part, one of the main deficiencies of Euro as a new common currency of the EU has - in addition to some others as described above – been a not very systematic handling and application of the so-called Maastricht convergence criteria. As the key selection criteria on eligibility or non-eligibility of the applicant country for joining the Eurozone they were supposed to play the key role in selecting future Eurozone member countries and also in achieving a permanent stability and strength of Euro. Basically, those criteria as the Treaty duties and obligations should not allow any different interpretation and/or derogations in case of the Eurozone applicant countries.

The following specific convergence criteria (in addition to some more general criteria on macroeconomic stability, etc.) have been adopted and have become a part of the Maastricht Treaty:

- price stability and/or inflation – not more than 1.5% above the level of three best performing EU member states
- state budget and/or government deficit – not exceeding 3% of the GDP
- the ratio of total government debt to the GDP shall not exceed 60%
- the interest rate should not exceed by more than 2% those of three best performing countries in the above inflation for at least one year before the examination
- participation in the exchange-rate mechanism of the EMS for at least two years without any fluctuation above or below that mechanism.

As usual in the EU by a certain unwanted paradox, the biggest problems to meet these criteria had had those countries like Germany or France that were most demanding in their most tough and demanding formulation. In order to meet them, they finally had to resort to various (temporary) not-so-clear measures in order to pass through them and qualify themselves for becoming future Eurozone members. It had to be made clear to them that a “successful finish” could not on a long term basis secure their non-problem participation in the Eurozone as according to the Treaty terms. All these criteria must be met on a permanent basis. Otherwise, a violating country would be severally punished by a high financial penalty to be paid for the entire period of non compliance.

In spite of all various measures often being on the threshold of unfairness, eleven EU member states “met” these criteria but...

The detailed analysis of their performance in the decisive period before the adoption of Euro shows that in full these criteria were met only by 3 (three!?) out of “eligible” 11 EU member states:

- France, but it had also some big problems and needed some “innovative” solutions in revaluation of their gold reserves in order to meet the criterion on the budget deficit, but finally has not succeeded in their sustainability
- Finland (?)
- Luxemburg (?).

Again by a certain paradox we may see that among those three countries meeting the Maastricht criteria in full was missing also the country considered to be a main economic engine of the EU and the proponent of the most though formulation of these criteria (namely Germany?!)

It is evident that such a composition of three only member states – moreover two of them too small for being considered even as a representative sample or prototype of any future common currency - could not represent the first group of the users of the future EU “common” currency. Hence, in interpretation of individual criteria were finally and again as usual in the EU adopted such various supporting clauses existing in the Treaty as the last resort that made them eligible even in cases that their total debt (on these criterion otherwise failed altogether 7 out of 11 “eligible” countries) exceeded the limit of 60% of the GDP by almost 100% and was hovering on the levels of 113-116 % like in case of Italy and Belgium! But could one imagine that the top representatives and thousands of well paid employees of the most important EU institutions stationed in Brussels would be paid in Belgian francs (~~Franks~~) instead in their ”own” new common currency – Euro?!

Hence, finally the selection of eligible countries was a process of various politically and otherwise motivated compromises that enabled to choose those 11 “eligible” countries and later on also Greece as the 12<sup>th</sup> Eurozone first members, that “met” Maastricht criteria or as one of “saving” clauses stated “demonstrated that any exceeding above the reference level was only exceptional and temporary and the ratio remains close to the reference value ...”.

With the difference of more than ten years since those “temporary... exceptional...close to be...” exceptions were used, we could state that most of them remain until now almost on the same high levels as when they were approved. What has changed it was the fact that some additional problems with other criteria have just appeared. Hence for some time there was the strong general tendency to soften some criteria as they are too tough, rigid and as such “breaking” any sustainable economic development in the Eurozone member states. These tendencies have intensified especially when also France and Germany started to have serious problems with keeping their budget deficits within the required limit of 3% of the GDP. As it was already problem of two main engines of the EU it is not surprising that finally not those two “EU engines” were punished by the severe financial penalties but... the particular criterion was... somehow softened exceptionally for them but not e.g. for new applicants for Euro from the NMS – New member states?! They have to meet original Maastricht criteria in full and on permanent basis.

In order to finish this part on some different application of the Maastricht criteria – otherwise typical approach in the EU - we dare to add only that only Greece originally was used as an example that the EU authorities concerned were very consequent in demanding the meeting of the Maastricht criteria. Thus in this only case, they clearly demonstrated that Maastricht criteria are not a rubber ones that could be somehow adjusted to any not properly performing countries. Later on, Greece had to meet all criteria in full in order to become the 12<sup>th</sup> member of the first Euro group of states that introduced the “real” Euro on 1 January 2002, This Greece case is a difference to some other much bigger states that even until now have not managed to reduce their enormous exceeding of their total debts as it is in the case of Italy or Belgium, but...Also now, during the critical situation with Euro, mostly only Greece is singled out as an example of a country that has not been respecting its obligations towards Euro. As the only country that has been carelessly manipulating with the indicators on the Maastricht criteria and with other important macroeconomic indicators while some other countries not being much better than Greece like e.g. Italy, Spain, Portugal, but also Ireland are mostly not mentioned at all or only very marginally?! For example in case of Italy, it has in more than ten years not managed to reduce its total debt at all as now it is much higher than in time it has joined the Eurozone. Although it has been accepted to the Euro zone on the basis that it has been showing a positive development in this respect but now Italy’s total debt has been over 135 per cent?! Hence, where has been that positive development is not clear even until now!

Hence there is an immediate question where have been all those already mentioned regulatory and control institutions of the EU like the ECB, EC, EURSTAT, EP that they in more than 10 years have been unable to discover violators of the Maastricht criteria not only in case of Greece but also all others?! But, unfortunately also in the EU, it is true that we all are equal, but some are just “more equal” especially if you are big and strong enough country.

These and various other criteria and “criteria” for Euro are on the other hand in some sharp contrast with the real situation in using Euro, that in addition to the EU member states has already been used instead of national currency in numerous states that are not EU members and have not met any Maastricht or other criteria as e.g. it is in case of Monaco, Andorra, San Marino, Vatican (even with a special privilege to mint its own Euro coins?!). However, also some other countries that are even not EU neighbours like Montenegro or Kosovo are also Euro “users” in Europe. All these and some other cases have of course, nothing to do with any monetary or other common policy of the EU, it is just a politics and towards a tourism business oriented tolerance, if we realise that the set of Vatican coins with the face value of 3.88 Euro is possible to buy in the souvenir shops for only not less than 400-500 Euro?! Quite a good business isn’t it?! However, definitely it is unfair and discriminatory towards the EU own, especially new small members that have to meet without any derogations all Maastricht criteria and prove also its sustainability, while its own big members did not need that and the same also those external states-users of Euro like e.g. Kosovo or Montenegro. Although, in some respects, they are bigger than some of the smallest Eurozone member states like Malta, Cyprus but also Slovenia.

### **Current Controversial “Quantitative Easing” And “Troika” Restrictions Are Not Solutions And Could Finally Lead To The Demise Of the EU “Common” Currency and The Entire Eurozone**

After such a complicated and often controversial development, a careless regulatory and control mechanism from the side of the particular EU institutions led by the ECB and the EC, it is no surprise that the Euro has been so negatively effected by the ongoing global economic and financial crisis. At the beginning, on one side especially from the side of Germany there was originally no intention to help Greece to get out from the crisis under the slogan that German workers would be not working till the age of 65, in order the Greeks could retire as early as at the age of 55 with many extra benefits, perks, etc. There was forced an opinion that the EU is a market economy with the rules also for bankruptcy that should be applied not only in the case of unsuccessful companies but also of states. But soon after, when it has been finally discovered or at least publically admitted that Greece is not the only member state of the Eurozone being on the verge of bankruptcy and that most of so-called “toxic” loans to Greece

were quite logically from big German and French banks of up to estimated 200 billion Euro?! Due to this fact, the general strategy of the EU towards Greece has been completely changed.

Saving Greece and thus also Euro and Eurozone has become a case of the EU solidarity and mutual help as it has been enshrined in the basic Treaties. It is pity that it is applied only very selectively and mostly in case when big members feel to be threatened and not also towards small new member states regarding e.g. a free movement of their citizens, CAP – Common Agricultural Policy subsidies, etc. And so on and so forth. For example (?...)

Finally, after many heating debates, the EU leaders at new and new “summits” that already totally lost their exceptionality, have come to the plan to save and help to Greece and to prevent anything similar in the future by adopting to main instruments in this respect like i.e.:

- A massive loans to Greece in exchange to substantial macroeconomic reforms
- A so-called permanent “Euro Wall” i.e. a large fund that in the future could be used immediately in similar cases to help to any Euro member states in case of similar crisis.

But again it would not be the EU if again also this plan would not be creating some controversies. The first is that the sources for both of them were sought not where the problems were made but under the false and often otherwise overlooked principle of “solidarity”. Hence, again it was sought within all members of the Eurozone and of course without any kind of direct accountability for this disastrous situation of Euro. Only in such a way it could happen that e.g. for the particular “Euro Wall” originally, it was proposed that the Eurozone countries would have to contribute to that by the different per cents of their GDP.

In such way only it could happen that e.g.:

- Slovakia that is by far one of the poorest country in the Eurozone with only the GDP per capita 21,245 USD has had to contribute by one of the highest percentage of the GDP although it has been in the Eurozone only about one (!) year after the outbreak of the crisis so in this respect it could not made any harm to Euro
- Luxemburg as the richest member with the GDP per capita 78,395 USD has allocation only 2.80% although it has been a founding member of the Eurozone and thus also directly co-responsible for the ignorance of the Maastricht criteria from their very start. Although it is also true that it is only one of 2-3 countries that really and fully met the Maastricht criteria from scratch
- Even more interesting are the cases of those who on the long-term basis and from scratch have been and still been violating the Maastricht criteria without any punishment. Hence, one would be expecting that at least in this case they would be allocated by a proportionally high contribution to this fund that to the large extent has to be created mainly due to their irresponsibility but... As we may see the contributions of Greece, Italy, Belgium, Spain as the main culprits in this respect but also France and Germany as the main architects of the Euro are only between 4.44 – 5.02%. By a certain paradox these limiting figures are also regarding Belgium and Italy that since inception of Euro have been violating the total debt within the Maastricht criteria still by around 100%! And of course they GDP per capita is between 29.109 in case of Italy to 35.422 USD in case of Belgium.

What is even more interesting, it is the fact, there was taken absolutely no action in this respect towards the EU institutions that are paid by EU citizens/tax payers like the EC, EP, ECB, EUROSTAT etc. as they have directly been responsible for controlling member states regarding their meeting of Treaties obligations and the EU legislation requirements in full and without any derogations. If this were the case also regarding Euro and the Maastricht criteria there would not be needed any Euro Wall. Such and really a huge Fund of collected fines from the violating member states would have been completely full after their long years of irresponsible disrespect to the Maastricht criteria. But it could not be the case of the EU being infamous for its special interpretation of the Treaty duties, responsibilities, expected “solidarity” and generally applied “double standards”, etc.

As a result, all above EU institutions have not been anyhow negatively effected by their irresponsible behaviour towards Euro and the Eurozone governance. There have been taken no personal consequences towards e.g. the European Commission although it is absolutely true that in this respect it has totally failed in its key mission i.e. protecting interests of the EU regarding its common currency what is its main Treaty obligation. The same is regarding the ECB. What consequences have been taken against its top executives that they let Euro to slide into such a deep crisis threatening the very existence of the Euro. Again by a certain paradox, the ECB has inaugurated its super modern, exclusive and of course also super expensive new Headquarters right in the time of the top Euro crisis and when Greece was on the verge of its bankruptcy and potential but quite real ejection from the Eurozone. And when its citizens have been ordered by the so-called “Troika” of the European Commission, the ECB and the IMF a new round of very strict and restrictive austerity measures. Although it is clear, that such restrictive policies never could get the country out of its deep crisis that is therefore nowadays even worse than it was before adopting those contradictory austerity measures! Similarly, with all responsibility we could state that the current policy of the ECB regarding the so called “quantitative easing” i.e. printing and putting into circulation within the Eurozone trillions of the new Euro money is definitely not the way how we could save the Euro of its chronic diseases. As that is mainly caused by the very low discipline of the Eurozone members regarding their Treaty obligations and also in the opportunistic policy of the key EU institutions that are not able to take a firm steps against those (currently practically all) Eurozone member states being responsible for their disrespect towards their Treaty obligations in general and the Maastricht criteria in particular!

## **Conclusions**

In conclusion we could state that it will require many more years and mainly more systematic and consequent policies and not only monetary to make the Euro what it has originally been intended i.e. a common EU and internationally highly recognized currency. The current Euro crisis as we have at least partially presented it in the previous parts of this paper has definitely not contributed to the respect, prestige and confidence towards this very special “common” currency. It is really a question what will be its future development, “enlargement” and position in the world. It is more than clear that not only Greece, Portugal, Spain, Ireland, Italy, Cyprus, etc. are definitely not the last countries that have been so negatively effected by the current deep and still not finishing Euro crisis. There are many more EU countries as potential candidates to follow their problems and to the extent of the original PIGS (Portugal, Ireland, Greece, Spain ) to current PIIGSC i.e. adding Italy and Cyprus. It will be very soon PIIGSCB and it is already often mentioned in connection with its declining ranking also F (France) and so on and so forth. And that is already almost a half of the current Euro zone. And there exist even an opinion of many experts that perhaps there will be, if not a total demise of Euro as a common currency, then at least its split into two categories, or ejection of some members, etc. It is simply just not possible to ignore own criteria for so many years and hope that somehow it will be settled down. Especially the new European Commission should be in this respect more decisive and tough towards the EU and Eurozone member states. The European Commission has to start to fulfil its main function in full and without any derogations i.e. to fulfil its Treaties obligations i.e. protecting the interests of the Union as such! On the other hand from the Eurozone member states it is also required more discipline and self-criticism and mainly responsibility. Especially its big and strongest members should be very active not only in searching ways and means how to save their biggest banks that have made bad the so-called “toxic” loans in Greece in billions and billions of Euro, but also in their ability to respect by themselves initiated various safety walls, debt limits, austerity measures, etc.

Speaking about Greece we cannot omit one interesting fact. The country with its only about eleven million citizens represents just about 2% of the total populations of the EU, so it is then a real question how such a small country and now – due to the continuing “medicines” from the Troika - even smaller economics could threaten the very existence of the entire Eurozone and even the whole EU with its more than 500 million citizens?! The latest developments clearly show that although the so-called debt-break of 60% of the total debt of the Eurozone members has not yet been even implemented in full, there are already rumours that some of its initiators are already asking for

postponing deadline for reaching that debt ceiling?! The biggest paradox is that it is absolutely nothing new as already in the Maastricht Treaty that introduced Euro legally yet in 1999, it has been clearly stated that the countries that want join the Eurozone have to have the total debt not more than 60% of the GDP! And that was already more than 15 years ago and as we know the basic Treaties and thus also the Maastricht one is in the conditions of the EU a case of its surrogate constitution?! Hence, why do we need to introduce now during the lethal crisis the same just under the new name of the debt brake, etc.?!

The overall problems with the Eurozone governance is not, unfortunately, a unique one. It is very similar to the current catastrophic situation with the protection of the Schengen external border of the EU in spite of the fact that protection as the Schengen agreement is a part of the Amsterdam Treaty i.e. the primary legislation of the EU but...but similarly like Euro criteria are the “constitutional” duty for the Eurozone members according to the Maastricht Treaty, but again...Treaties and the respect towards them is not at all priority neither for the EU member states like equally for the EU institutions?! One of the main preconditions for becoming a member of the Schengen area is that the country is able to protect the external borders efficiently and systematically. On that pretext e.g. until now Bulgaria and Romania cannot be the part of the Schengen area as so far “they are not able to meet those tough requirements regarding protection of the Schengen border”. And of course, that all in time when about one million of illegal emigrants have illegally entered the EU territory just this year 2015 and thousands more are illegally entering the Schengen area daily through its founding members like Italy, Greece, Spain, etc. Similarly like in the case of Euro when new entrants to the Eurozone have to meet all Maastricht criteria without any derogation in time when its founding members have e.g. total debts exceeding the particular Maastricht criterion by 200-300 per cents. In the EU we are all equal but some especially founding members are just more equal...and therefore one should be not surprised that there is a real thread not only of BREXIT but another member states are also considering to organize the similar referendum on leaving the EU!

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# ***The Effect Of Cartel On Pig Market In Thailand By Using System Dynamics Model***

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## **Abstract**

*The pig production market in Thailand consists of major manufacturers who group together as coalition in order to stabilize the price. The concept of cartel has already been utilized before in oil and petroleum related products in the work market in order to gain control over quantity of production and world oil price. This research has modified the method called "system dynamics" and applied to market mechanism of Thai pig market in order to identify the impacts made by the establishment of cartel. The research findings suggest that cartel with good cooperation between manufacturers will result in the stable market price for pigs and in addition, the gain in manufacturers' revenue.*

**Keywords:** Cartel, Pig market, system dynamics

## **Introduction**

Pig market in Thailand is mainly produced for domestic consumption whereas the current production rate is approximately 15 million pigs per annum. Among those are the major manufacturers whose products are highly standardized and possessing male and female breeders of their own. There are 8 major pig manufacturers in Thailand, accounted for 80% market share nationwide. In parts of small producers, which scatter across the country and are likely to borrow breeders from the major manufacturers, are accounted for 20% market share for the whole country. As shown in preceded market situations, pig market has high potential to be fluctuated by a variety of factors such as, economic status, seasons, epidemic, price control by the government, to name a few. In addition, at present, there has been a coalition by major manufacturers in order to establish the swine raisers association of Thailand. Their aim is to mutually set up the indication price for pork price ex-factory, which will certainly affect the retail selling price for the consumers.

The actual selling price in the market depends on the agreement between buyers and sellers which is identified by the quantity of buying demands and production quantity into the market. This is the key factor for the fluctuation of pig market price causing difficulty in manufacturer's production planning. The most common method for controlling production quantity in industrial scale is by setting up quota, which needs the cooperation by the manufacturer to succeed, namely, cartel. However, there has been no quota limitation being set up in Thailand's pig market until now. This study's aim is to find out the outcomes from having the quota of pig production, namely cartel, as an effect to the pig's price fluctuation as well as the interest margin being gained by the manufacturer. By employing the method of System Dynamics, which is a tool for studying correlation in a complex characteristic, there will be criteria of feedback relationship of variables in Thailand's pig market by using market scenario of the next 20 years (2016-2036).

## **System dynamics of Pig's quota setting**

### **Overview of Model**

The model was created by combining 5 sub-sectors, which are, quota setting producers, the independents, the market price and demand, Pig's quota setting, and Revenue Calculations (John, 2015). Each sector is correlated with one another by relation as followed (fig. 1); market price and demand sector was identified by the production

quantity of quota setting producers sector, which are the major manufacturers. The major manufacturers are only handful but dominate the market share in high margin. There is a certain degree of cartel in major manufacturers as well as the sending of breeders to the independent sectors, which are the small producers scattering around the country. Production quantity is a contributing factor in market price and demand sector, as well as quota setting producers sector. The correlation between the production quantity and selling price relies on the law of supply and demand, which is, when the price is high, buying demand will decrease but selling demand will increase. When the price is low, buying demand will increase but selling demand will decrease. As for quota allocation, there will be an estimation of pig demand from market price and demand sector for setting up quota to be used the volume of pig quota setting producers sector. Through the study, there is an assumption that the coalition manufacturers must comply to the agreed terms strictly. Without following the aforementioned quota, each manufacturer will produce and release pigs to the market at their maximum capacity. Consequently, this will have a negative effect on price pig in the market.

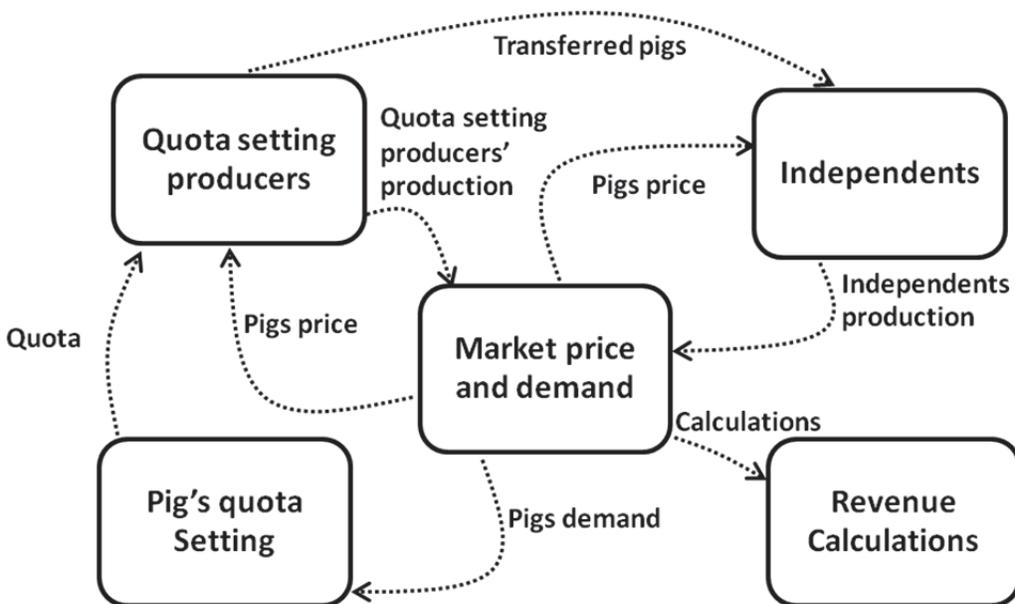


FIG. 1. OVERVIEW OF MODEL.

### System dynamics model

System dynamics (Forrester, 1958) is a well-known and validated concept that offers a theoretical framework and methodology for modeling complex structure and has been applied to a large scale of problems in the social and physical sciences (Rehan et al., 2013). The visualization techniques resulting from a system dynamics simulation model can also allow decision makers to better comprehend the correlations among the simulation variables (Fisher et al., 2000). Moreover, system dynamics modeling provides the user with the built-in platform of a feedback loop mechanism, which handily enables a cause-and effect event to feedback itself.

The basic building blocks for system dynamics models, as described by Rehan et al. (2013), are as follows: stocks, flows, converters, and connector (Fig. 2). Stock variables include accumulation within the system, whereas flow variables represent the flow, activities or actions in a stock that transport quantities into or out of a stock instantaneously or over time. Converters represent built-in functions (containing information) to be fed into the

model. Connectors establish relationships between various elements of the model (i.e., from converter-to-converter or from converter-to-flow) and transfer information from connected elements (i.e., stocks, flow, converters) to the elements indicated by the direction of arrow.

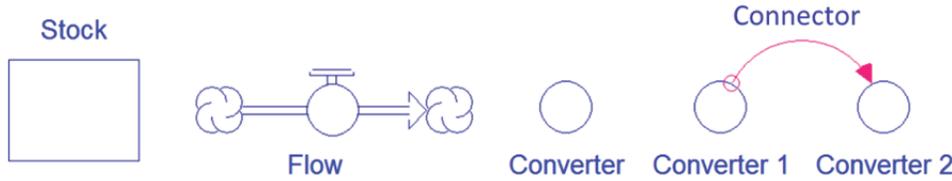


FIG. 2. BUILDING BLOCKS OF SYSTEM DYNAMICS MODEL.

The relationship between stocks and flows can be described mathematically using the flowing integral form (Rehan et al., 2013)

$$stock(t_1) = stock(t_0) + \int_{t_0}^{t_1} [Inflow(t) - Outflow(t)] dt \quad (1)$$

where  $t_0$  is the initial time,  $t_1$  is the current time,  $stock(t_0)$  is the initial value of the stock, and  $Inflow(t)$  and  $Outflow(t)$  are the flow rates into and out of a stock, respectively, at any time between the initial time,  $t_0$ , and the current time,  $t_1$ . The units of  $Inflow(t)$  and  $Outflow(t)$  are the  $stock(t)$  units divided by time.

To establish a system dynamics model, the relationships between chain members and the states of each member are characterized by both the stock-and-flow structure of the acquisition, storage, and conversion of inputs into outputs and the decision rules governing these flows (Georgidis, et al., 2005). The structure of a system in system dynamics signified by these stock flows capture the major feedback mechanism of the system. These mechanisms either reflect negative or positive feedback loops. In this study, the high-level graphical simulation program Stella<sup>®</sup> was used to construct the model.

### Cartel Quota setting of pigs system

This section describes how the quota setting functions in this model applied from the work of John (2015). The starting point is the current amount of pigs that have agreed to produce, Cartel Agreed Quota. The initial value is 14 million pigs. Alternations in the quota are implemented through a variable describing the change in the quota. The variable of Quota setting used in the model is called Quota setting and is equivalent to Agreed Quota. Change in Cartel Quota is an adjustment to quota whose size relies on the amount by which the call on the cartel differs from the agreed quota, Cartel Quota Imbalance, and the time to adjust the quota. Time to adjust Cartel Quota is 1 year, representing the time between firms meeting (fig. 3).

$$Cartel\ Agreed\ Quota = Cartel\ Agreed\ Quota + dt * (Change\ in\ Cartel\ Quota) \quad (2)$$

$$INIT(Cartel\ Agreed\ Quota) = 14000 \quad (3)$$

$$Change\ in\ Cartel\ Quota = (Cartel\ Quota\ Imbalance / Time\ to\ Adjust\ Cartel\ Quota) \quad (4)$$

$$Time\ to\ Adjust\ Cartel\ Quota = 1 \quad (5)$$

$$\text{Quota Cartel Imbalance} = \text{Call on Cartel} * (1 + \text{Cartel Quota Bias}) - \text{Agreed Quota} \quad (6)$$

$$\text{Call on Cartel} = \text{Demand for Pigs} - \text{Independents Production} \quad (7)$$

$$\text{Cartel Quota Bias} = 0 \quad (8)$$

Cartel Quota Imbalance depends on three terms: Call on Cartel, Cartel Quota Bias, and Cartel Agreed Quota. The quota is targeting for total production equal to the Call on Cartel, modified by an adjustment factor Cartel Quota Bias. The discrepancy between this adjustment call on the quota and the Cartel Agreed Quota is the foundation for changes in Cartel Agreed Quota. The Call on Cartel is the difference between the Demand for Pigs and the Independents production.

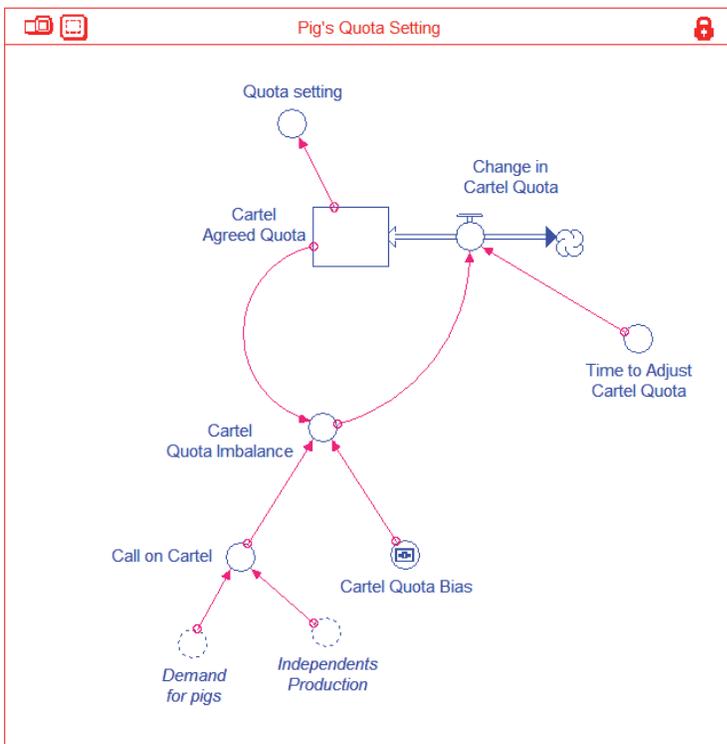


FIG. 3. SECTOR OF PIG'S QUOTA SETTING.

### The other sub models

The remaining crucial equations in the other sub models as followed: there are many stages of pig production, including open sows, gestation, lactation, gilts and boars, and replacement in quota setting producers and the independents. The latter need great grandparents from the former to replacement in the pig cycle. Independents production is equivalent to the Independents Capacity in the independents sub models. This assumption means that the Independent producers always operate at full competence. Thus, the Independents cannot

alter their output instantaneously. The Expected Future Pig price is an exponential average (SMTH1) of the Market Pig Price liked from the market price and demand sub model over the previous year.

$$\text{Expected Future Pig Price} = \text{SMTH1}(\text{Market Pig Price}, 1) \quad (9)$$

In the Quota setting producers sub model, Quota Setting Producer Production is the quota setting producer's current volume of production. The preliminary volume of production is set to 14,000 pigs. The change in the quota setting producers' production is represented by the variable Change in Setting Producer Production which can be positive or negative. It can also be in one of two different modes. When Cartel Mode is equal to 1, the quota setting producer adjusts production to keep market pig price equal to the price intended by Cartel. When Cartel Mode is equal to 0, the quota setting producers are discontented with their share of pig production and come to a decision to increase production dramatically, both to regain share and to discipline the other producers.

In the market price and demand sub model, Based Demand for Pigs represents consumers' current level of pig consumption resulting from the interaction over time of price, economic and environmental pressures. The change in Demand represents consumers' consequence to close the gap between the Indicated Demand and Base Demand for Pigs. The Indicated Demand is a determination of the overall level of demand consumers would like to accomplish at the current price and under current economics and environmental condition. It depends on three variables: Based Demand for Pigs, Effect of Thai's Economy and Environment on Demand and Effect of Price on Demand.

$$\text{Base Demand for Pigs} = \text{Base Demand for Pigs} + dt * (\text{Change in demand}) \quad (11)$$

$$\text{Change in Demand} = \text{Indicated Demand} - \text{Base Demand for Pigs} \quad (12)$$

$$\begin{aligned} \text{Indicated Demand} = \\ \text{Base Demand for Pigs} * (1 + \text{Effect of Thai's Economy and Environment on Demand}) \end{aligned} \quad (13)$$

## Results

The research finding for testing correlation between the variables in each sub model suggests that in case there is an effect of Thai's economic expansion and environment on pig demand, in order to justify the assumption, the tendency of pig demand and its price will move up compared to the case of no Thai's economic expansion as the following figures 4-5. Lastly, the simulation of model in state of using cartel in order to set up pig's quota being released into the market compared to the case of not using cartel, the pig price trend is suggested as following figure 6. As for the revenue made by the manufacturers under quota setting producers who have mutually limited the quantity of production, the tendency is indicated as following figure 7. As for the revenue made by the independent producers, the finding results suggest trend as following figure 8.

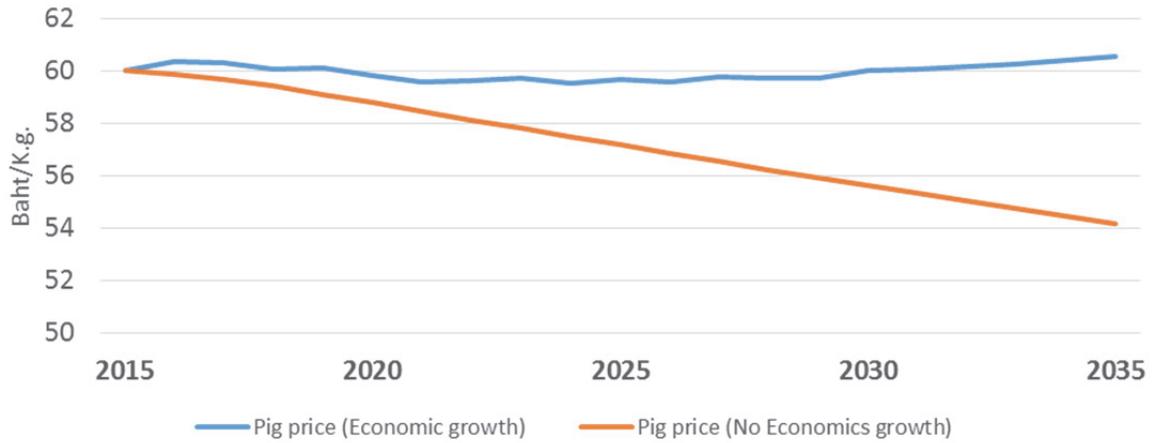


FIG. 4. PIG PRICE COMPARED TO THE CASE OF ECONOMIC GROWTH AND NO ECONOMIC GROWTH.

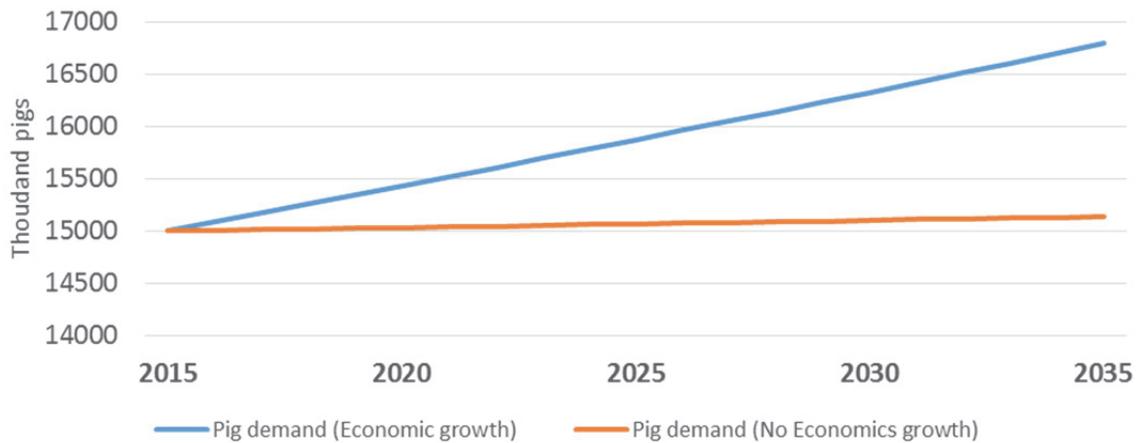


FIG. 5. PIG DEMAND COMPARED TO THE CASE OF ECONOMIC GROWTH AND NO ECONOMIC GROWTH.

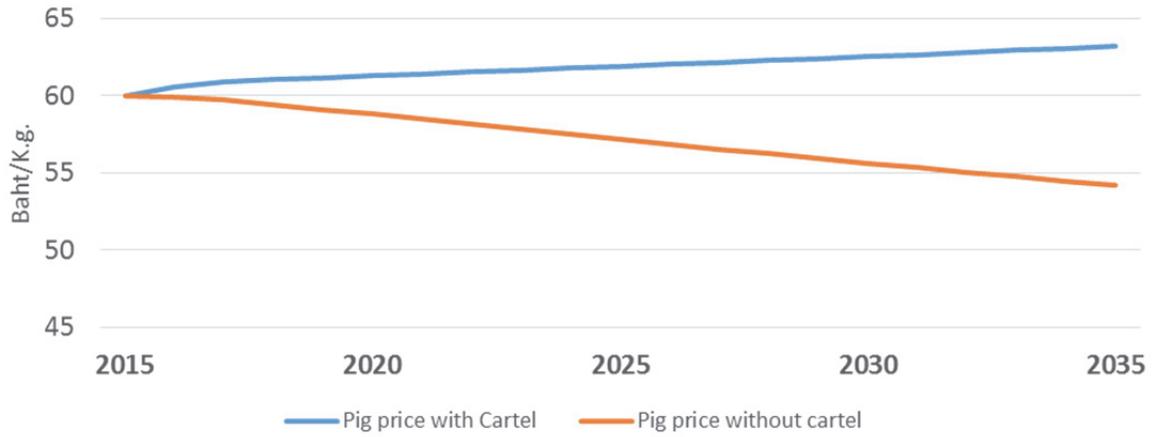


FIG. 6. PIG PRICE COMPARED TO THE CASE OF USING CARTEL AND NO CARTEL.

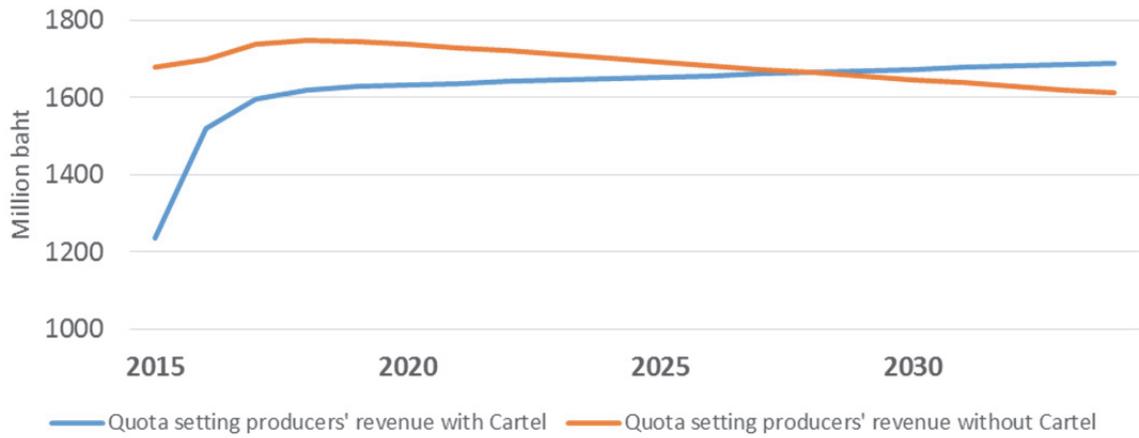


FIG. 7. QUOTA SETTING PRODUCERS' REVENUE COMPARED TO THE CASE OF USING CARTEL AND NO CARTEL.

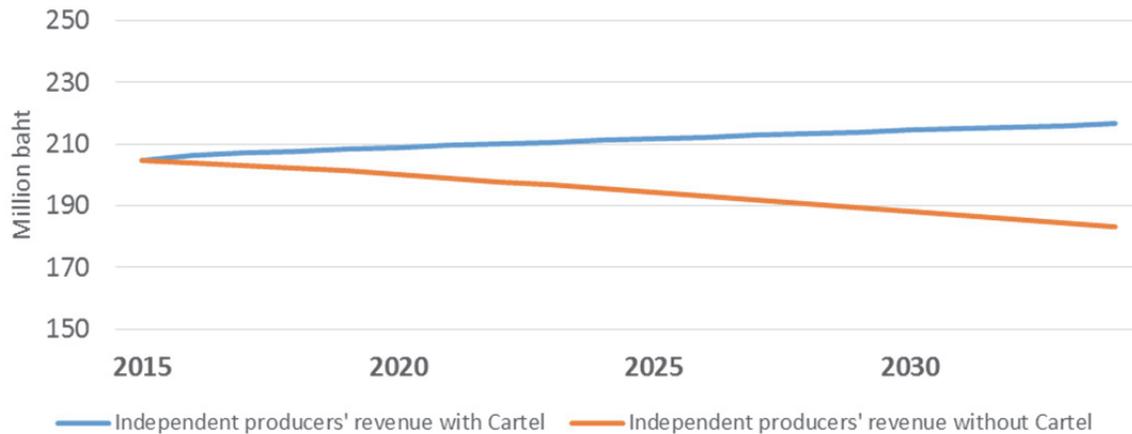


FIG. 8. INDEPENDENT PRODUCERS' REVENUE COMPARED TO THE CASE OF USING CARTEL AND NO CARTEL.

### Conclusions

In this research, the main objective is to study the impact being made onto Thailand's pig market in the event of cartel being established in the market system in order to set up the quantity of pigs produced into the market in comparison to the same scenario but without cartel. By employing system dynamics in performing such stimulation, the research findings suggest that 1) the modeling of system dynamics for swine system in this study, the correlation between variables in the model is proven to be correct and capable of describing the flow mechanism of each sub segment in the event of economic expansion and environments which cause the price and volume to move up as per market mechanism. 2) In case there has been a cooperation of manufacturers in establishing cartel and a capability to control the quantity of prigs being launched into the market without having any producers smuggle more than appointed pig quota into the system, market price will be more stable than not having cartel in system 3) The revenue of the manufacturers with cartel in order to mutually set up the production quantity is more than the producers with no cooperation with each other. The revenue of major manufacturers is also proportionally higher than the small producers in general.

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## *Heterogeneous Institutional Investors and Earnings Smoothing*

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### **Abstract**

*This paper examines the relationship between institutional ownership and earnings smoothing by taking into account the heterogeneity of institutional investors. The paper finds that ownership by transient institutional investors, who have short investment horizons and trade actively, is negatively related to the incidence of earnings smoothing when pre-managed earnings are above earnings trend. In contrast, ownership by dedicated institutional investors, who have longer horizon and concentrated holdings, is positively related to the incidence of earnings smoothing when pre-managed earnings are below earnings trend. The findings suggest that institutional investors affect earnings smoothing through their preference for certain pattern of earnings, instead of through their monitoring activities. The results are robust after potential endogeneity is controlled for.*

**Keywords:** institutional investors, dedicated investors, transient investors, quasi-indexers, earnings smoothing.

**JEL codes:** G30, G34.

### **Introduction**

This paper examines the relationship between institutional ownership and earnings smoothing by taking into account the heterogeneity of institutional investors due to their different investment patterns. The association between institutional ownership and earnings smoothing among US firms is rarely investigated. Carlson and Bathala (1997) and Koh (2005) are the only two known studies that examined this association and both report a positive effect of institutional ownership on the likelihood of earnings smoothing by firms. However, due to the limitation of data availability back then, Carlson and Bathala (1997) only studied 265 firms listed by Forbes. Koh (2005) had a much larger sample size but it focused on the firms in Australia. In addition, both papers do not examine different possible effects of various institutional investor groups on earnings smoothing. Furthermore, if institutional investors can affect the managerial decisions in smoothing earnings, is it due to their monitoring activities to constraint the managerial opportunistic behavior or because of their preferences for certain pattern of earnings? This is the research question that the paper addresses. Specifically, by distinguishing different types of institutional investors the paper investigates how institutional investors affect the incidence of earnings smoothing.

Earnings smoothing is an attempt on the part of managers to reduce variations in reported earnings related to economic earnings. As a result, earnings will look less variable over time (Beidleman, 1973; Carlson and Bathala, 1997; Goel and Thakor, 2003). The evidence of earnings smoothing is extensively documented (e.g. Beidleman, 1973; Ronen and Sadan, 1981; Subramanyam, 1996; Bannister and Newman, 1996; Godfrey and Jones, 1999). According to Carlson and Bathala (1997), managers engage in income smoothing for more than one reason. A reduction in the variation of the earnings stream may increase the attractiveness of the firms to investors by reducing investors' perceived risk of the firm, increase earnings predictability, and improve managers' personal wealth and job security. Therefore, the management of a firm may be motivated to smooth income as a method to increase either shareholder value or personal wealth (Ronen and Sadan, 1981; Carlson and Bathala, 1997; Koh, 2005). In other words, earnings smoothing is not necessarily managerial opportunistic behavior that is in conflict with shareholders' interest.

Compared to individual investors, institutional investors are more likely to exert pressure on managers to manage reported earnings, including smoothing reported earnings (Bushee, 2001; Hand, 1990). Institutional investors may prefer a smoothed reported earnings stream as firms with smoothed earnings are likely to maintain more predictable and desirable performance (Carlson and Bathala, 1997), as well as provide more sustainable capital gains and more predictable dividend payout over time (Ronen and Sadan, 1981). In addition, in selecting stocks, 'institutions may place importance on whether the security is sufficiently seasoned because courts may link this to prudence.' (Badrinath, Gay and Kale, 1989). Investing in firms with smooth reported earnings can thus satisfy the

prudence standard applied by the courts (Carlson and Bathala, 1997; Koh, 2005). Due to the preference by institutional investors, firms may want to smooth earnings in order to maintain institutional investors' interest in their stocks (Carlson and Bathala, 1997; Koh, 2005).

Since institutional investors are not homogeneous, it is possible that different institutional investors have different effects on earnings smoothing. According to Bushess (1998), institutions can be classified as transient, quasi-indexers and dedicated investors by taking into account their different investment patterns. Institutions with a goal of short term profit maximization and short investment horizons are characterized as transient investors. In contrast, institutions with a longer horizon and concentrated holdings are characterized as dedicated investors. In addition, institutions that hold diversified portfolios and follow a passive buy and hold strategy are characterized as quasi-indexers.

According to the classification, dedicated institutional investors are those institutional investors that are most likely to serve a monitoring role in mitigating the agency problem between shareholders and managers, since their large shareholdings and long-term investment horizon provide them an incentive and private information (Bushee and Noe (2000)) to monitor and discipline managers. Therefore, if earnings smoothing is an opportunistic managerial behavior that is in conflict with shareholders' interest, it is possible that higher dedicated institutional ownership will reduce the incidence of earnings smoothing. However, according to Goel and Thakor (2003), what causes earnings smoothing is the manager's concern about long-term stock price performance rather than just the current stock price. As dedicated institutions are those who care most about long-term returns, it is also possible that firms with higher dedicated institutional ownership are more likely to smooth earnings. This may be particularly true when earnings are temporarily low so long-term share prices will not be punished by a deviation from earnings trend and interest of dedicated institutional investors can be maintained.

Different from dedicated institutional investors, transient institutional investors are those that have fragmented ownership and trade frequently. They are investors who are poised to exit a firm at the first sign of trouble rather than attempt to instigate changes in a firm. Monitoring is not a central focus of their strategies. Therefore, the presence of dedicated investors will not reduce the likelihood of earnings smoothing if it is an opportunistic manipulation of earnings that deviates from the interest of shareholders. However, transient institutions' intensive trading on earnings news may also impose pressure on corporate managers to manipulate earnings towards market expectations and their own interest. Especially, transient institutional investors are those who trade frequently to make profit from short-term price changes. When earnings are unusually high, they may prevent managers from smoothing earnings downward so short-term stock price can reflect high earnings. Therefore, by distinguishing heterogeneous institutional investors, the author can examine whether institutional investors affect earnings smoothing through their monitoring activities or through their preference for certain pattern of earnings.

With the classification of institutional investors, the author runs a Logit model on a sample of 1,639 firms between 1992 and 2006 (totally 7,853 firm-year observations). The results show that the likelihood of earnings smoothing is positively related to ownership by dedicated institutional investors but negatively related to ownership by transient institutional investors. The result is interesting given the fact that dedicated institutional investors have longer investment horizons and more concentrated holdings, whereas transient institutional investors have short investment horizons and high portfolio turnovers. The finding suggests that on average the influence of institutional investor on earnings smoothing is not directly through their monitoring activities.

In order to further explore the possible channels through which that heterogeneous institutional investors affect earnings smoothing, the author divide the sample based on different benchmarks. First, the paper examines whether the relationship between institutional investor ownership and earnings smoothing is different between loss-making and profit-making firms. The results show that after unobserved firm characteristics are accounted for, institutional investors, either as a whole group or being classified as different groups based on their investment style, do not have different effects on incidence of earnings smoothing between profit firms and loss firms. Therefore, it suggests that the different effects of institutional investors on earnings smoothing between profit firms and loss firms as documented in Koh (2005) may be caused by some unobserved sources of firm heterogeneity.

Second, the paper also separately runs the regression on two subsamples based on their earning level relative to earnings trend, i.e., firms with pre-managed earnings (non-discretionary earnings, *NDE*) above their earnings trend versus firms with pre-managed earnings below their earnings trend. The findings shows that the positive relationship between dedicated institutional ownership and the likelihood of earnings smoothing only exist among the firms with pre-managed earnings below their earnings trend, whereas the negative relationship between transient institutional ownership and the likelihood of earnings smoothing only exist among the firms with pre-managed earnings above their earnings trend.

The results suggest that those firms with higher dedicated institutional ownership are more likely to smooth earnings towards earnings trend when earnings are temporarily low. Dedicated institutions are long-term investors and care most about long-term returns. They may not want their portfolio firms to deviate from earnings trend by taking an earnings bath as long-term share prices will suffer from that. In addition, when earnings are higher than earnings trend, the presence of transient institutional investors may prevent managers from smoothing earnings downward to create accounting slack for future periods as these investors care about short-term stock returns. Being as only "traders" instead of "owners," they can benefit from unusually high earnings in the short-run.

The author uses the following two methods to control for the endogeneity of institutional ownership which can be in the form of reverse causality or omitted variable bias. First, to alleviate the potential reverse causality, all the institutional ownership variables are lagged by one year (Zheng, 2009), instead of using their contemporaneous forms. Second, to alleviate the potential omitted variable bias, the author controls for year effects in the Logit model. More importantly, a firm fixed effect Logit model is used as the second regression specification. Some unobserved sources of firm heterogeneity can affect institutional ownership and the likelihood of earnings smoothing at the same time, which can bias an estimation of coefficients. Fixed effects are immune to such omission of unobserved firm characteristics and therefore can mitigate the concerns for endogeneity (Himmelberg et al., 1999; Kale et al., 2009; Kini and Williams, 2012). In both Logit and fixed effect Logit model specifications, standard errors are adjusted for heteroskedasticity and clustered at the firm level. The empirical results are robust after endogeneity is controlled for.

The paper makes several contributions to the literature. First, this is the first study that directly examines the association between institutional ownership and earnings smoothing among US. firms by using a large panel data. Carlson and Bathala (1997) studied how earnings smoothing behavior in US. firms was affected by different factors, including institutional ownership, inside ownership, stock ownership, debt financing, and executive's incentive structure. However, Carlson and Bathala (1997) only studied 265 firms listed by *Forbes*.

Second, the author controls for the possibility that endogeneity can potentially cause a spurious association between institutional ownership and the likelihood of earnings smoothing. Both Carlson and Bathala (1997) and Koh (2005) examine the effect of institutional ownership on earnings smoothing with assuming that institutional ownership is exogenous. However, reverse causality and some unobserved sources of firm heterogeneity can distort the effect of institutional ownership on the likelihood of earnings smoothing. For example, some innate features of business operating environment and managerial discretion can influence managerial decision to manage earnings (Francis et al., 2005). Therefore, it is essential to address the endogeneity issue before drawing the conclusion regarding the relationship between institutional ownership and earnings management.

Third, the only two studies (Carlson and Bathala, 1997; Koh, 2005) that examined the association between institutional ownership and earnings smoothing (among either US. firms or Australian firms) treat all institutional investors as a homogenous group. However, the results in this paper suggest that institutional investors, depending on their investment patterns, have different effects on the likelihood of earnings smoothing. In addition, with the classification of institutional investors, the empirical evidence shows that higher institutional ownership are not necessarily always positively related to the likelihood of earnings smoothing, as what Carlson and Bathala (1997) and Koh (2005) suggested. Instead, the effect of dedicated institutional investors on the likelihood of earnings smoothing can be in a direction that is opposite to the effect of transient institutional investors.

Fourth, this is the first paper that document a negative effect of transient institutional ownership and a positive effect of dedicated institutional ownership on the likelihood of earnings management. By distinguishing heterogeneous institutional investors, the paper shows that that institutional investors affect earnings smoothing

through their preference for certain pattern of earnings, instead of through their monitoring activities. In addition, the literature hypothesized that institutional investors prefer a smoothed reported earnings stream (Carlson and Bathala, 1997; Koh 2005). But this argument ignores the fact that heterogeneous institutional investors may have preferences for different earnings patterns. Their preferences may also vary under different circumstances. Due to their different investment styles, dedicated institutional investors concern most about long-term stock price performance whereas transient institutional investors attempt to make profit from short-term price changes. Therefore, not all institutional investors prefer a smoothed earnings under all the circumstances, which is consistent with the findings in the paper.

The rest of the paper is organized as follows: Section II describes the data and major variables, and reports the summary statistics. Section III conducts the empirical analysis. The conclusion is provided in Section IV.

## **Sample, Variables, and Summary Statistics**

### **1. Data and Sample**

The author merges several databases together to form our sample. The data for CEO tenure, age, and compensation are obtained from EXECUCOMP. Financial data are from COMPUSTAT. The author also collects quarterly institutional ownership data from 13(f) filings obtained from CDA Spectrum Database. By following Bushee (2001) to classify institutional investors based on their investment patterns, the ownership data on transient, quasi-indexers and dedicated investors are obtained from Professor Brian Bushee's website. Some governance data are obtained from RiskMetrics (formerly IRRC) and Thomson Reuters. After merging the databases, the primary sample to examine the relationship between institutional ownership and earnings smoothing includes 7,853 firm-year observations and 1,639 unique firms. The sample mainly covers S&P 1,500 firms from 1992 to 2006, including the 500 firms in the S&P 500 Index, the 400 firms in the S&P MidCap Index, and the 600 firms in the S&P SmallCap Index. The primary sample includes financial (one-digit SIC code equals 6) and utility firms (two-digit SIC code equals 49). In an unreported robustness check we exclude these firms. The results are similar.

### **2. Variables**

We describe the major variables used in the empirical analysis in this subsection. The detailed definitions are in the Appendix. To consider the influence of outliers, we either winsorize a variable at the 1<sup>st</sup> and 99<sup>th</sup> percentiles, or take the log of that variable, in order to mitigate the inordinate influence of extreme values.

#### **2.1. Institutional Ownership Variables**

The measures of institutional ownership include variables for all institutions and variables for different groups of institutions. Following Carlson and Bathala (1997), the author constructs two ownership variables to capture the impact of all institutions: the percentage of total shares held by institutional investors and the number of institutional investors holding the firm's common stocks.

In addition to the above ownership variables, the primary ownership variables are the shareholdings by different types of institutions as a percentage of total shares outstanding. The paper follows Bushee (2001) to group institutions as transient, quasi-indexers and dedicated investors by taking into account their different investment styles. Institutions with a goal of short term profit maximization and short investment horizons are characterized as transient investors. In contrast, institutions with a longer horizon and concentrated holdings are characterized as dedicated investors. In addition, institutions that hold diversified portfolios and follow a passive buy and hold strategy are characterized as quasi-indexers<sup>1</sup>.

Since dedicated institutional investors have monitoring incentives and preference for earnings patterns that may be different from transient institutional investors, the paper uses the classification to distinguish different possible effects of these institutional investors on the likelihood of earnings smoothing.

## 2.2. Earnings Smoothing Variable

In order to identify those firms that smooth the earnings, the paper follows Koh (2005) to start with constructing measures of total accruals and discretionary accruals. The construction of total accruals and discretionary accruals uses the modified Jones model by following the literature (Dechow, Sloan, and Sweeney, 1995; Bartov, Gul, and Tsui, 2000; Bergstresser and Philippon, 2006; Cornett, Marcus, Tehranian, 2008).

In order to construct the variable of total accruals, the author first calculates earnings before extraordinary items and discontinued operations minus operating cash flows from continuing operations (Cornett, Marcus, Tehranian, 2008). The author then divides the number by the previous year's assets to obtain the measure of total accruals (*Ratio\_ta*).

After the calculation of total accruals, the author uses the modified Jones (1991) model to construct the variable of discretionary accruals. Discretionary accruals equal the difference between total accruals and "normal" accruals. The modified Jones model estimates "normal" accruals as a fraction of lagged assets from the following model:

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_0 \frac{1}{Assets_{jt-1}} + \beta_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \beta_2 \frac{PPE_{jt}}{Assets_{jt-1}} \quad (1)$$

Where  $TA_{jt}$  denotes total accruals for firm  $j$  in year  $t$ ,  $Assets_{jt-1}$  denotes total assets for firm  $j$  in year  $t-1$ ,  $\Delta Sales_{jt}$  denotes a change in sales for firm  $j$  in year  $t$ , and  $PPE_{jt}$  denotes property, plant, equipment for firm  $j$  in year  $t$ . The author estimates model (1) by using the firms in Compustat with the same two-digit SIC code as the sample firms in each year of the sample period.

Discretionary accruals then are defined as a fraction of assets as

$$Ratio\_da_{jt} = Ratio\_ta_{jt} - \left( \hat{\alpha}_0 \frac{1}{Assets_{jt-1}} + \hat{\beta}_1 \frac{\Delta Sales_{jt} - \Delta Receivables_{jt}}{Assets_{jt-1}} + \hat{\beta}_2 \frac{PPE_{jt}}{Assets_{jt-1}} \right) \quad (2)$$

where hats denote estimated values from model (1). The inclusion of  $\Delta Receivables_{jt}$  in equation (2) is the "modification" of the Jones (1991) model. This variable attempts to capture the extent to which a change in sales is due to aggressive recognition of questionable sales.

Based on the calculation of discretionary accruals, a firm will be classified as an income smoother if its reported earnings (i.e. earnings before interest and tax and before extraordinary items,  $EBIT_{jt}$ ) are closer to their earnings trend ( $Trend_{jt}$ ) than are non-discretionary earnings ( $NDE_{jt}$ ), where prior year's earnings level ( $EBIT_{j,t-1}$ ) is used as the proxy for  $Trend_{jt}$  and  $NDE_{jt}$  is the difference between reported earnings ( $EBIT_{jt}$ ) and discretionary accruals ( $Ratio\_da_{jt}$ ). Please note that reported earnings ( $EBIT_{jt}$ ), earnings trend ( $Trend_{jt}$ ), and non-discretionary accruals ( $NDE_{jt}$ ) are all scaled by prior year's total assets, as the discretionary accruals ( $Ratio\_da_{jt}$ ) is scaled by prior year's total assets.

## 2.3. Control Variables

In order to examine the effects of heterogeneous institutional investors on the incidence of earnings smoothing, we also control for various firm characteristics, CEO characteristics, and other governance characteristics such as board characteristics, CEO compensation, and CEO ownership, by following the earnings management literature (Carlson and Bathala; Koh, 2005; Zheng, 2009). The Appendix defines the above variables in details.

## 2.4 Summary Statistics

Table 1 presents summary statistics and correlations of the variables in the primary analyses. Panel A shows that on average around 80% of the 7,853 firm-year observations smooth their earnings. The average (median) firm in our sample has 218 (159) institutional investors who hold 66% (67%) of shares outstanding, indicating that

the sample has substantial institutional interest in general. In addition, the sample firms have heterogeneous institutional investors. On average, dedicated investors, quasi-indexers, and transient investors hold 9%, 41%, and 14% of shares outstanding respectively.

Panel B shows that the incidence of earnings smoothing is positively related to the number of institutional investors and institutional ownership. In terms of the effect of heterogeneous institutional investors, the incidence of earnings smoothing is positively related to dedicated institutional ownership and quasi-indexer ownership, and negatively related to transient institutional ownership.

## **Empirical Analysis**

In this section we first examine the effect of institutional investors on the incidence of earnings smoothing. We then examine whether the different effects of heterogeneous institutional investors persist under different circumstances.

### **1. Institutional Investors and Earnings Smoothing**

The author uses two model specifications to examine the effect of institutional investors on the incidence of earnings smoothing. The author first follows Koh (2005) to employ Logit regressions and examine the influence of institutions as a whole, and then classify institutions into groups of dedicated institutional investors, transient institutional investors, and quasi-indexers to distinguish their influence. To alleviate the potential reverse causality, all the institutional ownership variables are lagged by one year (Zheng, 2009), instead of using their contemporaneous forms. In addition, to alleviate the potential omitted variable bias, the author controls for year effects in the Logit model.

The second model specification employs a firm fixed effect Logit model to further account for potential omitted variable bias. Some unobserved sources of firm heterogeneity can affect institutional ownership and the likelihood of earnings smoothing at the same time, which can bias an estimation of coefficients. Fixed effects are immune to such omission of unobserved firm characteristics and therefore can mitigate the concerns for endogeneity (Himmelberg et al., 1999; Kale et al., 2009; Kini and Williams, 2012). In both Logit and fixed effect Logit model specifications, standard errors are adjusted for heteroskedasticity and clustered at the firm level.

The results of the Logit regressions are provided in Table 2. Regression (1) shows that the number of institutional investors is positively related to the incidence of earnings smoothing. However, the coefficient on the ownership by all the institutional investors as a whole is not significant, as shown in regression (2).

Regression (3) distinguishes the different effects of institutional investor groups on earnings smoothing. It shows that the coefficient on dedicated institutional ownership is significantly positive whereas the coefficient on transient institutional ownership is significantly negative. In addition, quasi-indexers ownership are not significantly related to the incidence of earnings smoothing.

The result is interesting given the fact that dedicated institutional investors have longer investment horizons and more concentrated holdings. Among these different types of institutional investors, dedicated institutional investors would be most likely to serve a monitoring role in decreasing the incidence of earnings smoothing if it is managerial opportunistic behavior that is in conflict with shareholders' interest. In contrast, since transient institutional investors have short investment horizons and high portfolio turnovers, monitoring is not a central focus of their strategies. They are poised to exit a firm at the first sign of trouble rather than attempt to instigate changes in a firm. Therefore, it is the least likely that transient institutional investors would conducting monitoring activities to reduce opportunistic earnings smoothing.

The author employs the firm fixed effect Logit model and repeat all the regressions as in Table 3. Regression results about the effects of heterogeneous institutional investors on earnings smoothing are similar after the firm fixed effect is controlled for.

In order to further explain the documented relationship between heterogeneous institutional investors and earnings smoothing, the following two sub-sections examine the different circumstances under which these institutional investors may manifest different influences on earnings smoothing.

## **2. Institutional Investors and Earnings Smoothing for Profit Firms versus Loss Firms**

In this section, the paper examines whether the relationship between institutional investor ownership and earnings smoothing is different between loss-making and profit-making firms. Prior research suggests that loss firms may have lower incentive to manage earnings than profit firms because valuation of stock price for loss firms are based more on book value rather than on earnings (Basu, 1997; Hayn, 1995; Ohlson, 1995; Koh, 2005). Therefore, in order to examine the potential differential effects of institutional investors on earnings smoothing, both Logit regressions and firm fixed effect Logit regressions are refitted to sub-samples of profit ( $NDE > 0$ ) and loss making ( $NDE < 0$ ) firms separately, as shown in Table 4 and 5.

Regression (1)-(3) of Table 4 report the results of re-fitting the Logit regression to profit firms whereas regression (4)-(6) reports those for loss firms. The estimated coefficients for the number of institutional investors and institutional ownership are both positive for loss firm, with the significant level of 1%. In contrast, for profit firms, only the coefficient on the number of institutional investors are significantly positive, with the significant level of only 10%. Institutional ownership does not have a significant effect on earnings smoothing among profit firms.

When the overall institutional ownership is broken down into dedicated institutional ownership, quasi-indexer ownership, and transient institutional ownership, as in regression (3) and (6), it shows that transient institutional ownership is negatively related to earnings smoothing among profit firms, whereas quasi-indexer ownership is positively related to earnings smoothing among loss firms. The coefficients on other institutional ownership variables does not exhibit a significant effect.

However, all the above significant results disappear when firm fixed effect Logit regressions are employed as in Table 5. It shows that after unobserved firm characteristics are accounted for, institutional investors, either as a whole group or being classified as different groups based on their investment style, do not have different effects on incidence of earnings smoothing between profit firms and loss firms. Therefore, it suggests that the different effects of institutional investors on earnings smoothing between profit firms and loss firms as documented in Koh (2005) may be caused by some unobserved sources of firm heterogeneity.

## **3. Institutional Investors and Earnings Smoothing for Firms with Non-discretionary Earnings above versus below Earnings Trend**

Managers in firms with pre-managed earnings above their earnings trend are expected to have more choices in managing earnings than those in firms with pre-managed earnings below their earnings trend. In particular, when earnings are already above their earnings trend prior to accruals management, smoothing earnings towards earnings trend can allow managers to continue the smoothed earnings trend in the current period, as well as create accounting slack for future periods (Koh, 2005). In contrast, when earnings are below their earnings trend prior to accruals management, managers may have less freedom to smooth earnings because their choices are restricted to the availability of discretionary accruals (Koh, 2005). In particular, when there are insufficient discretionary accruals, managers can either choose to manage earnings towards their earnings trend with potentially reducing the firm's ability to smooth earnings in the future periods, or choose to deviate from their earnings trend by taking an earnings bath to create accounting slack for future periods with having to take the capital market punishment on their share prices (Healy, 1985; Barth et al., 1999; Myers et al., 2007). Due to different flexibility in smoothing earnings for managers under different circumstances, the sub-section compares the different influences of institutional investors on the incidence of earnings smoothing between the subsample of firms with pre-managed earnings above versus below their earnings trend.

Table 6 reports the results of re-fitting the Logit regression to firms with non-discretionary earnings ( $NDE$ ) above versus below earnings trend. As shown in regression (1) & (2), the number of institutional investors is positively related to the incidence of earnings smoothing but the coefficient on institutional ownership is not

significant for firms with  $NDE > \text{earnings trend}$ . In addition, regression (3) further shows that transient institutional ownership is negatively related to earnings smoothing, whereas the coefficients on the other two types of institutional ownership are not statistically significant for these firms.

Regression (4)-(6) show the results for firms with  $NDE < \text{earnings trend}$ . Interestingly, only the coefficient on dedicated institutional ownership is significantly positive. All the other variables on institutional ownership do not show a significant effect on the incidence of earnings smoothing.

The different effects of heterogeneous institutional investors on earnings smoothing persist when firm fixed effect Logit regressions are used as in Table 7. In particular, transient institutional ownership has a negative effect on earnings smoothing among firms with  $NDE > \text{earnings trend}$ , whereas dedicated institutional ownership has a positive influence on earnings smoothing among firms with  $NDE < \text{earnings trend}$ .

The results in Table 6 and 7 show that the positive relationship between dedicated institutional ownership and the likelihood of earnings smoothing as documented in Table 2 and 3 actually only exists among the firms with pre-managed earnings below their earnings trend. Similarly, the documented negative relationship between transient institutional ownership and the likelihood of earnings smoothing only exists among the firms with pre-managed earnings above their earnings trend. The findings suggest that those firms with higher dedicated institutional ownership are more likely to smooth earnings towards earnings trend when earnings are temporarily low. Dedicated institutions are long-term investors and care most about long-term returns. They may not want their portfolio firms to deviate from earnings trend as long-term share prices will be punished by that. On the other hand, when earnings are higher than earnings trend, the presence of transient institutional investors may prevent managers from smoothing earnings downward to create accounting slack for future periods as these investors care about short-term stock returns. Being as only "traders" instead of "owners," they can benefit from unusually high earnings in the short-run.

## Conclusions

The paper finds that ownership by institutional investors with short-term investment horizon and fragmented ownership (i.e. transient institutional investors) is negatively related to the incidence of earnings smoothing, in particular when pre-managed earnings are above the earnings trend. In addition, ownership by institutional investors with large shareholdings and long-term investment horizon (i.e. dedicated institutional investors) is positively related to the incidence of earnings smoothing, in particular when pre-managed earnings are below the earnings trend. The results are robust when potential reverse causality or omitted variable bias are accounted for.

This is the first study that directly examines the association between institutional ownership and earnings smoothing among US. firms by using a large panel data. In addition, different from prior research, the paper also shows that it is essential to address the endogeneity issue before drawing the conclusion regarding the relationship between institutional ownership and earnings management. Furthermore, the results in the paper suggest that it is important to account for the heterogeneity of institutional investors in examining their effects on the incidence of earnings smoothing. The effects of different institutional investor groups can be in conflicting directions. Higher institutional ownership are not necessarily always positively related to the likelihood of earnings smoothing, as what prior research (Carlson and Bathala, 1997; Koh, 2005) suggests. Finally, the paper is the first to document that the presence of transient institutional investors can reduce the likelihood of earnings management whereas the presence of dedicated institutional investors can increase the incidence of earnings management under some circumstances. The findings suggest that institutional investors affect earnings smoothing through their preference for certain pattern of earnings, instead of through their monitoring activities. Also, heterogeneous institutional investors have preferences for different earnings patterns. Their preferences may also vary under different circumstances.

## Appendix: Variables Definition

Variable	Definition
Panel A: Institutional ownership	
<i>Ninst</i>	Log (number of institutional investors that hold common stocks)
<i>Instown</i>	Total shares held by institutional investors/total shares outstanding
<i>Dedown</i>	Total shares held by dedicated institutional investors/total shares outstanding
<i>Qixown</i>	Total shares held by quasi-indexers /total shares outstanding
<i>Traown</i>	Total shares held by transient institutional investors/total shares outstanding
Panel B: Other governance variables	
<i>Ppso</i>	The log of one plus the sensitivity of CEO option portfolio value to a 1% change in stock price, where the estimation of the average exercise price and remaining time-to-maturity for outstanding options follows Core and Guay (2002)'s "one-year approximation" (OA) method. Specifically, for the inputs for stock return volatility, dividend yield, and risk-free rate, we use the annualized standard deviation of monthly stock returns over the past 60 months, the average dividend yield over the past three years, and the yield-to-maturity of Treasury bonds matched by the maturities closest to options', respectively.
<i>Ceoown</i>	CEOs' holdings of common shares/total shares outstanding
<i>Bdsize</i>	Log(the number of directors on the board)
<i>Pctbdind</i>	The proportion of outsiders on the board
<i>Duality</i>	Dummy equal to unity if the CEO is also the chairman of the board
Panel C: Firm characteristics	
<i>Mve</i>	Market value of equity
<i>Lev</i>	Book value of debt/(book value of debt + market value of equity)
<i>Nisd</i>	The standard deviation of net income during the three-year period from two years before to the current year
<i>Q</i>	Market value of assets/book value of assets
Panel D: CEO characteristic	
<i>Age</i>	CEO's age
<i>Ceotenure</i>	The log of CEO tenure in years. CEO tenure in a given year is determined as the length of time between the date when the person became the CEO ("becameceo" in EXECUCOMP) and the current fiscal year end. In two situations where this variable is not conveniently available, we further make the following assumptions: (1) For those observations with missing values, if the CEO is hired from outside the firm and the date when the person joined the company ("joined_co" in EXECUCOMP) is available, CEO tenure in a given year is calculated as the time between "joined_co" and the current fiscal year end. A CEO is determined as an outside hire if she has been with the firm for less than two years at the time of succession and if she is not a founder; (2) For those CEOs who held the position multiple times, EXECUCOMP only has the data for "becameceo" for either the first time or the most recent time the person became the CEO. Therefore, we manually check these cases and use the information that the previous CEO left the company to determine the starting date for the incumbent CEO.
Panel E: Earnings-related variables	
<i>NDE</i>	The difference between reported earnings (earnings before interest and tax and before extraordinary items) and discretionary accruals, scaled by prior year's total assets
<i>Trend</i>	Earnings before interest and tax and before extraordinary items in prior year, scaled by prior year's total assets
<i>Smooth</i>	Dummy equal to unity if the firm is a earnings smoother (i.e. if $Abs(EBIT_{jt} - Trend_{jt}) < Abs(NDE_{jt} - Trend_{jt})$ in that year

**TABLE 1. SUMMARY STATISTICS**

This table reports the summary statistics and correlations of the major variables used in the empirical analysis. Panel A lists the summary statistics. Panel B reports the correlation matrix for the variables. *Ninst*, *Ppso*, *Bdsize*, *Ceotenure* are in their raw format in Panel A, but they are transformed into the logged format in Panel B and onward. All the other variables have been winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. See the Appendix for the definitions of all variables.

Panel A: Summary Statistics						
Variable	Observations	P25	Mean	Median	P75	Std
<i>Smooth</i>	7853	1.00	0.80	1.00	1.00	0.40
<i>Ninst</i>	7853	100.00	218.42	159.00	263.00	194.06
<i>Instown</i>	7853	0.53	0.66	0.67	0.80	0.19
<i>Dedown</i>	7853	0.03	0.09	0.08	0.14	0.08
<i>Qixown</i>	7853	0.32	0.41	0.41	0.50	0.13
<i>Traown</i>	7853	0.07	0.14	0.12	0.20	0.10
<i>Ppso</i> ( $\$10^3$ )	7853	13.29	279.41	81.53	256.44	835.42
<i>Ceown</i> ( $10^{-5}$ )	7853	0.09	2.41	0.33	1.45	5.61
<i>Bdsize</i>	7853	7.00	9.32	9.00	11.00	2.62
<i>Pctbdind</i>	7853	0.55	0.65	0.67	0.78	0.17
<i>Duality</i>	7853	0.00	0.66	1.00	1.00	0.47
<i>Mve</i>	7853	543.51	6312.86	1438.30	4685.52	15666.58
<i>Lev</i>	7853	0.07	0.23	0.22	0.34	0.18
<i>Nisd</i>	7853	11.15	134.65	30.72	98.61	318.18
<i>Q</i>	7853	1.22	2.06	1.59	2.35	1.44
<i>Age</i>	7853	51.00	55.79	56.00	61.00	7.24
<i>Ceotenure</i>	7853	2.67	7.96	5.43	10.75	7.62

Panel B: Correlations								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Smooth (1)</i>	1							
<i>Ninst (2)</i>	0.05	1						
<i>Instown (3)</i>	0.02	0.29	1					
<i>Dedown (4)</i>	0.04	0.11	0.43	1				
<i>Qixown (5)</i>	0.03	0.28	0.74	0.01	1			
<i>Traown (6)</i>	-0.01	0.12	0.61	0.01	0.14	1		
<i>Ppso (7)</i>	0.04	0.41	0.19	0.08	0.1	0.16	1	
<i>Ceown (8)</i>	-0.01	-0.26	-0.25	-0.09	-0.23	-0.1	-0.23	1
<i>Bdsize (9)</i>	0.01	0.41	-0.07	0.01	0.06	-0.24	0.12	-0.2
<i>Pctbind (10)</i>	0.06	0.2	0.21	0.09	0.23	0.05	0.1	-0.29
<i>Duality (11)</i>	0	0.16	0.02	0.03	0.03	-0.03	0.07	0.11
<i>Mve (12)</i>	0.02	0.61	-0.06	-0.01	-0.01	-0.11	0.28	-0.11
<i>Lev (13)</i>	0.01	0.07	-0.02	0.07	0.01	-0.1	0	-0.11
<i>Nisd (14)</i>	0	0.49	-0.05	0.02	-0.02	-0.09	0.17	-0.12
<i>Q (15)</i>	-0.05	0.23	0.03	0.01	-0.09	0.17	0.22	0.04
<i>Age (16)</i>	-0.01	0.05	-0.02	0.02	0.04	-0.1	-0.07	0.15
<i>Ceotenure (17)</i>	-0.01	-0.07	-0.01	0	-0.04	0.03	0.01	0.33

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)									
(2)									
(3)									
(4)									
(5)									
(6)									
(7)									
(8)									
(9)	1								
(10)	0.1	1							
(11)	0.11	0.11	1						
(12)	0.3	0.06	0.09	1					
(13)	0.24	0.08	0.08	0.01	1				
(14)	0.24	0.1	0.07	0.58	0.11	1			
(15)	-0.13	-0.06	-0.02	0.3	-0.25	0.02	1		
(16)	0.13	-0.03	0.27	0.04	0.05	0.01	-0.06	1	
(17)	-0.1	-0.14	0.27	-0.05	-0.07	-0.11	0.07	0.36	1

**TABLE 2. THE EFFECT OF INSTITUTIONAL INVESTORS ON EARNINGS SMOOTHING (LOGIT MODELS)**

These models use Logit regressions to examine the relation between institutional ownership and earnings smoothing. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	(1)	(2)	(3)
<i>Ninst</i>	0.138** (2.207)		
<i>Instown</i>		-0.076 (-0.409)	
<i>Dedown</i>			0.884** (2.153)
<i>Qixown</i>			0.092 (0.343)
<i>Traown</i>			-0.676** (-2.148)
<i>Ppso</i>	0.013 (0.780)	0.024 (1.491)	0.026 (1.576)
<i>Ceowown</i>	946.257 (1.488)	702.526 (1.089)	720.650 (1.111)
<i>Bdsize</i>	0.008 (0.065)	0.092 (0.738)	0.054 (0.428)
<i>Pctbdind</i>	0.442** (2.326)	0.476** (2.495)	0.441** (2.316)
<i>Duality</i>	-0.007 (-0.098)	0.015 (0.212)	0.015 (0.210)
<i>Mve</i>	0.000** (2.193)	0.000*** (2.908)	0.000*** (2.791)
<i>Lev</i>	0.106 (0.598)	0.111 (0.626)	0.084 (0.472)
<i>Nisd</i>	-0.000*** (-3.909)	-0.000*** (-3.452)	-0.000*** (-3.458)
<i>Q</i>	-0.101*** (-4.895)	-0.092*** (-4.431)	-0.086*** (-4.061)
<i>Age</i>	-0.005 (-1.143)	-0.005 (-1.031)	-0.006 (-1.231)
<i>Ceotenure</i>	0.004 (0.105)	0.003 (0.098)	0.005 (0.152)
Observations	7,853	7,853	7,853
Model chi-squared	188.2	177.6	185.8
p-value	0	0	0

**TABLE 3. THE EFFECT OF INSTITUTIONSL INVESTORS ON EARNINGS SMOOTHING (FIXED EFFECT LOGIT MODELS)**

These models use fixed effect Logit regressions to examine the relation between institutional ownership and earnings smoothing. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	(1)	(2)	(3)
<i>Ninst</i>	-0.014 (-0.110)		
<i>Instown</i>		-0.496 (-1.457)	
<i>Dedown</i>			1.179* (1.700)
<i>Qixown</i>			-0.400 (-0.877)
<i>Traown</i>			-0.929* (-1.857)
<i>Ppso</i>	0.019 (0.811)	0.019 (0.816)	0.020 (0.854)
<i>Ceoown</i>	1,687.288 (1.156)	1,471.911 (1.005)	1,605.310 (1.097)
<i>Bdsize</i>	-0.035 (-0.135)	-0.045 (-0.176)	-0.030 (-0.116)
<i>Pctbdind</i>	0.232 (0.671)	0.266 (0.767)	0.250 (0.719)
<i>Duality</i>	-0.153 (-1.331)	-0.151 (-1.316)	-0.143 (-1.241)
<i>Mve</i>	0.000 (1.532)	0.000 (1.496)	0.000 (1.400)
<i>Lev</i>	-0.144 (-0.348)	-0.135 (-0.326)	-0.191 (-0.461)
<i>Nisd</i>	-0.000** (-2.112)	-0.000** (-2.184)	-0.000** (-2.243)
<i>Q</i>	-0.177*** (-4.564)	-0.173*** (-4.472)	-0.171*** (-4.388)
<i>Age</i>	-0.006 (-0.734)	-0.006 (-0.719)	-0.007 (-0.770)
<i>Ceotenure</i>	0.098* (1.800)	0.102* (1.879)	0.098* (1.809)
Observations	5,295	5295	5,295
Model chi-squared	141.3	143.4	149.8
p-value	0	0	0

**TABLE 4. THE EFFECT OF INSTITUTIONAL INVESTORS ON EARNINGS SMOOTHING FOR PROFIT FIRMS VS. LOSS FIRMS (LOGIT MODELS)**

These models use Logit regressions to compare the relation between institutional ownership and earnings smoothing between profit firms and loss firms. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	Profit Firms			Loss Firms		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Ninst</i>	0.119* (1.728)			0.890*** (5.168)		
<i>Instown</i>		-0.258 (-1.281)			1.719*** (3.654)	
<i>Dedown</i>			0.688 (1.543)			1.479 (1.270)
<i>Qixown</i>			-0.077 (-0.269)			3.152*** (4.110)
<i>Traown</i>			-0.847** (-2.437)			0.061 (0.071)
<i>Ppso</i>	0.008 (0.442)	0.020 (1.190)	0.022 (1.257)	0.054 (1.074)	0.084* (1.774)	0.082* (1.788)
<i>Ceoown</i>	747.820 (1.165)	404.225 (0.619)	412.866 (0.632)	5,354.482* (1.834)	5,258.100* (1.786)	5,511.323* (1.883)
<i>Bdsize</i>	0.010 (0.078)	0.073 (0.562)	0.038 (0.285)	0.962*** (2.746)	1.254*** (3.502)	1.154*** (3.256)
<i>Pctbdind</i>	0.450** (2.204)	0.503** (2.463)	0.476** (2.330)	-0.184 (-0.305)	-0.484 (-0.800)	-0.600 (-0.999)
<i>Duality</i>	0.013 (0.171)	0.035 (0.481)	0.035 (0.474)	-0.070 (-0.347)	0.024 (0.118)	0.013 (0.063)
<i>Mve</i>	0.000* (1.647)	0.000** (2.179)	0.000** (2.044)	0.000* (1.740)	0.000** (2.370)	0.000** (2.365)
<i>Lev</i>	0.346* (1.796)	0.345* (1.794)	0.314 (1.628)	-0.819 (-1.517)	-0.805 (-1.437)	-0.842 (-1.552)
<i>Nisd</i>	-0.000*** (-3.063)	-0.000*** (-2.757)	-0.000*** (-2.732)	-0.002*** (-5.824)	-0.002*** (-4.627)	-0.002*** (-4.620)
<i>Q</i>	-0.088*** (-3.721)	-0.078*** (-3.333)	-0.072*** (-3.072)	-0.140** (-2.059)	-0.120 (-1.639)	-0.084 (-1.140)
<i>Age</i>	-0.007 (-1.462)	-0.007 (-1.348)	-0.008 (-1.537)	-0.001 (-0.090)	-0.002 (-0.111)	-0.004 (-0.289)
<i>Ceotenure</i>	0.007 (0.189)	0.009 (0.236)	0.012 (0.314)	-0.044 (-0.426)	-0.069 (-0.682)	-0.063 (-0.614)
Observations	5,784	5,784	5,784	2,067	2,067	2,067
Model chi-squared	129.4	123.4	128.9	122.5	96.56	106.3
p-value	0	0	0	1.15e-10	0	0

**TABLE 5. THE EFFECT OF INSTITUTIONAL INVESTORS ON EARNINGS SMOOTHING FOR PROFIT FIRMS VS. LOSS FIRMS (FIXED EFFECT LOGIT MODELS)**

These models use fixed effect Logit regressions to compare the relation between institutional ownership and earnings smoothing between profit firms and loss firms. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	Profit Firms			Loss Firms		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Ninst</i>	-0.054 (-0.370)			0.841 (1.617)		
<i>Instown</i>		-0.538 (-1.368)			0.659 (0.528)	
<i>Dedown</i>			1.283 (1.639)			2.237 (0.789)
<i>Qixown</i>			-0.501 (-0.965)			-0.737 (-0.360)
<i>Traown</i>			-0.822 (-1.410)			2.133 (1.085)
<i>Ppso</i>	0.019 (0.746)	0.019 (0.720)	0.019 (0.723)	0.227** (1.981)	0.223** (1.961)	0.226* (1.940)
<i>Ceowown</i>	1,176.584 (0.700)	987.586 (0.587)	1,102.943 (0.657)	7,778.127 (0.805)	8,458.261 (0.884)	8,348.351 (0.867)
<i>Bdsize</i>	-0.106 (-0.353)	-0.119 (-0.397)	-0.116 (-0.386)	0.878 (0.807)	0.775 (0.719)	0.779 (0.717)
<i>Pctbind</i>	0.276 (0.715)	0.307 (0.794)	0.295 (0.762)	2.025 (1.288)	2.198 (1.424)	2.094 (1.346)
<i>Duality</i>	-0.064 (-0.485)	-0.066 (-0.499)	-0.059 (-0.447)	-0.866* (-1.865)	-0.909** (-1.970)	-0.952** (-2.034)
<i>Mve</i>	0.000 (1.532)	0.000 (1.425)	0.000 (1.377)	-0.000 (-1.073)	-0.000 (-0.878)	-0.000 (-0.924)
<i>Lev</i>	-0.528 (-1.095)	-0.515 (-1.073)	-0.578 (-1.200)	-0.538 (-0.336)	-0.664 (-0.414)	-0.726 (-0.452)
<i>Nisd</i>	-0.000* (-1.750)	-0.000* (-1.817)	-0.000* (-1.860)	-0.003** (-2.355)	-0.003** (-2.289)	-0.003** (-2.302)
<i>Q</i>	-0.206*** (-4.486)	-0.200*** (-4.339)	-0.200*** (-4.316)	-0.027 (-0.178)	-0.057 (-0.385)	-0.072 (-0.489)
<i>Age</i>	-0.007 (-0.706)	-0.007 (-0.702)	-0.008 (-0.772)	-0.016 (-0.347)	-0.018 (-0.395)	-0.020 (-0.447)
<i>Ceotenure</i>	0.100 (1.600)	0.104* (1.659)	0.103 (1.641)	0.264 (1.120)	0.264 (1.141)	0.269 (1.149)
Observations	3,940	3,940	3,940	317	317	317
Model chi-squared	85.47	87.21	92.29	35.03	32.65	34.24
p-value	1.55e-08	8.13e-09	4.57e-09	0.0680	0.112	0.129

**TABLE 6. THE EFFECT OF INSTITUTIONAL INVESTORS ON EARNINGS SMOOTHING FOR FIRMS WITH PRE-MANAGED EARNINGS ABOVE VS. BELOW EARNINGS TREND (LOGIT MODELS)**

These models use Logit regressions to compare the relation between institutional ownership and earnings smoothing between firms with non-discretionary earnings above and below earnings trend. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	NDE>Trend			NDE<Trend		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Ninst</i>	0.211*** (2.604)			0.063 (0.709)		
<i>Instown</i>		-0.341 (-1.370)			0.246 (0.942)	
<i>Dedown</i>			0.684 (1.226)			1.079* (1.772)
<i>Qixown</i>			-0.031 (-0.086)			0.240 (0.634)
<i>Traown</i>			-1.199*** (-2.705)			0.004 (0.009)
<i>Ppso</i>	0.028 (1.329)	0.048** (2.339)	0.052** (2.505)	-0.007 (-0.281)	-0.007 (-0.271)	-0.007 (-0.289)
<i>Ceoown</i>	1,059.969 (1.263)	504.380 (0.580)	494.893 (0.574)	811.375 (0.796)	907.099 (0.878)	912.529 (0.877)
<i>Bdsize</i>	-0.094 (-0.578)	0.027 (0.173)	-0.029 (-0.182)	0.139 (0.730)	0.185 (0.972)	0.173 (0.890)
<i>Pctbdind</i>	0.551** (2.103)	0.636** (2.418)	0.589** (2.255)	0.208 (0.761)	0.185 (0.672)	0.168 (0.605)
<i>Duality</i>	-0.078 (-0.827)	-0.041 (-0.430)	-0.037 (-0.392)	0.078 (0.770)	0.083 (0.828)	0.079 (0.791)
<i>Mve</i>	0.000 (0.801)	0.000* (1.665)	0.000 (1.457)	0.000** (2.096)	0.000** (2.463)	0.000** (2.462)
<i>Lev</i>	0.203 (0.831)	0.199 (0.807)	0.158 (0.641)	0.020 (0.076)	0.022 (0.083)	0.005 (0.020)
<i>Nisd</i>	-0.000** (-2.325)	-0.000* (-1.748)	-0.000* (-1.708)	-0.001*** (-3.295)	-0.001*** (-3.040)	-0.001*** (-3.078)
<i>Q</i>	-0.158*** (-5.953)	-0.139*** (-5.274)	-0.130*** (-4.832)	-0.036 (-1.068)	-0.033 (-0.964)	-0.031 (-0.888)
<i>Age</i>	-0.006 (-1.029)	-0.006 (-0.927)	-0.007 (-1.087)	-0.005 (-0.695)	-0.005 (-0.694)	-0.005 (-0.777)
<i>Ceotenure</i>	0.003 (0.062)	0.006 (0.137)	0.010 (0.211)	0.012 (0.230)	0.010 (0.199)	0.011 (0.207)
Observations	3,995	3,995	3,995	3,858	3,857	3,858
Model chi-squared	147.1	135.0	138.1	79.83	81.16	86.01
p-value	0	0	0	1.21e-07	7.51e-08	4.50e-08

**TABLE 7. THE EFFECT OF INSTITUTIONAL INVESTORS ON EARNINGS SMOOTHING FOR FIRMS WITH PRE-MANAGED EARNINGS ABOVE VS. BELOW EARNINGS TREND (FIXED EFFECT LOGIT MODELS)** These models use fixed effect Logit regressions to compare the relation between institutional ownership and earnings smoothing between firms with non-discretionary earnings above and below earnings trend. The sample consists of S&P 1,500 firms from 1992 to 2006. See the Appendix for the definitions of all variables. All models include year dummies and a constant term. These coefficients are not reported to save space. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Model chi-squared and its significance level are provided at the bottom of the table.

Independent variables	NDE>Trend			NDE<Trend		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Ninst</i>	0.117 (0.647)			0.136 (0.564)		
<i>Instown</i>		-1.062** (-2.034)			0.799 (1.322)	
<i>Dedown</i>			0.054 (0.049)			2.197* (1.906)
<i>Qixown</i>			-0.287 (-0.396)			0.267 (0.336)
<i>Traown</i>			-2.445*** (-3.105)			1.261 (1.446)
<i>Ppso</i>	0.032 (0.872)	0.032 (0.871)	0.035 (0.966)	0.033 (0.797)	0.032 (0.760)	0.034 (0.825)
<i>Ceoown</i>	1,470.260 (0.662)	682.052 (0.306)	863.835 (0.386)	3,528.488 (1.349)	3,846.432 (1.466)	3,840.253 (1.461)
<i>Bdsize</i>	-0.331 (-0.798)	-0.273 (-0.661)	-0.300 (-0.726)	0.649 (1.367)	0.679 (1.427)	0.692 (1.448)
<i>Pctbdind</i>	0.115 (0.216)	0.178 (0.333)	0.145 (0.270)	1.537** (2.365)	1.450** (2.221)	1.435** (2.197)
<i>Duality</i>	-0.180 (-1.010)	-0.175 (-0.980)	-0.166 (-0.930)	-0.150 (-0.772)	-0.163 (-0.836)	-0.185 (-0.944)
<i>Mve</i>	0.000** (2.169)	0.000** (2.125)	0.000** (1.969)	0.000 (1.071)	0.000 (1.140)	0.000 (1.130)
<i>Lev</i>	-0.063 (-0.103)	-0.103 (-0.169)	-0.186 (-0.303)	0.635 (0.876)	0.600 (0.829)	0.580 (0.800)
<i>Nisd</i>	-0.001 (-1.592)	-0.001 (-1.581)	-0.001* (-1.710)	-0.000 (-1.435)	-0.000 (-1.404)	-0.000 (-1.398)
<i>Q</i>	-0.312*** (-4.868)	-0.295*** (-4.542)	-0.279*** (-4.279)	-0.036 (-0.470)	-0.039 (-0.523)	-0.047 (-0.618)
<i>Age</i>	-0.005 (-0.386)	-0.005 (-0.397)	-0.006 (-0.458)	-0.023 (-1.460)	-0.023 (-1.470)	-0.023 (-1.429)
<i>Ceotenure</i>	0.049 (0.585)	0.068 (0.796)	0.071 (0.835)	0.220** (2.290)	0.224** (2.339)	0.226** (2.358)
Observations	2,025	2,025	2,025	1,764	1,763	1,764
Model chi-squared	79.92	83.71	89.57	95.41	96.75	100.0
p-value	1.17e-07	2.96e-08	1.24e-08	3.67e-10	2.20e-10	2.54e-10

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#### **End Notes**

1. The author uses permanent transient/quasi-indexer/dedicated classification, which does not allow the classification to frequently shift across years.

**Track: Entrepreneurship, SMEs and NGO**

## *A Regional Profiling Of Start-Ups And Spin-Offs In Italy: Is Smart Specialisation A Utopia?*

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### **Abstract**

*Policies aimed to foster the creation of start-up or spin-off companies have been designed and implemented on both EU and national levels. Those efforts have surely increased the number of new technology-oriented companies in the whole continent. This paper aims at describing the distribution of registered start-ups in Italy both geographically and by sector of activity. Data was drawn from the National Registry of Innovative start-ups, a list created by the Italian Govt. in 2012, which contains information on several characteristics of the start-up population of the country. The activity code (ATECO 2007 code) is a numerical string associated to each type of economic activity. By analysing the activity code distribution across the country, we were able to determine a profile of each region based on the type and business of the established start-up companies. Similar regional profiles have been grouped in order to compare the reality with the smart specialisation strategies adopted by the region. Results show that certain external factors such as the presence of incubators, specific funding programmes and, most importantly, a dynamic and close relationship between universities and the business community have a strong influence on the start-up companies establishment and development.*

**Keywords:** innovation, technology transfer, start-up, spin-off, incubators

### **Introduction**

After the adoption of the European strategy of Lisbon in March 2000, innovation and research policies the past 15 years have focused their efforts on the creation of the so-called knowledge-based economy (KBE). KBE is an economic model destined to replace the manufacturing-based industrial production model that guided the western world's economy until the end of the 20th century. Although not fully achieved, the goals set in the Lisbon Strategy have however contributed to stimulate, in the long term, both national and regional responses with variable results in terms of innovation and increased employment levels. In some territories, the model of the triple helix, theorized by Etzkowitz and Leydesdorff (1995), in which the coordination among institutional actors (universities, local governments and businesses) leads to appropriate strategies and increased efficiency of the economic system has been implemented, leading the way towards the current European strategic direction of Smart Specialisation.

According to the European Commission, Research and Innovation Strategies for Smart Specialisation (or RIS3 strategies) are “integrated, place-based economic transformation agendas” which are “evidence-based and include sound monitoring and evaluation systems”.

They are aimed at:

- focusing policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development;
- building on each country/region's strengths, competitive advantages and potential for excellence;
- supporting technological as well as practice-based innovation and aim to stimulate private sector investment;
- getting stakeholders fully involved and encourage innovation and experimentation.

These goals have been addressed through dedicated governance projects, mostly funded by the EU and other initiatives, such an incentives' system for the selection and the tutoring of innovative business ideas, including

policies aimed to foster the creation of start-up or spin-off companies. Those efforts, carried out on a regional level, have surely increased the number of new technology-oriented companies, both derived from the academic context and from the market, in the whole continent.

This study, carried out within a larger framework of research on the start-up population in Italy, aims at describing the distribution of registered start-ups in the country both geographically and by sector of activity.

## **Literature Review**

The start-up companies and their characteristics have been analysed in several studies.

Spin-offs and their rates of growth in relation with the influence of the academic institution have been studied by Di Gregorio & Shane (2003) and more recently by Bathelt, Kogler and Munro (2010), Baldieri, Patrono and Piccaluga (2011). The effects of cooperation between universities and other institutions with the aim to create the condition for economic development, including new innovative business creation, have been studied by Etzkowitz, Webster, Gebhardt & Cantisano Terra (2000),

The incubators, and the support structures' role is very well described in the official reports of Bank of Italy (2012) and more recently by Tola & Contini (2015), while Poponi & Ruggieri (2016) focus also on the success factors of spin-off companies. These last two studies focus on Italian case studies. The NETVAL survey (2014) also gives a clear image on the support structures role in the Italian start-up population development.

Sternberg (2014) evidences the success factors of university spin-offs by analysing both the characteristics of regional policies and the economic environment. Other studies on the policy implications and management practices of spin-offs and start-ups within public research institutions have been carried out by Lockett, Siegel, Wright & Ensley (2005).

Finally the importance of Intellectual property rights and academic spin-offs has been described by Powers & McDougall (2005) and Helmers & Rogers (2011).

## **Materials and Methods**

Data used in this study was drawn from the National Registry of Innovative start-ups, a list created by the Italian Govt. in 2012, which contains information on several characteristics of the start-up population of the country. The status of "Innovative Start-up company" in Italy is given to any registered company that fulfils the following requirements, described in Law n.221/2012:

- It was established less than 5 years before the registration request;
- It has to be based in Italy. It can be also based in one of the EU member states or in an EEA country, provided it has an operational base in Italy;
- Its total annual value of production, starting from the second year of activity, cannot be higher than 5 million euros;
- It does not distribute dividends and it has never distributed them in the past;
- Its corporate purpose must be mainly or solely the development, production and sale of innovative products or services with high technological value;
- It must not be created through merger and acquisition of other companies or branches of companies.

Moreover, the start-up has to fulfil at least one of the following requisites:

1. It invests minimum 15% of the highest sum between the value or costs of production in research and development;
2. It employs highly trained staff: either 1/3 of the staff must be PhDs, PhD candidates or Masters' degree holders with at least 3 years' research experience, or 2/3 of the staff hold a Masters' degree;
3. It holds registered Intellectual Property Rights (or copyrights or a licence) for software, industrial inventions, biotechnology invention, semi-conductor products or vegetal variety.

InfoCamere, a branch of Unioncamere, the entity representing the Chambers of Commerce in Italy, manages the register. Registration in the Chamber of Commerce register is mandatory for any company that wishes to operate in Italy. Among the data that has to be provided when registering a company there is the ATECO 2007 code or activity code.

The activity code is a numerical string associated to each type of economic activity. The code is created by ISTAT, the National Institution of Statistics, and is based on the Nace Rev. 2, published in the Official Journal of 20 December 2006 (Regulation (EC) no 1893/2006 of the European Parliament and of the Council of 20 December 2006). The code's structure is based on three sets of two-digit numbers (e.g.: 14.19.29) preceded by a letter, that represents the broad sector of activity (e.g. C is manufacturing). The first set identifies the division (in our example 14, manufacturing of clothing, leather and fur); the second set identifies the group (1, manufacturing of clothing except fur and leather) and class of activity (9, manufacturing of clothing except leather, working apparel, other external apparel and underwear) while the last two digits identify category and subcategory (29, manufacturing of new-born clothing, sports apparel, ski apparel, swimsuits and similar items). By analysing the activity code distribution across the country, we were able to determine a profile of each region based on the type and business of the established start-up companies and its concentration level, measured through the Gini index. In order to avoid excessive pulverisation of the results we used only the first set of digits of the ATECO 2007 code. Finally, an analysis of the declared specialisation areas that each region has identified in order to fulfil the RIS3 strategy was used to compare the start-up population sectoral distribution with the regional strategies. Such analysis was based on a previous study carried out in 2014 by Invitalia (National Agency for investment attraction and business development) under the coordination of the Ministry for Economic Development and the Ministry of Education, University and Research.

## **Results and Discussion**

According to the register of innovative start-ups data, there are 5.415 registered start-ups in Italy. Regarding the regional distribution of the start-ups the regions with higher concentration are Lombardy, that hosts almost twice the number of companies than Emilia-Romagna, in second place. Latium, Veneto, Piedmont, Campania and Tuscany follow with values included between 10,6% and 5,72%. The rest of the population, equivalent to 30,75% of the total number of start-ups, is distributed in the other 13 Italian regions.

TABLE 1. REGIONAL DISTRIBUTION AND MACRO-REGIONAL CONCENTRATION OF ITALIAN START-UPS (AUTHORS' ELABORATION ON INFOCAMERE AND ISTAT DATA)

<u>Region</u>	<u>Start-ups</u>	<u>Percentage</u>	<u>Region</u>	<u>Start-ups</u>	<u>Percentage</u>
Lombardy	1178	21,75%	Trentino-Süd Tirol	180	3,32%
Emilia-Romagna	622	11,49%	Sardinia	141	2,60%
Latium	545	10,06%	Friuli-Venezia Giulia	134	2,47%
Veneto	404	7,46%	Calabria	130	2,40%
Piedmont	362	6,69%	Abruzzo	122	2,25%
Campania	329	6,08%	Liguria	90	1,66%
Tuscany	310	5,72%	Umbria	78	1,44%
Marche	258	4,76%	Basilicata	41	0,76%
Sicily	252	4,65%	Molise	20	0,37%
Apulia	206	3,80%	Aosta Valley	13	0,24%
			Total	5415	100,00%
<u>Macro-Region</u>	<u>Ratio to the population</u>				
Northern Italy	1 start-up per 9.123 people				
Central Italy	1 start-up per 17.313 people				
Southern and Insular Italy	1 start-up per 9.348 people				
Italian average	1 start-up per 10.976 people				

The table shows that there are several levels of geographic concentration of start-ups but they are not related to the average wealth, demographic or industrial structure of the regions. For instance, the richer, more populated and more industrialised northern regions have a similar population level of start-ups level than the southern and insular regions. The central regions, instead, show a ratio that is nearly half of the other two groups.

The following graph shows the number of start-ups registered since the creation of the dedicated database. The trend is showing a rapid growth of the number of registered companies as more and more entrepreneurs recognise the advantages deriving from the registration (for companies established before the creation of the register). Newer companies, (established after the creation of the register) in most cases register their activities in both the ordinary registrar and in the start-up database at the same time, during the mandatory registration process.

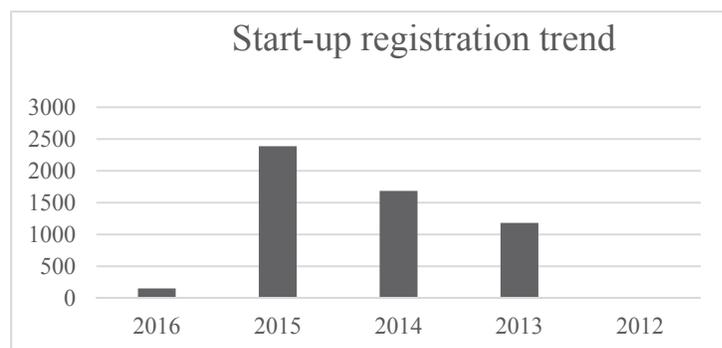


FIGURE 1. START-UP REGISTRATION TRENDS (AUTHORS' ELABORATION ON INFOCAMERE DATA)

Regarding the type of activities carried out by the Italian start-ups a first observation on the macro-classes of activity (see fig. 2) shows a great concentration in the J sector (Information and communication services) which clusters most of the ICT and Web related activities. Professional services such as research, engineering, design and

technical consultancy are also well represented. The large number of companies registered under this category is due to the high diversity of services that are included in it.

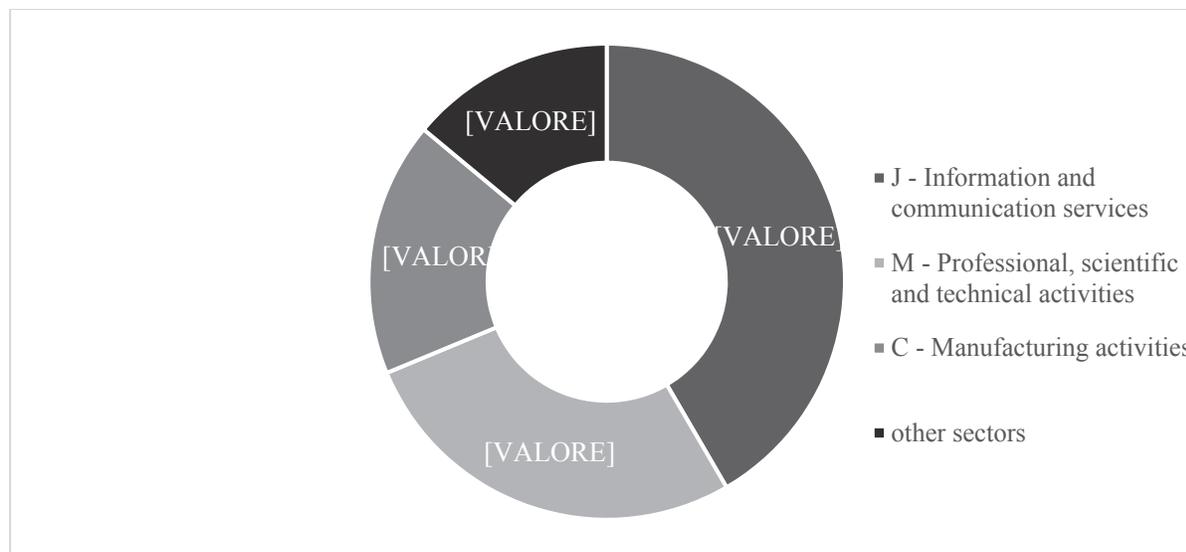


FIGURE 2. MACRO-SECTORIAL DISTRIBUTION OF THE ITALIAN START-UPS

TABLE 2. SECTORIAL DISTRIBUTION OF ITALIAN START-UPS, FIRST TEN SECTORS ARE SHOWN.

Sector	No. of companies	Percentage
J 62 Software production, ICT consultancy	1628	30,06%
M 72 Scientific research and development	819	15,12%
J 63 Information services or other services	444	8,20%
M 74 Other technical, professional or scientific activities	215	3,97%
C 26 Manufacturing of computers and electronic products	207	3,82%
M 71 Engineering and architecture	183	3,38%
C 28 Manufacturing of other machinery and tools	181	3,34%
M 70 Enterprise management and business consultancy	160	2,95%
G 47 Retail commerce	125	2,31%
C 27 Manufacturing of electrical machines	118	2,18%

In table 2, a more detailed description is carried out, by grouping the companies by the first two digits of the ATECO 2007 code. The first ten categories are shown; some of the activities, previously listed under in the “other” group are evidenced. The manufacturing and retail sector are now visible.

On a regional scale the concentration of the start-up population in the various sectors has been analysed with the Gini Index. The following figure shows that the population shows high or even very high levels of concentration in a small number of sectors. The data show no particular patterns associable with GDP, size or population, although previous studies (Balata, Mandras & Tola 2016) show that there is a connection between the number of incubators and support structure and the start-up population size.

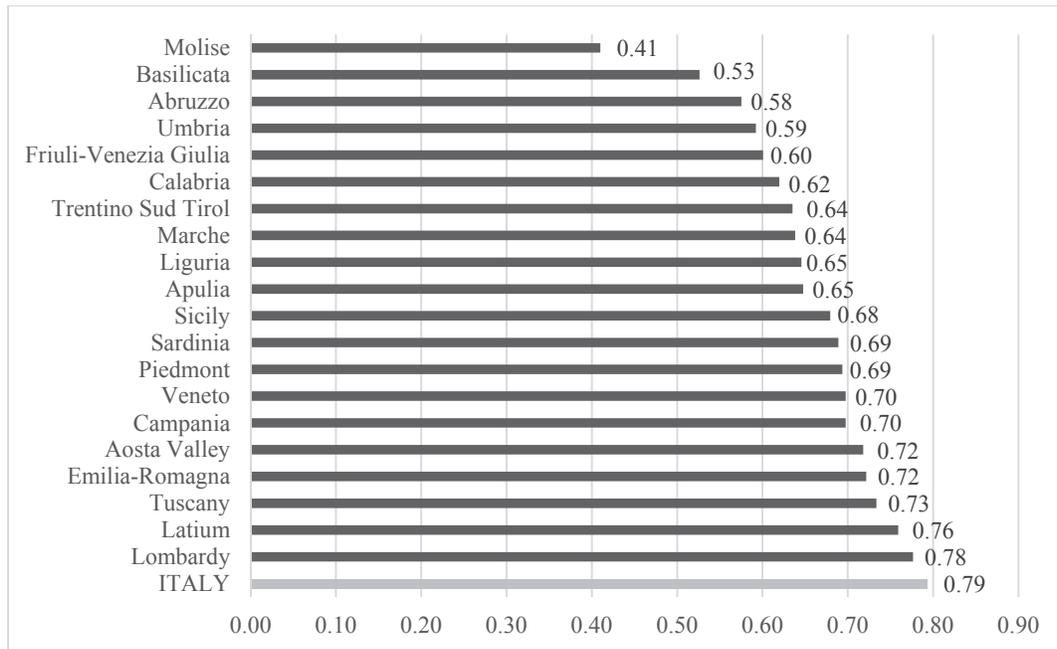


FIGURE 3. GINI INDEX VALUES OF CONCENTRATION FOR EACH REGION

## Conclusions

Regarding the connection between the start-up population characteristics and the Smart Specialisation strategies that each region has identified, a preliminary analysis shows that, out of the 23 areas of expertise evidenced by the various regions, only a few sectors have shown a concentration and population level coherent with the philosophy of the strategy, while other areas evidence a lesser presence in terms of start-up companies. Some sectors, that are traditionally strongpoints of the Italian economy (agrofood, fashion, precision mechanics, tourism etc.) are underrepresented. A possible explanation of this fact is that some sectors, that privilege larger structure (automotive, industrial products, manufacturing) do not represent an ideal competitive environment for start-up companies, which focus more on soft or very specialised skills and tend to act as external services providers. Those sectors, moreover, require high investments and sometimes develop their innovation efforts internally thus leaving no traces of their innovations in the start-up population.

This thesis is supported by the fact that the most populated sectors are the ICT-related areas and the specialised consultancy services; those two sectors are naturally cross-cutting in terms of problems tackled and solution proposed, making their presence very important in terms of number but also in terms of variability.

Further research is needed to confirm that, within the ICT and specialised consultancy sectors the companies activities are in each region coherent with the Smart Specialisation strategy defined.

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## ***Beyond the Nature of the Farm: The Determinants of Farm Integration and Structure***

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### **Abstract**

*The purpose of this research is to conduct a contemporary appraisal for the determinants of the farm structure in the agricultural sector. The contribution of this study is essentially empirical and focuses on generating testable hypotheses on the economic organization of the Algerian agriculture. To reach this aim, first of all, the determinants of farm structure will be investigated. Secondly, the nature of the relationship between vertical and horizontal integration in the agricultural production will be underlined. Finally, the conclusion will emphasize the constraints of farm extent. The paper utilizes a Logit model to generate maximum likelihood estimates. The sample includes data for 1590 farmers interviewed in a survey provided by a National Research Program hold on farming and agricultural cooperatives for the period 2011- 2013. The main results of this study show that: (i) the farm structure matters in economic organization and, (ii) the vertical and horizontal integration are strongly and positively related. These findings corroborate partially the existing theories and generate new empirical implications, leading to propose some directions for future researches.*

**Keywords:** farm structure, farmer behavior, asset specificity, vertical integration

### **Introduction**

This paper draws upon the relevant lessons from some evidence on the institutional structure of the agricultural production in developing countries. Its contribution is largely empirical. Indeed, it is obviously based on the quasi-absence of studies that shed light on the agricultural organization in Algeria. For this reason, the Algerian agriculture is taken as a case study, leading us to generate testable hypotheses related to the economic organization of the Algerian agriculture.

In this research, the determinants of farm structure were firstly explored. By identifying the conditions in which forces shaping farm efficiency vary, testable hypotheses about the determinants of farm structure were then derived. To test these hypotheses, modern conceptual advances were implemented allowing to explain how farming systems perform in developing countries. In a second step, the nature of the relationship between vertical and horizontal integration in the agricultural production will be investigated. Finally, the last section concludes by identifying the constraints of the farm extent.

In detailed terms, a multi-dimensional analysis of the organizational structure of farming activities will be exposed. This analysis will be carried out in two levels. The first level of the analysis focuses on the determinants of farm structures. In the Algerian agricultural economy, there are three common organization forms of the farming activity. The individual-family farms and the state-owned collective farms are the most common ones. Then, the leasing farm is the less frequently current form<sup>1</sup>. The second analysis level will shed some light on the vertical and horizontal extent of the farm. The integration trends analysis will underline the essential determinants and effects of asset specificity, as well as the technology adoption and the farm diversification strategy.

Data used for this study are derived from the Regional Sample Survey provided by the National Research Program on Farming and Agricultural Cooperatives for the period January 30, 2011-January 31, 2013. These data were collected through detailed interviews realized across 1590 farmers. At this stage, a questionnaire was prepared, written, then discussed and well-adapted to the farmers. In the following step, the interviews were undertaken to capture several agricultural producers' characteristics (farming activities, economic and social environments) and the data were represented by a matrix which contains qualitative and quantitative variables. Therefore, the adequate econometric models were chosen to deal with the data analysis.

The main results show that: (i) the farm structure matters in economic organization and, (ii) the vertical and horizontal integration are strongly and positively related. These findings corroborate partially the existing theories and enable us to deduce some new empirical implications.

### **Research motivation**

The motivation behind the current research stems from empirical and practical considerations. The Algerian economy seems to be so interesting regarding the importance of the agricultural sector in the national production as well as the great interest granted for food security issues. In what follows, a response will be given to the following question and constitutes the motivation for the conduct of the study: what explains the different patterns of landholding and performances in agriculture? This question has been largely treated in advanced countries, and our essay is to generate testable hypotheses in the context of emergent developing countries, and particularly, in Algeria.

### **Objectives of the study**

The objectives of this research are to: (1) explore the main factors that have significant effects of the farm structure (i.e. the farm size, the location of the farm, the farmer socioeconomic characteristics); (2) examine the nature of the relationship between the vertical and the horizontal integration; (2) investigate the constraints of farm extent.

### **Contribution of the study**

This study contributes to the current and relevant literature as follows: (1) this research examines the potential significant effects of essential factors on the farm structure. These factors include: the farmer characteristics (age, education, off farms activities undertaken), the farm technology (land-ratio, technology), the farm regional location (East, West, Centre), the farm specificities (irrigation, diversification), the nature of the activity (dairy, poultry, grain), and the number of cycles; (2) the previous studies didn't offer a better understanding of the institutional structure of the agricultural field in developing countries, especially in Maghrebian ones such as Algeria. The contribution of this research is that it explores the Algerian agricultural economic organization.

The rest of the study is organized as follows. The section 2 presents the conceptual framework of farm organization and explores the hypotheses of this study. Section 3 exhibits the modeling issues. Section 4 presents empirical evidences dedicated for contemporary farm structure determinants. Section 5 exposes the integration trends' analysis in farming activity. Finally, the last section concludes.

### **Farm Organization: Theories and Facts**

The purpose of this study is to study the economic organization (the ownership and the contracting) of agriculture in North Africa. The Algerian case seems to be so interesting regarding the importance of the agricultural sector in the national economy and for food security issues. In what follows, we will try to answer the following question: what explains the different patterns of landholding and performances in agriculture? This question has

been largely treated in advanced countries, and our essay is to generate testable hypotheses in the context of emergent developing countries, and particularly, in Algeria.

Despite the multitude of theoretical frameworks recently elaborated for the analysis of the farm extent, the New Institutional Economics<sup>2</sup> provides helpful analytical tools to examine the farmer's behavior and choices, in different institutional environments. Therefore, the transaction costs' theory (TCT) was mostly considered. This approach has been largely applied in economic organization of agricultural practices in the last three decades. The TCT offers an advanced conceptual framework to explain different features of contractual arrangements in agriculture (Allen and Lueck, 1993, 2001, 2005; Roumasset, 1997; Cook *et al.*, 2008; Chavas, 2008). It advances that the organization of farm production is largely determined by the efforts made to economize on transaction costs. Besides, the TCT focuses essentially on the different issues of asset specificity, like site, physical, and human ones. As stated by Allen and Lueck (2001), farming can hardly be characterized as a production process laced with specific assets. Thus, the empirical evidence emphasis on the fact that farm structure matters in economic organization. In results, it has been shown that the evolution of a farm structure is a part of a complex evolution of the agriculture sector and its role in the global economy (Chavas, 2001).

It seems that the family farm is the most common organizational form of farming around the world. In Algeria, family farm is also the most known farming form embedded in agricultural organization. It has undergone several structural changes through the last three centuries. Before the nineteenth century<sup>3</sup>, in the pre-French colonization era (where the country was under the Ottoman-Turkish government), farming was dominated by the Baylek<sup>4</sup> farm and the Royal family farm system (Saidouni, 2001). The royal family farm was strongly affected by the French colonization period, and restructured in two sub-forms: small independent family farms (under Arch<sup>5</sup> ownership), and Baysa<sup>6</sup> farms (denoting a contractual dependence on the French authorities). Concerning Baylek farms, they were appropriated to the Arch ownership system.

In the modern era (i.e., Algeria after the independence (1962)), we have three dominant farm structures: relatively small individual family farms, collective state-owned farms, and farm leasing systems. In theory, the emergence and evolution of these farm organizational forms is largely determined by political and socioeconomic considerations. In what follows, the focus will be on the economic determinants of these structures in terms of efficiency and integration trends.

The current prevalence of the family farm as a socioeconomic unit of agricultural production (where it is often difficult to distinguish between production unit and household consumption unit) is particularly noteworthy (Chavas, 2001). As stated by Deininger and Feder (2001), the cost of supervision is particularly large in agricultural production due to spatial dispersion of the production process and the need of constant adjustments to micro-variations of the natural environment. Family members are residual claimants of profits. That's why they have higher incentives to sustain efforts comparatively to hired labor. They share farm risks, and can be employed without incurring hiring or searching costs. These attributes enhance the general superiority of family farming over large-scale wage operations, manifested empirically in an inverse relationship between farm size and productivity.

When considering the efficiency determinants of the farm structure, more attention should be called to three main aspects: assets specificity, technology and diversification. Two main ideas are developed in this research. The first asserts that these three aspects are determined by economies of scale, seasonality and, some technical and economic factors. The second advances that the vertical and horizontal integration are strongly and positively related.

The seasonality nature of agricultural production seems to have a strong influence on the farm structure (Allen and Lueck, 1998, 2001). In terms of asset specificity, the irrigation asset and machinery asset control are employed as proxies. This choice is explained by the fact that that irrigation and machinery assets are, in many cases, transaction-specific assets involved in a farmland contracts. The on-farm diversification was used as a proxy

for the horizontal integration in farming activities. In fact, farm enterprise diversification can be an efficient risk management mechanism by stabilizing expected returns in an uncertain environment (McNamara and Weiss, 2005). More specifically, enterprise diversification is a method deployed for reducing income variability (Mishra *et al.*, 2004).

Based on some theoretical considerations, it seems that farm structure has an impact on on-farm diversification (Pope and Prescott, 1980) which means that family farms are more specialized than other farms. This evidence assumes that the individual family farm is less constrained, mainly in specific institutional environments. On the contrary, if the farmer operates in more constrained institutional environments, he will face higher production risks. Consequently, he will devise some risk management mechanisms. In our context, the individual family farm is less specialized, and its risk management protocol is related to the diversification of on- and off-farm activities. Small farms are also more likely to be diversified. So, it will be so evident that small farms are more diversified than large ones.

However, on-farm diversification requires an improved education level; i.e., greater experience may change risk preferences. Therefore, learning by doing may lead to incentives for specialization. In terms of age, some empirical and theoretical assumptions suggest that older farmers tend to be less motivated to engage in on-farm diversification, as age and wealth are positively correlated. Other results indicate that more experienced farmers are more diversified than inexperienced ones. If the farmer receives an income from an off-farm activity, he will be more reluctant to pursue an on-farm diversification as a method of reducing financial risks associated with farming activities<sup>7</sup>. By the way, off-farm activity reduces the incentives for farm output diversification (McNamara and Weiss, 2005). In another perspective, the spatial dimension of agricultural production requires that the farm field contain numerous areas that differ from one another with respect to soil fertility, microclimate, and other factors that influence crop yields. However, regional location constraints (climatic, soil productivity, infrastructures, etc.) compel the potential farm business strategies and impose limitations on human capital development opportunities. In addition, location influences the choice of enterprise farm options and the development of alternative methods for the marketing of the agricultural products.

The modern theoretical framework, and more particularly the TCT, suggests that the firm's technology adoption is influenced by some kinds of asset specificity, such as site specificity and physical asset specificity (Williamson, 1988). As a result, larger farms may also be located in areas with better information sources or with growing conditions which are more favorable for new varieties. Feder (1980) showed that larger farms might thwart less credit or capital limitations on adopting new technologies.

Accordingly, our expectations about the relationships mentioned in the conceptual framework could be formalized into five hypotheses dealing with the farm structure, and its determinants.

*H 1*: The family farm is more likely to be supported with smaller landholding.

Indeed, collective farms and farm leasing are more likely to be supported with large landholdings. This hypothesis assumes the existence of economies of scale in the agricultural production<sup>8</sup>. The second hypothesis could then be proposed:

*H 2*: The family farm is more likely to be support an increased number of cycles.

By this hypothesis, it is assumed that the Mother Nature has an impact on the farm structure. However, as the number of cycles per year decreases, collective farm and farm leasing are more likely. In turn, the regional location has a great importance in the economic organization, as discussed below. As a consequence, the family farm is more likely to support poultry production, whereas the farm leasing is more likely to maintain cattle

production. On the contrary, the collective farm is more likely to sustain grain production. This reflects the fact that farmers have risk preferences for such activities.

*H3*: An increasing importance of asset specificity and diversification involve higher levels of capital and farm size. Asset specificity refers, by here, to the irrigation assets and machinery assets. Assets control forms are between ownership and a simple contracting.

*H4*: As the importance of output diversification increases, the family farm becomes the most correspondin structure.

This hypothesis implies that the small family landholders are highly diversified, both for on-farm and off-farm activities. This, in turn, reflects the fact that family landholders face more production risks. Consequently, there are no gains reaped through specialization. However, farm leasing and collective farm become less likely to diversify their portfolios. Indeed, the partnerships involve specialization.

*H5*: The diversification strategy is supported by a higher human capital, a higher asset specificity level; hence, the family farm is less likely to be efficient.

It is consistent to argue that individual family farms are more constrained in “harsh” environments. Indeed, those ones are characterized by some liquidity constraints, which matter in the farm efficiency, the presence of economies of scale and the benefits coming from specialization. In the current context, the family farm evolves in specific conditions, and faces some technological and financial barriers. Such obstacles would restrict the efficiency of family farms among other farm organizational forms.

## Data and Econometric Methodology

In this study, farm-level data are used to test the correspondent hypotheses. The data came from the Regional Sample Survey provided by the National Research Program on Farming and Agricultural Cooperatives over the period of 2011-2013. The survey is realized on a random sample of local farm operators, through detailed interviews realized across 1590 farmers. Its main aim was to develop a questionnaire which was well adapted to the farmers. The data were collected through direct interviews in order to capture several agricultural producers’ characteristics. Table 1 provides variable definitions and summary statistics for the variables employed in this research.

In order to examine the relationship between farm characteristics and the choice of structures, the Logit model was utilized to generate maximum likelihood estimates of the model for a sample of 1590 farms. This tool brings econometric advantages with respect to the nature of variables<sup>9</sup>. Concerning the farm structure, the survey data were used to estimate the determinants of the farm organizational form and to test some predictions. The following empirical specification was employed, where for any farm  $i$  the complete model is:

$$Y_i = X_i \beta_i + \varepsilon_i \quad [1]$$

$Y_i$  is the observed dichotomous variable of the farm structure;  $i$  is equal to 1 for one of the three chosen farm structures and it is equal to 0 otherwise.  $X_i$  is a row vector of exogenous variables,  $\beta_i$  is a column vector of unknown coefficients, and  $\varepsilon_i$  is a farm-specific error term. The independent variable  $Y_i$  reflects the three farm structures. Subsequently, three Logit estimation models of farm structure were obtained. The first model concerns a dummy of a family farm (*FAMILY*) as an organizational form. It takes the value of 1 if the farm structure is an owner-operator family farm and 0 otherwise. The empirical specification is then:

$$FAMILY_i = X_i \beta_i + \varepsilon_i \quad [2]$$

The second model is related to a dummy of a farm leasing (*LEASE*). It takes the value of 1 if the farm structure is linked to a leased farm operator and 0 otherwise. The empirical specification is as follows:

$$LEASE_i = X_i \beta_i + \varepsilon_i \quad [3]$$

The third model is appropriate to a dummy of a collective state-owned farm (*COLLECT*) as an organizational form. It takes the value of 1 if this form is related to a collective state-owned farm and 0 otherwise. The empirical specification is as follows:

$$COLLECT_i = X_i \beta_i + \varepsilon_i \quad [4]$$

These three models are shown in Table 2. Then, the focus will be on the row vector of independent variables  $X_i$ . In order to reflect the farm size, the effective used land (*LAND*) is used. It corresponds to the ratio of effectively exploited farmland on the total owned landholding. The other block of variables reflects some farmer's characteristics, as the farmer's age (*AGE*) in the number of years, a dummy of the farmer's education (*EDUCAT*) taking the value of 1 if the farmer has a formal education level and 0 otherwise. Another dummy was also employed to represent the non-agricultural activity (*OFFARM*). It takes the value of 1 if the farmer has a non-agricultural activity and 0 otherwise.

The farming activity was also chosen for the three main local agricultural activities: the dairy cattle farming (*DAIRY*), the poultry farming (*POULTRY*), the cash crop, and the grain and cereal farming (*GRAIN*). These three farming activities were captured through their appropriate dummies (there are no design variables).

On the other hand, another block of variables is implemented and relates to the cycles number of the principal activity per year. The first variable corresponds to a unique cycle per year (*CYCLE\_1*), taking the value of 1 if the main farm output has a cycle per year and 0 otherwise. The second one relates to two cycles per year (*CYCLE\_2*), taking the value of 1 if the main farm output has two cycles per year and 0 otherwise. Finally, the third variable is convenient to three or more than three cycles per year (*CYCLE>3*). It takes the value of 1 if the main farm output has 3 (or more) cycles per year and 0 otherwise. In the set of explanatory variables, the regional dummies were captured by three design variables for the north of the country (*EAST*, *WEST*, and *CENTRE*). In the second step of analysis, three other independent variables were employed for the farm integration. The first variable reflects the farmland irrigation (*IRRIGATED*) measuring the irrigated farmland area (in hectares). The second one represents the ownership of hard technological machinery by the farm (*TECHNO*) taking the value of 1 if the farmer owns tractors, equipments, or hard machinery, and 0 if he leases them. Thirdly, a censored variable is used for the farm output diversification (*DIVERS*).

### **Empirical Evidence from Farm Organization in Algeria: The Farm Structure**

The table 1 exhibits a summary of descriptive statistics linked to a farm data emanating from the regional sample survey. In this context, several farm structures have a representative distribution of the proportions. The family farms represent 64% of the other forms and it is the dominant organizational form. The collective farms have also a significant proportion with 32%, which lead to include it in the modeling. Finally, the farm leasing is the less present organizational form, with 4%.

The mean of the effective land ratio is 0.52. It implies that the farming systems of the current sample employ almost 52% of the owned landholdings (with a variance of 0.17). It seems useful to illustrate the effective farmland ratio variations in terms of two factors.

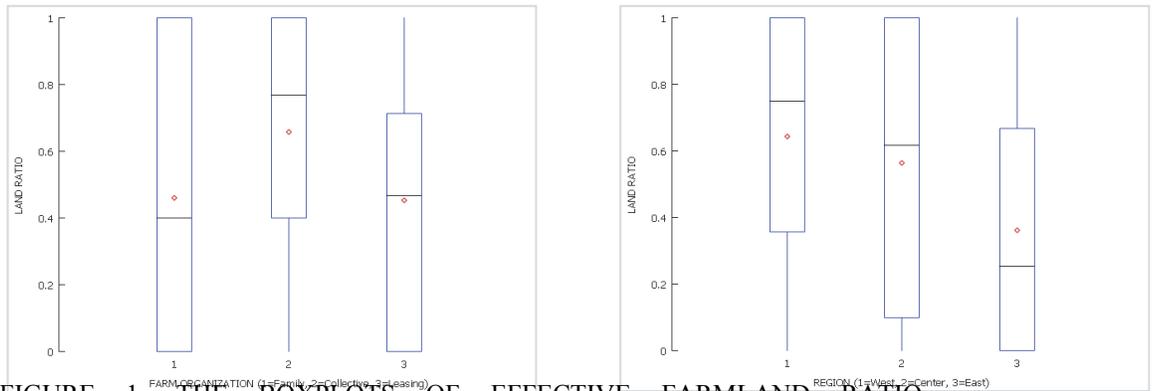


FIGURE 1. THE BOXPLOTS OF EFFECTIVE FARMLAND RATIO VARIATIONS FACTORIZED BY FARM STRUCTURE AND BY REGIONAL LOCATIONS

In detailed terms, figure 1 emphasizes the effective farmland ratio variations factorized by a farm structure and by regional locations. On the left side, the farmland ratio is factorized by the farm structure. It seems that collective farms have higher levels of effective farmland ratio. Moreover, effective farmland ratio variations are factorized by regional locations in the right side. A negative significant slope of farmland ratio was obtained from the west to the east.

In terms of the ownership of physical capital, it appears that 47% of the farmers own technological and physical capital as tractors and hard durable machinery, while the rest (53%) lease physical capital by different range of contracts.

The mean age of a farmer is around 52 years old. Such a result reflects the fact that the representative farmer is an old man (the minimum value is 23 years old but the mode and the median are respectively 57 and 60 years old). It turns out that “young entrepreneurship” in farming maintains a limited presence in the Algerian agriculture. Figure 2 illustrates some illustrations on the farmers’ age variations.

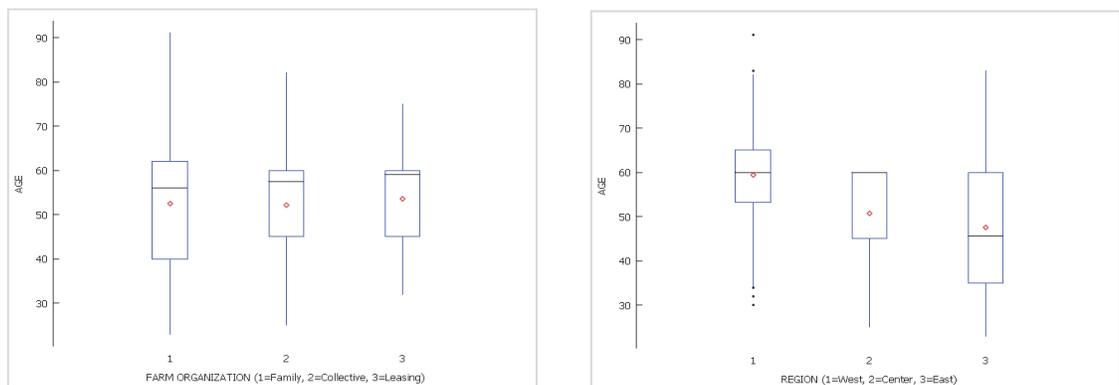


FIGURE 2. THE BOXPLOTS OF FARMERS’ AGE VARIATIONS FACTORIZED BY FARM STRUCTURE AND BY REGIONAL LOCATIONS

From the left figure, the age variations factorized by the organizational form could be deduced, stressing that the farm leasing has less variance-related to the farmers’ age- than the two other forms. In terms of regions, in

the right figure, a more significant variance of age demonstrates that the central regions involve young farmers more than the eastern ones. However, in the western regions, the representative farmer is typically an older man.

TABLE 1. SUMMARY OF FARM DATA FROM REGIONAL SAMPLE SURVEY IN ALGERIAN AGRICULTURE: 2011-2013

Variables	Definition	Mean	Var.
<b>Farm Structure</b>			
<i>FAMILY</i>	1 if the farmer operates on familial land ownership; 0 otherwise	0.64	0.23
<i>LEASE</i>	1 if the farmer operates by leasing a land; 0 otherwise	0.04	0.03
<i>COLLECTIVE</i>	1 if the farmer operates in collective State-owned land; 0 otherwise	0.32	0.22
<b>Farm Technology</b>			
<i>LAND_RATIO</i>	Ratio of effective land area on the total landholding	0.52	0.17
<i>TECHNO</i>	1 if the farmer owns hard machinery; 0 if he lease it	0.47	0.25
<b>Farmer Variables</b>			
<i>AGE</i>	The age of the farmer in years	52.40	174.50
<i>EDUCATION</i>	1 if the farmer has a formal education level; 0 if not	0.28	0.20
<i>OFFARM</i>	1 if the farmer participates in an off-farm activity; 0 if do not	0.19	0.15
<b>Farm Variables</b>			
<i>IRRIGATED</i>	Irrigated farmland area (hectares)	7.76	137.19
<i>DIVERS</i>	Ratio of farm diversification (censored from 0 to 1)	0.25	0.07
<b>Activity</b>			
<i>DAIRY</i>	1 if the farm livestock is dairy cattle; 0 otherwise	0.40	0.24
<i>POULTRY</i>	1 if the farm livestock is poultry; 0 otherwise	0.19	0.09
<i>GRAIN</i>	1 if it is grain and cereal farming; 0 otherwise	0.74	0.19
<b>Cycles per year</b>			
<i>CYCLE_1</i>	1 if the main farm output has 1 cycle per year; 0 otherwise	0.35	0.20
<i>CYCLE_2</i>	1 if the main farm output has 2 cycle per year; 0 otherwise	0.12	0.11
<i>CYCLE&gt;3</i>	1 if the main farm output has more than 3 cycle per year; 0 otherwise	0.53	0.26
<b>Regional Location</b>			
<i>EAST</i>	1 if the farm is located in Northeast; 0 otherwise	0.37	0.23
<i>WEST</i>	1 if the farm is located in Northwest; 0 otherwise	0.32	0.22
<i>CENTRE</i>	1 if the farm is located in North-middle; 0 otherwise	0.31	0.21

The human capital dummy, represented by the formal education, contains 72% of non-qualified farmers. In detailed term, the education level's distributions demonstrate that: 23% of the qualified (with formal education) farmers are subsisting in family farms; 33% of them are operating in collective farms, and 47% of them are working in leased farms. Indeed, it seems that those ones have high levels of human capital.

The mean of the effective irrigated farmland is 7.76 hectares. However, it represents a high variance. The diversification ratio has a mean of 25%. It means that the representative farmer of our sample has two farm outputs. Farming activities are distributed as follows: 40% of them are done by dairy cattle farmers, 19% of them are related to poultry farmers, and 74% of them concern cash crop farmers. For the regional location, it seems that the farmers are equally distributed (roughly one third for each region). 37%, 32%, and 31% are coming respectively from the East, the West and the Center.

Table 2 shows the maximum likelihood estimates of the Logit model of farm organizational form from regional sample survey in the Algerian agriculture. Each observation is a single plot of land that operates by the farmer through one of the common forms of farm organization. The first column indicates the independent variables.

The three other ones represent the dependent dummies used as response variables through the binary Logit estimation. The first model uses the dependent variable of *FAMILY*, the second uses *LEASE* and the last one utilizes *COLLECT*. It seems that the three models have high correctly predicted cases, respectively 76.5%, 96.4% and 79.3%. They show a very strong correlation through the McFadden R-squared coefficients respectively 0.20, 0.16 and 0.21.

The coefficient estimates for *LANDRATIO* is negative for the family farm. While for the collective farm, the coefficient is positive and statistically significant. In terms of farm size, it seems that it has a negative significant marginal effect on the family and leasing farms. However, it has a positive significant marginal effect on the collective farm. These estimates provide evidence that, with a larger farm size, the collective farm becomes more likely.

In terms of farmer's main characteristics, it seems that the age has a very high significant effect on the farm's organization. The family farms are more likely to operate with older farmers, while leasing and collective farms are likely to match with relative younger farmers. The estimated coefficients for *AGE* are statistically significant in the three models. They present the values of 0.024, -0.039 and -0.020 with higher absolute values of z-statistics for, respectively, family, leased, and collective farms. These values indicate that the farmer's age, as a proxy of his experience, strongly matters in the farm organizational form. Besides, leased and collective farms are more likely with younger farmer.

The human capital proxy, *EDUCAT*, shows a positive marginal effect on leasing and collective farm, whereas the family farm has a negative marginal effect on the human capital level. The estimated coefficients demonstrate that farmers' formal education (qualification) increases their likelihood of leasing and pooling the land. The estimated coefficients indicate that the off-farm activity, *OFFARM*, is positively related to the family farm (coefficient estimates are 0.573, -0.499 and -0.602 with higher absolute values of z-statistics for respectively, family, leased, and collective farms). Indeed, the family farm is more likely to adopt the off-farm activity through the positive marginal effect, comparatively to the other two forms.

It seems also that the regional location have significant effects on farm structure. In terms of regions, the family farms are more likely to be found in the eastern regions, *EAST*. The collective farms are more likely to be found in the central northern Algeria, *CENTRE*. On the contrary, they have negative effects for the other estimates. The seasonality seems also having a positive significant effect on the farm organizational form. It is reflected by cycles per year, *CYCLES* dummies. The coefficient estimates show that the family farm is more likely with three (or more) cycles per year, while the farm leasing is more likely with two cycles per year. The collective farm is more likely with one cycle per year. These results are confirmed by their higher absolute values of z-statistics and the effects on the three organizational forms (while they have negative effects for the other estimates).

TABLE 2. MAXIMUM-LIKELIHOOD ESTIMATES OF THE LOGIT MODEL OF FARM STRUCTURE FROM REGIONAL SAMPLE SURVEY IN ALGERIAN AGRICULTURE

Variables	Logit Estimation of the Farm Structure ( <i>FAMILY</i> )		Logit Estimation of the Farm Structure ( <i>LEASE</i> )		Logit Estimation of the Farm Structure ( <i>COLLECT</i> )	
Farm Size						
<i>LAND_RATIO</i>	-0.539 (-3.172)	***	-1.121 (-2.615)	***	0.765 (4.360)	***
Farmer Variables						
<i>AGE</i>	0.024 (4.223)	***	-0.039 (-2.912)	***	-0.020 (-3.401)	***
<i>EDUCATION</i>	-0.963 (-6.235)	***	0.818 (2.542)	**	0.873 (5.462)	***
<i>OFFFARM</i>	0.573 (3.208)	***	-0.499 (-1.094)		-0.602 (-3.214)	***
Regions						
<i>EAST</i>	0.646 (1.856)	*	-4.148 (-4.653)	***	-0.713 (-1.972)	**
<i>WEST</i>	-0.001 (-0.003)		-0.192 (-0.216)		-0.800 (-2.006)	**
<i>CENTRE</i>	-1.395 (-3.943)	***	-1.394 (-1.736)	*	0.917 (2.536)	**
Cycles						
<i>CYCLES_1</i>	-0.198 (-1.035)		-0.097 (-0.212)		0.301 (1.493)	
<i>CYCLES_2</i>	0.624 (3.979)	***	1.228 (4.017)	***	-1.026 (-6.142)	***
<i>CYCLES&gt;3</i>	1.199 (5.204)	***	-0.630 (-0.980)		-1.163 (-4.888)	***
Correctly Predicted	76.5%		96.4%		79.3%	
McFadden (R2)	0.204		0.161		0.219	
Log-Likelihood	-822.11		-205.81		-777.38	
Likelihood Ratio Test	422.84 [0.0000]		79.07 [0.0000]		437.92 [0.0000]	

Note: The value of the (asymptotic for Logit equation) z-statistics are in parentheses.

\* Significant at the 10% level, \*\* Significant at the 5% level, \*\*\* Significant at the 1% level, no asterix: Not significant.

### Integration Trends Analysis: Results and Discussion

In this section, we test some of the implications derived from the modeling of asset control determinants. The costs of contracting and ownership are determined by specific factors like farm organization form, farm size, human capital, location, and the nature of agricultural activity.

In the econometric estimates, the vertical integration was proxied by two manners. The first way corresponds to the extent of the irrigation asset control. The second one is related to the machinery asset control. The horizontal integration in the modeling was, however, proxied by the on-farm diversification variable. Consequently, the integration trends' empirical analysis has three parts. First of all, by using ordinary least square (OLS)

regression, the factors that have effects on the choice of irrigation asset control were estimated. Second, the factors that influence the choice of machinery asset control-as determinants of technology adoption- were estimated via Logit regression. Third, the variables that have an impact on the on-farm diversification were estimated, through the usage of Tobit regression. The Table 3 shows the three econometric modeling estimates for integration trends from a regional sample survey.

TABLE 3. THREE ECONOMETRIC MODELING ESTIMATES FOR INTEGRATION TRENDS FROM REGIONAL SAMPLE SURVEY IN THE ALGERIAN AGRICULTURE

Variables	OLS Estimation of Farmland Irrigation ( <i>IRRIGATED</i> )		Logit Estimation of Technology Adoption ( <i>TECHNO</i> )		Tobit Estimation of Output Diversification ( <i>DIVERS</i> )	
Farm Size						
<i>LAND_RATIO</i>	8,534 (12,366)	***	-0,009 (-0,064)		-0,194 (-8,301)	***
Farmer Variables						
<i>AGE</i>	-0,001 (-0,064)		0,014 (2,811)	***	-0,002 (-0,029)	
<i>EDUCATION</i>	0,523 (0,831)		0,451 (3,245)	***	-0,004 (-0,206)	
<i>OFF_FARM</i>	1,597 (2,403)	**	0,283 (1,893)	*	-0,008 (-0,397)	
Regions						
<i>EAST</i>	-1,999 (-1,484)		-2,834 (-8,769)	***	-0,138 (-3,347)	***
<i>WEST</i>	-3,265 (-2,167)	**	-2,989 (-8,300)	***	-0,271 (-5,468)	***
<i>CENTRE</i>	3,661 (2,678)	***	-2,700 (-8,228)	***	-0,183 (-4,313)	***
Activity						
<i>GRAIN</i>	4,307 (6,097)	***	1,606 (9,510)	***	0,192 (8,440)	***
<i>DAIRY</i>	0,628 (1,009)		1,444 (9,550)	***	0,570 (28,742)	***
<i>POULTRY</i>	-2,924 (-3,497)	***	-0,277 (-1,402)		0,409 (17,428)	***
Correctly Predicted	/		65,7%		/	
McFadden (R2)	0,262		0,115		0,267	
Log-Likelihood	-5837,21		-965,73		-469,27	
Likelihood Ratio Test	/		253,28 [0,0000]		49,59 [0,0000]	

Note: The value of the (asymptotic for Logit equation) z-statistics are in parentheses (t-student for OLS).  
 \* Significant at the 10% level, \*\* Significant at the 5% level, \*\*\* Significant at the 1% level,  
 no asterix: not significant.

In many cases, irrigation assets are transaction-specific assets involved in a farmland contract (Allen and Lueck, 2001). According to the estimates from the table 3, it seems that the age as proxy of farmer's experience has negative effects on assets' specificity. However, the human capital and the adoption of a non-agricultural activity have a strong positive effect on assets' specificity.

Taking into consideration the collected data, it appears that the choice of machinery asset control forms is between ownership and simple contracting. The appropriate model implies that the farm size has a negative impact on the technology adoption. In other words, an increase in farm size will decrease the probability of contracting for assets. In terms of technology adoption<sup>10</sup>, it turns out also that, in different farming systems, the age and the formal education, playing the role of proxies of the farmer's experience and the human capital, have strong positive effects.

Finally, it is seen that among the three chosen farming activities, the dairy and the crop farms have positive impacts on the technology adoption, while the poultry farms have a negative influence on it. The modeling of the farm output diversification determinants shows the following results<sup>11</sup>: Farm size has a strong negative impact on the farm output diversification. Nevertheless, the three chosen farming activities have strong positive impacts on the farm output diversification. The findings of the current research show that smaller farmers are more diversified than larger farmers. The results indicate that the educational level of the farmer negatively influences on-farm diversification. This means that an additional level in school decreases the likelihood for farm output diversification, i.e., enhancement in risk management skills.

The current study illustrates also some implications and limitations which appeal for further research. From the two-level analysis presented above, two main empirical evidences could be retained. The first one is that the farm structure in contemporary farming systems in Algeria is determined by some economic and institutional factors. The second one is that the extend of the farm in Algerian settings is affected by some institutional constraints in respect to efficiency considerations determined in turn by farmer's choices.

Based on the suggested empirical evidences, some recommendations are proposed to promote further reflections on the farmer's behavior and choices in our context. From this study, it could be asserted that the farm organizational forms should do matter for the policy making to include the main institutional constraints that enhance efficiency in agriculture sector. These main institutional constraints can be summarized by the farmer's human capital, regional differences, activity nature, asset control, and diversification strategies. The farmer's human capital needs to be considered, because entrepreneurship plays an important role in the agricultural sector, especially in terms of knowledge transfer process and technological improvements. Attention should be given to the regional differences regarding the agricultural vocation and potentialities of the regions. A more indepth analysis of the common forms of the farm organization will focus on the farmers' behavior according to the geographical location and the nature of the activity.

The present study asserts also the positive relationship between the vertical and horizontal integration. On the one hand, the causality between these farm integration trends and farm structure should be more highlighted through more sophisticated instrumental modeling, because it is the focal point to explain the farm extent constrains. In our context, it's obvious that individual family farmers are less efficient then the two other forms. They adapt to the risky and constrained environment by making certain production decisions and employing same risk mitigating strategy regarding their financial liability. The diversification is a mechanism for individual family farmers for avoiding risks and reducing income variability, while the diversification strategy is in turn affected by the technological and financial constraints. Besides, the gains emanating from specialization are stimulated by partnerships, economies of scale, and human capital considerations.

The research analysis, which is framed in an empirical framework, suffers from some limitations. Despite the fact that several robustness tests were performed in order to corroborate our findings, the use of data collected and proxies makes our results subject to several important restrictions.

First of all, a theoretical framework is strongly needed to support our empirical findings. Second, it seems that many further socioeconomic factors should be considered. Finally, three potential important limitations due to the data may affect our measurements and should be also taken into account. Indeed, these data don't incorporate information related to the farmer's income, which is an essential element of his behavior and choices. The second

shortcoming of data is that they don't include historical information on the farmer's main characteristics. These two limitations are due to the total absence of an effective accounting records and reporting instruments in the Algerian farming systems. As regards the third potential data shortcoming, it is related to the imperfections of proxies for integration issues. At a more general level, some efforts remain to be sustained for a better understanding of the farm organizational forms. However, an in-depth treatment of farm integration trends is needed to properly address other further issues.

## Conclusion

The current study has presented a multi-dimensional analysis of the organizational structure in farming activities. The first level of the analysis focuses on the determinants of farm structures. The second one makes some clarifications on the vertical and horizontal extent of the farm. The main results show that: i) the farm structure matters in economic organization and it is determined by the farmer's human capital, regional differences, activity nature, asset control, and diversification strategies, and, ii) the vertical and horizontal integration are strongly and positively related. These findings corroborate partially the existing theories and generate new empirical implications to explain the constraints and the efficiency in farming systems. The causality between the farm integration trends and the farm organizational forms should be more highlighted through more sophisticated models. In fact, it is the focal point that explains the farm extent constrains. Although several robustness tests were performed to corroborate our findings, the obtained results remain subject to several limitations and appeal for further research directions.

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<sup>1</sup> In Algerian agricultural economic settings, we have a large number of contractual arrangements for the agricultural production such as different forms of sharecropping, farm pilot, and farm factory style, but they are less present than the three principal forms stated by this paper.

<sup>2</sup> For the foundations of the new institutional economics, see Williamson (2000, 2010). For the empirical foundations, see Sykuta (2008), and Allen and Lueck (2001).

<sup>3</sup> The historical information about the agricultural organization in Algeria of the 18<sup>th</sup> century is provided from Saidouni (2001), where he investigates on the Algerian rural life. For more details on the evolution of land ownership in French colonization era, see Henni (1996).

<sup>4</sup> The Baylek is a term employed by the Ottoman-Turkish government in this era to assign the State-landholdings having the means of open access but not the rights of use.

<sup>5</sup> The term of Arch means in Algerian context the tribal status of landholdings. We mention here that Arch landholdings are still present and impose enormous problems in restructuring agricultural sector in Algeria.

<sup>6</sup> The Baysa farm is an organizational form that was existed in French colonization era, which refers to a class of Algerian farmers having a formal contractual arrangement with French authorities, dealing with insurance on production and liquidity, and the farmer in turn sold his farm output to the French contractor.

<sup>7</sup> For more details, see Chavas and Di Falco (2012) for the role of risk and economies of scope in farm diversification.

<sup>8</sup> For more details, see Duffy (2009) for the impact of economies of scale.

<sup>9</sup> The use and the interpretation of econometric models are based on the guidebooks of Hosmer and Lemeshow (2000) and Greene (2003).

<sup>10</sup> See Negri and Books (1990) and Panin (1995) for the determinants of the technology adoption.

<sup>11</sup> Torane et al. (2011) provides empirical evidences on the farm structure and the diversification in different institutional environment.

## *Environmental Factors for Social Entrepreneurship Success: Comparing Four Regions*

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### **Abstract**

*The importance of social entrepreneurship in the alleviation of intractable social problems is being increasingly recognized globally. Probably the best illustration of this point is the elevation of highly successful social entrepreneurs, such as Muhammad Yunus, to Nobel Prize laureates. Social entrepreneurship is being celebrated because it attempts to address social problems traditional entrepreneurs and governments fail to address. Problems such as wide-spread poverty and disease have tended to grow worse world-wide, following the reduction in social welfare spending in many countries since the early 2000s. A growing amount of literature now exists that attempts to explain patterns that characterize successful social entrepreneurship and social enterprises. But these patterns play out differently in different regions and countries. In this study we compare four regions (North America, Latin America, India, and Sub-Sahara Africa) to find out how social entrepreneurs exploit or work around environmental conditions in order to reduce humanitarian problems. The social entrepreneurs used for the study are those celebrated by the Ashoka Foundation for Social Entrepreneurship. Information about these social entrepreneurs is available on the Internet. The major finding of this study is that institutional differences result in different approaches to social entrepreneurship, including the choice of social problems to tackle and population segments to focus on. In North America social entrepreneurs focus a little more on social/economic injustice problems than on rural poverty. It is the opposite in Africa.*

**Keywords:** ashoka foundation, social impact, social enterprise, social entrepreneurs, social entrepreneurship

### **Introduction**

The importance of social entrepreneurship in the alleviation of intractable social problems is being increasingly recognized globally. Probably the best illustration of this point is the elevation of highly successful social entrepreneurs to Nobel Prize laureates. One such social entrepreneur is Muhammad Yunus, for his microfinance innovation to reduce rural poverty in Bangladesh. The microfinance movement is now international. In academia, professional organizations such as the United States Association for Small Business and Entrepreneurship now requires their members to join the Social Entrepreneurship interest group. At universities there is a growing number of social entrepreneurship centers. One such center is the Skoll Center for Social Entrepreneurship at Oxford. There is also a growing number of corporate and philanthropic foundations devoted to the promotion of social entrepreneurship globally. An example of these foundations is the Schwab Foundation for Social Entrepreneurship, which also sponsors the annual World Economic Forum, in which social entrepreneurship is regularly discussed and leading social entrepreneurs are celebrated (Urban,2008).

Social entrepreneurship is being celebrated because it attempts to address social problems traditional entrepreneurs and governments fail to address. Problems such as wide-spread poverty and disease have tended to grow worse world-wide, following the reduction in social welfare spending in many countries since the early 2000s (Borker & Adams 2012; Yitshaki & Kropp, 2016). A growing amount of literature now exists that attempts to explain patterns that characterize successful social entrepreneurship and social enterprises. One major study by Alvord, Brown and Letts (2004), all of Harvard University, examined seven highly successful social enterprises world-wide and identified several key patterns in these social enterprises. The seven cases included the Grameen Bank of Bangladesh, and the Plan Puebla of Mexico. The patterns included core innovations and adaptive leadership capacity. The patterns existed in all seven cases, but in different forms and degrees, depending upon environmental

factors. For example, while the core innovation for the Grameen Bank was to initiate a Micro credit package to assist poor women in Bangladesh, the core innovation for Plan Puebla (Mexico) was the creation of new agricultural technology for improving family income and welfare.

Mair and Marti (2006) defined social entrepreneurship as “the interaction between social entrepreneur and context”. Urban (2008) points out that while social problems are the central driver for social entrepreneurship, the key driving forces for social entrepreneurs arise out of political institutions, economic institutions and social-cultural institutions. For example, undemocratic political institutions cause political upheavals and ensuing social problems to which social entrepreneurs often have to respond. But developed democratic institutions encourage social entrepreneurs to help victims of market failures and economic fluctuations (Alvord et al, 2004 and Datta and Gaily, 2012). A weak banking system is bad for the commercial sector and results in high levels of unemployment and poverty, which are common targets of social entrepreneurship. The presence of underclasses in a society prevents segments of populations from participating in the mainstream political and economic activities, thus resulting in their marginalization. The presence of religious freedom encourages the establishment of faith-based social enterprises. The encouragement of social capital in a society is good for social entrepreneurship, just as it is for commercial entrepreneurship (Sharir and Lerner, 2006).

In this study we compare successful social entrepreneurship in Africa, India, Latin America and North America. Regarding Africa, the study covers only sub-Saharan Africa, excluding South Africa. The basic premise of this study is that the roads to successful social entrepreneurship in these regions are significantly different, given the fairly obvious differences in the political, economic and socio-cultural environments in the four regions. These four regions include a region that is one of the most politically and economically developed regions and another region that is one of the least politically and economically developed regions in the world, North America and Africa, respectively. The four regions also include a region that is one of the most individualistic regions and a region that is one of the most collectivistic regions in the world, North America and Latin America, respectively. These regional differences translate into different environmental factors for social entrepreneurship. Kerlin (2010), in her study “A comparative analysis of the global emergence of social enterprise”, divided the social enterprise world into seven regions. She found the four regions covered in the study belong to completely different categories in terms of social entrepreneurship. In the South Asian region, to which India belongs, the emphasis of social enterprises is on “sustainable development”. In Latin America the emphasis is on “social/political benefit”. In North America the focus is on “sustainability”. Kerlin also found that international aid was particularly important for launching social enterprises in Africa, much less so than it is in Latin America, where civil society initiatives were more predominant.

To study the differences in social entrepreneurship in Africa, India, Latin America, and North America, we used Internet-based data available on the Ashoka Foundation for Social Entrepreneurship website. The Ashoka Foundation is the biggest international organization that supports social entrepreneurs globally. The organization celebrates social entrepreneurship success by electing social entrepreneurs to become Fellows in the organization’s social entrepreneurship network. To qualify for the election, the social entrepreneur must demonstrate scalability to broad-based social impact of his or her initiative. In order to be elected to be a Fellow, an evaluation team formed by the Ashoka Foundation prepares a detailed statement about the candidate and his/her social enterprise. These statements are posted on Ashoka Foundation’s website. Currently there are over 3000 Ashoka Fellows from all regions of the world. By analyzing the information on the Internet related to African, Indian, Latin American, and North American fellows, we discovered differences between these regions, such as differences in the innovations chosen, differences in the targeted demographics, differences in the financing of social ventures, and differences in the factors that inspired the social entrepreneurs to undertake the initiatives.

**Literature Review**  
**Definition Issues**

Urban (2008) referred to Peter Drucker as the first management scholar to introduce the concept of social enterprise, arguing that business organizations are social enterprises because they are creations of political and social institutions and as such they owe certain social obligations to society. However, even though there is a growing interest about social entrepreneurship due to its focus on attacking highly challenging social problems, there doesn't appear to exist a common definition of the concept. Social entrepreneurship has become a global phenomenon, and the Global Entrepreneurship Monitor defined it as "any attempt at new social enterprise activity...with social or community goals...and where the profit is invested in the activity itself...rather than returned to investors" Urban (2008). Although social entrepreneurship varies from one region to another (Kerlin, 2010), it is universally considered to be a form of entrepreneurship (Dees 2007, Contanzo 2014; Borker & Adams, 2012; Neck et al, 2009; Yunis, 2006; Meyskens et al, 2010; and Buegr,e 2014).

Generally, entrepreneurship involves acting on opportunities, acquiring resources, and the building of an organization that creates something of value (Schumpter, 1934; Timmons and Spinelli, 2004). A commercial entrepreneur has an economic mission and his impact is primarily economic, to satisfy effective demand in the market and gain financially. Please see quadrant A in Table 1. Financial performance is his/her primary metric. In quadrant B in Table 1 is a venture undertaken by a for-profit organization to attack social problems. This is social intra-social entrepreneurship, a social enterprise started within an existing organization. It is also called corporate social responsibility or philanthropy if the organization merely makes monetary or material donations to charities. Charities are indicated in quadrant C. Quadrant D represents individuals or groups who establish ventures with solutions to social problems as the primary mission. However, they also seek economic sustainability. That is, they charge fees to cover their costs. They don't depend on charitable contributions or government support, for operating costs.

TABLE 1: VENTURE TYPOLOGY (ADAPTED FROM HEIDI NECK, CANDIDA BRUSH, ELAINE ALLEN, THE LANDSCAPE OF SOCIAL ENTREPRENEURSHIP (2009)

		<i>Venture Mission</i>	
		Economic	Social
<i>Primary Market Impact</i>	Economic	Commercial/Traditional Entrepreneur A	Social Business Entrepreneur (SBE) D
	Social	Corporate Social Responsibility B	Charity Organization/Government Social Services C

In reality, there aren't many social ventures that can achieve total economic sustainability or even seek economic sustainability. Dees (2007) has pointed out that only very few social ventures survive without philanthropic support and volunteers. And according to Alvord et al. (2004) the capacity to build bridges between social ventures and external sources of support, especially financial support, is one of the key patterns in highly successful social ventures.

Muhammad Yunus (2006), the founder of the legendary Grameen Bank in Bangladesh, classifies social enterprises into 4 categories according to the extent the social venture is able to recover its costs: No cost recovery (1), Some cost recovery (2), Full cost recovery (3), More than full cost recovery (4). Yunus refers to category 4 social enterprises as social business enterprises (SBEs). SBEs plough after-cost earnings back into the enterprises to scale up their social impacts. If there are any investors, they receive only nominal rates of return. So, according to

Yunus any enterprise with a social mission is a social enterprise and its initiator is a social entrepreneur. A government-run project to fight poverty or illiteracy is a social enterprise. So is a charitable organization, such as ACTION AID. While “social mission” is the foundation of all social enterprises, and charities generally meet this criterion, their modes operand is commonly to provide short term solutions to social problems, such as food donations for poor people. Bill Drayton, the founder of the leading foundation that supports social enterprises globally is quoted as saying that “Social entrepreneurs are not content just to give a fish, or teach how to fish. They will not rest until they have revolutionized the fishing industry” (Neck,et al., 2009). Increasingly though, charity organizations such as Choice Humanitarian are moving from short term service delivery approaches to long term sustainable solutions. The charity’s projects all over the world have transformed villages in poor countries from dependence to self-sustainability (ChoiceHumanitarian, 2016). These charities provide long term solutions to social problems, although they themselves remain dependent on philanthropic support.

### **The Rise of the Social Enterprise Sector: Historical Setting**

Kerlin, 2010; Borker & Adams, 2012; Urban, 2008; Yitshaki & Kropp, 2016; and The Economist, 2006 argue that the emphasis on social enterprises in the last 30 years is the result of the failure of the welfare state and welfare economics. Kerlin points out that “the United States, Western Europe...as well as South America experienced, to different degrees, a withdrawal of state support to [social benefit programs] in the 1980s and/or 1990s”. In addition, many Latin American, South Asian and African countries were subjected to economic liberalization reforms, popularly known as “structural adjustment programs” (Kerlin, 2010). These internationally-sponsored policies adversely impacted government social benefit programs. The response to government failure to address social problems has been global but varied from region to region. Accordingly, social enterprises have been found to take different forms and do different things. Kerlin (2010) identified seven world regions in her comparison of social enterprise and social entrepreneurship approaches, namely, North America, Western Europe, Japan, East Central Europe, Latin America, Sub-Sahara Africa, and Southern Asia. Table 2 highlights these differences as identified by Kerlin (2010). Table 2 covers only the four regions that relate to this study.

As can be seen from Table 2, the four regions in the table differ from one another considerably. In the Southeast Asia region, to which India belongs, and Latin America the focus of social enterprises was employment and human services such as education and health. In the Africa region the focus on employment is much deeper. It even includes employment for self-sustainability or survival, hence the boom of microfinance as the most common form of social enterprise in the region. In the U.S. there was no focus as such. All causes, social and non-social, attracted the attention of social ventures, which tended to be charitable organizations. Other differences between the four regions relate to funding sources. Foundations were the main sources of funding in the U.S. Civil society organizations sponsored most of the social enterprises in Latin America. Most of the social ventures in Latin America are “community-based enterprises” or cooperatives where community members collaborate to reach a common goal (Paredo & Chrisman, 2006 and Urban, 2008). Social ventures in the Africa region greatly depended on international donors. It also turns out that Africa had the highest international aid per capita. Further, while state capability was weak in Africa, Southeast Asia (India), and Latin America, it was very strong in the U.S. Combining a strong state capacity with a well-established market system the social ventures in the U.S. were highly dependent on private domestic foundations and corporations. And most of the social ventures in the U.S are charitable organizations supported by donations from philanthropists and corporations (Borker and Adams, 2012)

TABLE 2: COMPARATIVE OVERVIEW OF SOCIAL ENTERPRISE IN FOUR WORLD REGIONS AND COUNTRIES (ADAPTED FROM JANELLE KERLIN, 2010 “A COMPARATIVE ANALYSIS OF THE GLOBAL EMERGENCE OF SOCIAL ENTERPRISE”)

	North America (U.S.)*	Latin America (Argentina)*	Sub-Saharan Africa (Zambia & Zimbabwe)*	Southeast Asia (Nine countries)*
Program area focus	All nonprofit activities	Human service/employment	Employment and self-employment	Employment/human services
Common organizational type	Nonprofit/company	Cooperative/mutual benefit	Microfinance institute(MFI)/small enterprise	Small enterprise/association
Development base	Foundations and private companies	Civil society	International donors	Mixed
Market functioning rating	3.5 Strong	1 Weak	1 Weak	1 Weak
International aid per capita	NA/Negligible	\$2	\$54	\$15
State capability rating	4 Strong	1 Weak	1 Weak	1.5 Weak

\*countries sampled in the region

### Patterns In High-Impact Social Ventures

Alvord, Brown and Letts (2004), all associated with the Hauser Center for Non Profit Organizations at Harvard University, did a study in which they identified four key patterns in highly successful and well-known social entrepreneurial ventures. They based their study on seven cases. Two of these cases operate in Africa, (The Green Belt Movement in Kenya, and the Se Servir de la Saison Sèche en Savane et au Sahel in West Africa), one in India (The Self-Employed Women’s Association), one in Mexico (Plan Puebla), and one in the U.S. (The Highland Research and Education Center). The cases also include the now world-famous Grameen Bank in Bangladesh. With the exception of one case, the Highlander Research and Education Center, operating in the Appalachian region of the United States, all seven cases relate to developing countries. Furthermore, with the possible exception of the Green Belt Movement, which also focuses on sustaining the environment, all seven cases are centered on the eradication of poverty. Table 3 provides some summary information about the cases we refer to in more detail in the following section. However, Table 3 also refers to ApproTec, (Appropriate Technologies for Enterprise Development), a highly successful social venture in Kenya and several other African countries.

TABLE 3: PATTERNS IN SIX HIGH IMPACT SOCIAL VENTURES (ADAPTED FROM ALVORD, ET AL. 2004, SOCIAL ENTREPRENEURSHIP AND SOCIAL TRANSFORMATION: AN EXPLORATORY STUDY)

Social Venture	Core Innovations	Leadership (Building Bridges)	Scaling Up Strategies	Social Impact 15 Years and Over
GB* Bangladesh	Group lending for poor people without collateral.	Relationships with NGOs, government and academia	-Created new microcredit packages	Reached 90 villages Model is now global
GBM** Kenya	Grassroots mobilization to plant trees	Relationships with parliament women groups.	Attracted more volunteers & donors	45 million trees planed
Plan Puebla Mexico	Agricultural technology for poor farmers	Relationships with universities and Government	Used government services to expand	300% increase in family income.
SEWA*** India	Union to campaign for services for poor women workers	Social activist lawyer built connections with other activists & elite officials	Expanded policy influence campaigns.	90% of India's female labor force served
HREC**** USA	Adult education to support grassroots groups to fight inequalities	International experience and relationships with academia, social activists	Reached more adult actors in social movements	Strengthened labor and civil rights movements
ApproT**** * Kenya	Inexpensive farm tools for poor farmers	Relationships with international NGOs and manufacturers	Cheaper farm tools -Small profit ploughed back	Over 500,000 people moved out of poverty.

\*Grameen Bank

\*\*Green Belt Movement

\*\*\*Self Employed Women Association

\*\*\*\* Highland Research and Educational Center

\*\*\*\*\* ApproTec (Appropriate Technologies for Enterprise Development)

### The Importance of Innovation, Leadership and Perseverance in Social Entrepreneurship

The seven cases studied by Alvord et al. (summarized in Table 3 above) are not only means to fight against poverty, but their approaches are highly entrepreneurial in the sense that they all embrace very innovative components. Innovation is considered by many observers to be the foundation of entrepreneurship (Timmons & Spinelli, 2009 and Allen, 2012). These social entrepreneurial ventures attack poverty, and do so in an innovative way. For example, Grameen Bank started out as a deliberate effort to find a way for helping poor women in Bangladesh. Muhammad Yunus, the founder, in a university research project seeking ways to reduce poverty, found out that group lending could rescue poor people from exploitative money lenders. Poor women groups could get small loans (micro-financing) without offering collateral. There was no need for the traditional collateral because group members put enough social pressure on one another to repay the loans. A well-known hurdle in the entrepreneurial path is lack of financing, especially in the start-up phase. The hurdle is particularly high for women, especially poor women (Rouse & Jayawarna, 2006). In the case of the Green Belt Movement in Kenya, founder Wangari Maathai used her charisma and contacts to get poor people come and work together to improve their well-being through tree planting. In the case of Plan Puebla in Mexico, a group of university researchers developed maize

production technology to enable poor farmers to improve their crop yield and income. The Self-Employed Women Association in India is trade union and was founded to organize self-employed women in the informal sector in order to improve working conditions such as wages and police protection. The Highland Research and Education Center in the U.S. was founded in 1932 to fight poverty in a poor rural Appalachian mountain community. It provided adult education to organize groups to fight economic and political inequalities.

In Table 3 we also include Appropriate Technologies for Enterprise Development (ApproTec), a social venture in Kenya that is commonly considered to be highly successful (Rangan 2003, Deeds 2007), although it was not one of the seven social enterprises studied by Alvord et al. (2004). Even though the two founders were not Kenyan or even African, they were deeply touched by the poverty within rural peasant farming communities. They were in Kenya as volunteers for U.K.-based international charity organization, ACTIONAID. ACTIONAD, as most other charity organizations, provide goods and services to the poor, which is not necessarily a lasting solution to the poverty problem. The founders left the charity and established ApproTec where they came up with an inexpensive pedal irrigation pump which farmers can use to increase crop yield. This is a more lasting solution to the poverty problem than what ACTIONAID and some other charities do.

All seven cases studied by Alvord et al had leaders with a strong passion about a social problem and the ability to garner support from diverse stakeholders (bridging capacity) to deal with the problem. These two characteristics enabled the founders to find needed resources in the form of money, materials and volunteers. Dees (2007) pointed out that only a small number of social ventures succeed without external support. Dees (1998) also characterizes social entrepreneurs as never being stopped by inadequacies of current resources. Also, the leaders were transformational leaders. Transformational leaders have the ability to inspire others to work for shared causes. They are often called upon to champion and manage radical change in organizations (Seltzer & Bass, 1990). Muhammad Yunus, the founder of Grameen Bank, even though belonging to an elite class (university professor), was touched by the poverty among women in rural Bangladesh. To set up the microfinance bank (Grameen Bank) he had to win support from international donors and government. Most importantly, Yunus was trusted by poor villagers and he trusted them. Ela Bhatt was a social activist lawyer concerned about the social injustices against poor women before she founded a union, the Self-Employed Women's Association, to fight against those injustices. She needed and won the support of other social activists and professionals.

Social networking and social capital have frequently been cited as key factors that lead to entrepreneurial success (Aldrich & Zimmer 1986; Rooks et al., 2016). They are especially important in social ventures. Sharil and Lerner (2006) investigated eight factors that contribute to success in social enterprises. The founder's social network was identified to be the most important factor. Social capital and social networking are particularly important in movement-based social enterprises such as the Self-Employed Women Association in India and the Green Belt Movement in Kenya.

Another common characteristic of high impact social ventures is the founders' realization that poverty eradication has no quick fixes, that scaling the social impact of a social venture is a function of perseverance. Social Entrepreneurship is entrepreneurship in the first place. Joseph Schumpeter (1947) and many others define successful entrepreneurship in terms of venture growth. In the case of social entrepreneurship, expanding the social impact of the venture is the most visible sign of success. Obviously there are different ways a social enterprise can scale up its social impact. Alvord et al. (2004) have identified three patterns in scaling up social impact in social ventures: expanding geographical coverage to provide services to more people, expanding the range of services/products to the initial group or groups targeted by the venture, and undertaking activities that change the behavior of other allies/actors who directly or indirectly influence a given social problem. Grameen Bank started in a single village. It now operates in over 80,000 villages throughout Bangladesh. Additionally, the bank has introduced many additional loan packages, e.g., housing loans and education loans. The Green Belt Movement in Kenya has grown so much as to divide into two: "Green Belt Movement KENYA" and "Green Belt Movement INTERNATIONAL". Founded by Wangari Maathai, this organization has been responsible for planting 45 million trees in Kenya, since its inception in

the early 1980s. It now operates in 9 districts in Kenya. Rooted in two social movements, women and environment, the Green Belt Movement appeals to a wide cross section of the population, both in Kenya and outside. Clearly, its expansion is hugely related to the constant flow of volunteers, donors and other allies.

The founders of the Grammen Bank, the Self Employed Women Association, the Green Belt Movement and ApproTec came from the elite in their societies. Muhammad Yunus and Wangari Mathaai were university professors. E. Bhatt, the founder of the Self Employed Women Association, was a lawyer. So, why did they decide to embark on their social ventures and grow those social ventures? The motivation of social entrepreneurs remains an unanswered question. In an attempt to explain what motivates people to engage in the creation of social ventures, Constance Beugre (2014) refers to the concept of “moral engagement”. Some people see social problems as violations of moral order. For example, some people believe that people should be treated justly. Accordingly, social injustice is a violation of what is morally right. Unmet social needs must be addressed. A social venture, such as the Self-Employed Women Association in India, described earlier, is a reflection of moral engagement. Social entrepreneurs justify the morality of their actions by creating social ventures. They have to do something about *what* is morally wrong. It is a moral mandate. The moral engagement construct suggests that the most important trigger for launching a social venture is the presence of a violation of one’s moral standards (Buegre, 2014 and Yitshaka & Kropp, 2016)

## **METHODS**

To study the differences in social entrepreneurship in the four regions (Africa, India, Latin America and North America) we used Internet-based data available on the Ashoka Foundation for Social Entrepreneurship website. The Ashoka Foundation is the biggest international organization that supports social entrepreneurs. The organization celebrates social entrepreneurship success by electing social entrepreneurs to become Fellows in the organization’s social entrepreneurship network. In order to be elected to be a Fellow, the social entrepreneur must satisfy a five-fold selection criteria: new idea, creativity, entrepreneurial quality, social impact, and ethical fiber. The criteria are briefly reviewed below. First, the entrepreneur’s idea must be new, not one that has already been tested in the field. Second, creativity must be an obvious personality trait of the social entrepreneur. Third, the social entrepreneur’s entrepreneurial passion and steadfastness must be high to help him or her deal with foreseeable and unforeseeable challenges. Fourth, the social entrepreneur’s idea must lend itself to adaptability in order to be applied widely to scale up its social impact. Fifth, the social entrepreneur must be trustworthy to be able to create a groundswell of support for the social venture (Ashoka.org, 2016). It is notable here that all five of the criteria Ashoka uses to elect Fellows are commonly cited as factors associated with successful entrepreneurship. A self-sustaining business model involves all five criteria (Allen 2012, Longenecker et al, 2012). As we saw earlier, social entrepreneurship is entrepreneurship to begin with (Dees, 2007 & Beugre, 2014).

Social entrepreneurs nominate themselves or are nominated for candidacy for Ashoka Fellowship election. An Ashoka Foundation country team does the preliminary interview of the candidate, followed by another interview by an Ashoka representative from another country. The most critical step in the selection process is the evaluation by a panel of three “leading social and business entrepreneurs” in the country. This panel makes the final recommendation to the Ashoka Board of Directors who grant Fellowship status to social entrepreneurs. A statement summarizing how the candidate meets the five-fold selection criteria is written by an Ashoka team. These statements or profiles contain observable desirable features of social entrepreneurs and their social ventures, according to the Ashoka Foundation. The Ashoka Foundation posts Ashoka Fellows’ profiles on its website. Currently there are over 3000 Ashoka Fellows from all regions of the world.

By analyzing the information on the Internet related to Fellows from Africa (sub-Saharan minus SouAfrica), India, Latin America (Brazil, Mexico and Argentina) and North America (U.S. and Canada), we expected to discover certain inter-regional differences in social entrepreneurs and social enterprises. In the literature review, it was pointed out that social enterprises are driven by social, political and economic environmental factors.

These factors are remarkably different in the four regions. While North America and India have been stable democracies for decades, the same cannot be said of Africa and Latin America, to some degree. The North American economies are post-industrial, whereas most Sub-Sahara African economies are pre-industrial, where vast populations depend on peasant farming. India, Brazil, Mexico and Argentina (to some degree) are emerging/industrializing economies.

Culturally, the four regions differ noticeably, especially based on Geert Hofstede's model of National Cultures (Geert-Hofstede.com, 2016). Two aspects of this model are particularly pertinent to this study: power distance and individualism/collectivism. Power distance is a measure of acceptance or rejection of inequalities, such as economic, political and social inequalities. Competitive politics and progressive tax structures, which generally reduce inequalities, are more entrenched in North America than in any of the other three regions. All four regions, with the strong exception of the U.S., accommodate inequalities rather easily. In addition, the U.S. differs from the other three regions in terms of the individualism cultural dimension. The U.S. is as particularly individualistic as the other three regions are particularly collectivistic (Geert-Hofstede.com, 2016).

Given the fairly obvious differences in the four regions covered in the study, social enterprises should focus on different social problems, target different population demographics, and finance their ventures differently. In addition, we should expect to discover differences in the personal characteristics of the initiators of social enterprises, such as career histories before embarking on social ventures, and motivations behind those social ventures (Kerlin, 2010 and Urban, 2008). More categorically we expected to discover and proposed that:

- H1: the most important focus of social enterprises in Africa, India and Latin America is the eradication of poverty.
- H2: the most important focus of social ventures in the U.S.(North America) is the amelioration of inequalities. Being an advanced economy, we shouldn't find poverty to be the leading driver of social entrepreneurship in the U.S. It hasn't been in the past, as was noted in the literature review section.
- H3: the focus on inequalities in Latin America, India and Africa should be relatively low given the national cultures in these regions which tend to be tolerant to inequalities. Furthermore, the focus on inequalities in Africa should be particularly low due to the prevalence of undemocratic political institutions (Alvord et al 2004, Datta & Gaily, 2012).
- H4: personal exposure to social problems tends to be the key trigger for undertaking social ventures, although less so in the U.S. than in the other three regions.
- H5: social ventures are started with initiators' resources (personal savings, sweat capital and volunteers), although much less so in the U.S. than in the other three regions.
- H6: external financing (grants by charities and government) is more available for social venture expansion than for launching social ventures, although to a lesser degree in the U.S. than in the other three regions.

These Propositions will be found to be null ( $H_0$ ) based on the Chi Square ( $X^2$ ); the critical values are set at  $p=.05$ .

The Ashoka Foundation categorizes social entrepreneurship Fellows into five fields: Economic Development, Civic Engagement, Environment, Health, Human Rights, and Learning and Education. We decided to focus on the field of Economic Development, because of its direct connection with poverty alleviation. One reason for our interest in poverty alleviation is that "No Poverty" is the number 1 of the 17 UN-backed Sustainable Development Goals. The second goal is "No Hunger", a co-relate of poverty. World-wide, poverty eradication has tended to attract the most attention of social entrepreneurship (Alvord et al. 2004). Poverty (population living below a country's poverty line) is rampant in Africa, with the largest number of the poorest countries in the world. But it

does exist even in the U.S. (Borker and Adams, 2012). Another co-relate of poverty is “inequalities”, but this is goal number 10 of the 17 Sustainable Development Goals.

The study covers 301 Ashoka Fellows: Africa (17 sub-Sahara countries, excluding South Africa) 98; India 75; Latin America (Argentina, Brazil, Mexico) 91; and North America (Canada and U.S.A.) 37. These were the entire populations under the Economic Development field on the Ashoka Social Entrepreneurship Foundation website when it was checked in 2015.

## Findings

Table 4a shows the five sectors/areas of social issues upon which the surveyed Ashoka fellows focused: Rural Development, Job Skills for Employment, Rights for Disadvantaged Communities, Appropriate Technology and Development of Entrepreneurs. The table indicates that the emphasis placed upon these issues differed between African, Indian, Latin American and North American Ashoka fellows. These differences were significant according to Chi- square tests ( $X^2=55.950$ ). As can be seen in table 4a, the surveyed African Ashoka fellows placed a lot more emphasis on rural development than did their counter-parts in the other three regions. Rural development was least emphasized in North America. Thirty-six percent (36%) of the 98 surveyed African fellows had their focus on rural development. An example of an African social enterprise that focused on the eradication of rural poverty is Arid Lands Information Network in Kenya. The organization enables rural farmers to access essential agro-information. Only 11% percent of North American fellows focused on rural development. Thus, Proposition H1, the most important focus of social enterprises in Africa, India and Latin America is the eradication of poverty is mostly valid. However, there was a discrepancy with regard to India.

TABLE 4a: MAJOR SECTORS AIMED AT BY SOCIAL ENTREPRENEURS\*

Ashoka Fellows from	Rural Development	Job Skills for Employment	Equal Rights	Appropriate Technology	Entrepreneurial Skills	N
Africa	<b>36%</b>	14%	19%	24%	7%	98
India	21	12	<b>47</b>	15	5	75
L. America	33	24	20	8	15	91
N. America	<b>11</b>	5	<b>65</b>	11	8	37
Total	28	16	32	15	9	301

\*  $X^2 = 55.950$ , significant at  $p=.05$

On the other hand, North America fellows placed most (65%) emphasis on equal rights. Only 11% of the North American fellows focused on rural development. Thus, Proposition H2, the most important focus of social ventures in the U.S. is the amelioration of inequalities. Being an advanced economy, we shouldn't find poverty to be the leading driver of social entrepreneurship in the U.S. It hasn't been in the past, as was noted in the literature review section, was overwhelmingly supported.

Only 19% of the African fellows and only 20% of the Latin American fellows emphasized equal rights in their social ventures. But Indian fellows, with 47%, were closer to the North American fellows than to Africa and Latin America. The emphasis on inequalities in India is relatively high, as it is in North America. Probably this is a reflection of strong democratic institutions in North America and India (Datta and Gaily, 2012 and Alvord et al., 2004). An example of a social enterprise to fight inequalities in India is the Sammaan Foundation. The organization was started to help rickshaw operators own their rickshaws instead of renting them. As a result rickshaw operators can save enough money to access healthcare, which was previously unaffordable. Proposition H3, the focus on inequalities in L. America, India and Africa should be relatively low given the national cultures in these regions

which tend to be tolerant to inequalities. Furthermore, the focus on inequalities in Africa should be particularly low due to the prevalence of undemocratic political institutions (Alvord et al 2014) is not totally supported by this study.

To further highlight the influence of environmental forces on social entrepreneurship we also compare North American fellows with fellows from each of the other three regions. North America is strikingly different from the other three regions. It is highly economically and politically developed. Sociologically, it has a highly individualistic society. It is also more egalitarian than the other three regions (Geert-Hofstede.com, 2016).

Ashoka Fellows from	Rural Farmers	Youth	Women	Entrepreneurs	General Community	N
Africa	<b>40%</b>	20%	18%	3%	<b>19%</b>	98
India	23	8	15	12	43	75
L. America	29	10	10	10	42	91
N. America	<b>14</b>	5	5	14	<b>62</b>	39
Total	29	12	13	9	37	301

In Table 4b the North American fellows are compared with fellows of each of the other three regions. As Table 4b shows, the comparisons of North American fellows with African and Latin American fellows yield significant differences according to Chi Squares (\* symbol). This is largely due the institutional differences between North America and these 2 regions. However, the comparison of North American with Indian fellows yields insignificant differences. There are differences, but not significant ones. This finding is largely due to the high emphasis on equal rights by both the North American and Indian fellows. Both North America and India have well established democracies that permit and/or encourage social activism leading to equal rights-oriented social ventures.

TABLE 4b: MAJOR SECTORS AIMED AT BY SOCIAL ENTREPRENEURS (N. AMERICA VS. OTHER REGIONS)

Ashoka Fellows from	Rural Development	Job Skills for Employment	Equal Rights	Appropriate Technology	Entrepreneurial Skills	N
<b>N. America</b>	<b>11%</b>	<b>5%</b>	<b>65%</b>	<b>11%</b>	<b>8%</b>	<b>37</b>
<b>VS. Africa *</b>	36	14	<b>19</b>	24	7	97
<b>VS. L. Am *</b>	33	24	<b>20</b>	8	15	91
<b>VS. India**</b>	21	12	<b>47</b>	15	5	75

\*Differences between North America & these regions are significant. \*\* Difference not significant.

Table 5a shows the population segments targeted by Ashoka fellows in the four regions. The targeted populations differed between regions significantly ( $X^2=42.084$ ). Especially significant are the differences between African fellows and fellows in the other three regions. These differences echo those in table 4a about the social problems that were targeted by the social entrepreneurs. While 40% of the African fellows targeted rural peasant farmers, the corresponding number for North American fellows was 14%. On the other hand, the vast majority (62%) of the North American fellows targeted the general community in their social ventures. Latin American and

TABLE 5a: POPULATION SEGMENTS TARGETED BY SOCIAL ENTREPRENEURS\*

\*  $X^2 = 42.084$ , significant at  $p=.05$

Indian social entrepreneurs tended to target similar population segments. Although there is some poverty in North America, targeting poverty and poor people doesn't appear to attract much attention from social entrepreneurs. This is a further support to Proposition H2.

TABLE 5b: POPULATION SEGMENTS TARGETED BY SOCIAL ENTREPRENEURS (N. AMERICA VS. OTHER REGIONS).

Ashoka Fellows from	Rural Farmers	Youth	Women	Entrepreneurs	General Community	N
<b>N. America</b>	<b>14%</b>	<b>5%</b>	<b>5%</b>	<b>14%</b>	<b>62%</b>	<b>37</b>
VS. Africa *	40	20	18	3	<b>19</b>	98
VS. L. Am **	29	10	10	10	<b>42</b>	91
VS. India **	23	8	15	12	43	75

\*Differences between North America and this region significant; \*\*Differences not significant

Table 5b compares North American fellows with fellows from the other three regions. The comparison with African fellows yields significant differences. The comparisons with Latin American and Indian fellows yields only insignificant differences. It appears that Latin America and India aren't as institutionally different from North America as Africa is. Institutional environmental differences result in differences in social entrepreneurship, as was indicated in the literature review.

Table 6a shows the career backgrounds of Ashoka fellows in terms of the four regions covered in the study. The career backgrounds of the four groups differed significantly ( $X^2=62.983$ ). As can be seen from table 6a, 45% of the African fellows were government employees before embarking on their social enterprise initiatives.

TABLE 6a: SOCIAL ENTREPRENEUR'S CAREER BEFORE LAUNCHING SOCIAL ENTERPRISE\*

Ashoka Fellows from	Educational Institution	Government	Private sector Employment	Volunteer/employee in Existing Charity	Social Activism	N
Africa	17%	<b>45%</b>	19%	17%	2%	94
India	11	19	32	18	<b>20</b>	74
L America	14	18	28	<b>37</b>	3	90
N. America	3	22	<b>44</b>	31	0	36
Total	13	27	28	25	7	294

\* $X^2 = 62.983$ , significant at  $p=.05$

Probably this is a reflection of the importance of government employment in Sub-Sahara African countries. Forty-four percent of North American fellows were in the private sector as employees or business owners. Again this reflects the dominance of the private sector in the U.S. and Canada. Thirty-seven of Latin American fellows were employees or volunteers in charity or civil society organizations. Again this is a reflection of the huge role civil society organizations play in initiating social enterprises (Kerlin 2010). Table 6a also shows that 20% of the Indian fellows had been social activists (community organizers) for long periods in their lives, often since high school, and rarely holding regular jobs. An example of an Indian long-term social activist is the owner of an organization that helps poor women beggars at temples become independent entrepreneurs. She had been an activist to help beggars since high school. Her M.A. degree dissertation was on street beggars in temple complexes.

Table 6b shows that comparisons between North American fellows with fellows from Africa and India in terms of careers before initiating their social ventures yields significant differences. On the other hand there were

only insignificant differences between North America and Latin America. The long history of charity organizations in the U.S. is probably the reason why a relatively large percentage (31%) of the North American fellows had career connections with charities, just as civil society organizations were the starting point for new social enterprises in Latin America (37%).

TABLE 6b: SOCIAL ENTREPRENEUR’S CAREER BEFORE LAUNCHING SOCIAL ENTERPRISE (N. AMERICA VS. OTHER REGIONS)

Ashoka Fellows from	Educational Institution	Government	Private sector Employment	Volunteer/employee in Existing Charity	Social Activism	N
<b>N. America</b>	<b>3%</b>	<b>22%</b>	<b>44%</b>	<b>31%</b>	<b>0%</b>	<b>36</b>
<b>VS. Africa*</b>	17	45	19	17	2	94
<b>VS L. Am**</b>	14	18	28	<b>37</b>	3	90
<b>VS. India*</b>	11	19	32	18	20	74

\*Differences between North America and regions significant \*\* Differences not significant

The personal factors that inspired or motivated social entrepreneurs to undertake their social ventures differed significantly between the four regions ( $X^2 = 30.288$ ). The majority of Latin American and African fellows embarked on their social ventures as a result of personal experiences (empathetic feeling). An example of an Indian social enterprise which arose out of a social entrepreneur’s personal experience is a women and child development service center near Calcutta, India. The center was started by a divorced Muslim woman to help divorced Muslim women access services traditionally denied to divorced Muslim women. Another example is in Kenya, Africa, and is called “Market Information Points”. The social entrepreneur witnessed how small farmers, including his parents, were being exploited by middlemen. His organization provides farmers the information they use to negotiate with crop buyers in order to increase their earnings. Regarding personal experience as an inspiration for social entrepreneurs, it is noteworthy that this kind of inspiration, was lowest (38%) for North American fellows. Proposition H4, personal exposure to social problems tends to be the key trigger for undertaking social ventures, although less so in the U.S. than in the other three regions seems to be valid.

TABLE 7a: SOCIAL ENTREPRENEUR’S MAJOR SOURCE OF INSPIRATION\*

Ashoka Fellows from	Personal Experience	Concern for Others	Family	Total
Africa	<b>53%</b>	44%	3%	94
India	42	<b>51</b>	8	74
L. America	<b>54</b>	25	21	91
N. America	38	35	<b>27</b>	37
Total	49	39	13	296

On the other hand, as Table 7a shows, concern for others’ social problems was the key (51%) inspiration behind social ventures in India. This is an expression of sympathetic feeling toward others. It may be recalled that social activism was also highest (20%) in India, as compared to the other three regions covered in this study. Organizations in India, such as Tata Social Enterprise Challenge are actively encouraging the youth to become social entrepreneurs (2016)

Families, especially parental background, are a major influence on the decisions of would be entrepreneurs (Longenecker et al. 2012).As table 7a shows, 27% of the North American fellows were inspired by their families to initiate social enterprises. Such influence was especially low in Africa, probably a reflection of the newness and limited size of the social enterprise sector in Africa. An example of a social enterprise that was

inspired by family background is the Azzi Institute in Brazil. The founder’s mother had always been involved in social work and inspired her son to create an organization (Azzi Institute) to connect philanthropists and social causes.

TABLE 7b: SOCIAL ENTREPRENEUR’S MAJOR SOURCE OF INSPIRATION (N. AMERICA VS. OTHER REGIONS)

Ashoka Fellows from	Personal Experience	Concern for Others	Family	Total
<b>N. America</b>	<b>38%</b>	<b>35%</b>	<b>27%</b>	<b>37</b>
<b>VS. Africa *</b>	<b>53%</b>	44%	3%	94
<b>VS. L. Am **</b>	<b>54</b>	25	21	91
<b>VS. India *</b>	42	<b>51</b>	8	74

\*Differences between North America and regions significant. \*\*Differences not significant

In Table 7b North American fellows are compared with fellows from the other three regions. In terms of inspiration for their social ventures North American, African and Indian fellows differed significantly. However, only insignificant differences were found between North American and Latin American fellows .

Table 8a shows the sources of financing used by the Ashoka fellows in the four regions to start and expand their social enterprises. The table shows that these sources differed significantly between the four regions ( $X^2 = 55.853$  for starting up and  $X^2 = 51.307$  for expanding). However, in all four regions the importance of owners’ resources in financing new social enterprises is clear. This is a common pattern even for commercial ventures (Longenecker et al., 2014 and Allen, 2012). It is probably more profound for social entrepreneurs whom Dees (1998) characterizes as being defiant to limitations of resources. Table 8a also shows that North American fellows depended on owners’ financing the least. An example of a social enterprise that was started with owner’s resources in the U.S. is the Sustainable Economies Law Center, which champions legal reforms to support people who lose jobs when companies close plants. The organization relied on volunteers for the first three years. So, Proposition H5: social ventures are started with initiators’ resources (personal savings, sweat capital and volunteers), although much less so in the U.S. than in the other three regions seems to be strongly supported by this study.

Table 8a shows that government and charities were rarely the main sources of financial support for social enterprises in all four regions. Also, these sources were used a little more for expanding social enterprises than for launching them. Accordingly, Proposition H6: external financing (grants by charities and government) is more available for social venture expansion than for launching social ventures, although to a lesser degree in the U.S. than in the other three regions is somewhat supported by this study.

TABLE 8A: FINANCING THE SOCIAL ENTERPRISE

Starting Up*						
Ashoka Fellows from	Owner's Resources	Government Resources	Charity Support	Formal Borrowing	Multiple Sources	N
Africa	76%	7%	10%	0%	8%	91
India	82	3	8	4	10	73
L. America	49	1	<b>18</b>	2	21	90
N. America	<b>43</b>	2	11	0	<b>43</b>	37
Total	65	6	12	2	15	291
Expanding**						
Africa	52	12	13	4	19	93
India	44	12	18	7	19	73
L. America	26	11	<b>19</b>	2	42	91
N. America	<b>17</b>	3	8	0	<b>72</b>	36
Total	38	11	15	4	33	293

\*  $X^2 = 55.853$ , significant at  $p=.05$ ; \*\*  $X^2 = 51.307$  significant at  $p=.05$

We also see from Table 8a that Latin American social entrepreneurs depend a little more on charity financial support than social entrepreneurs in the other three regions do. This is probably a reflection of the active role civic organizations play in social entrepreneurship in the region (Kerlin, 2010), as was noted in the literature review section. Debt/bank financing is almost non-existent for social ventures.

In Table 8b we compare North American fellows with fellows from the other three regions in term of financing their social enterprises. Table 8b shows that North American fellows finance their social start-up social ventures significantly differently from fellows in the Africa and India. On the other hand, there were only insignificant differences between North American and Latin American fellows.

TABLE 8b: FINANCING THE SOCIAL ENTERPRISE (N. AMERICA VS. OTHER REGIONS)

Starting Up						
Ashoka Fellows from	Owner's Resources	Government Resources	Charity Support	Formal Borrowing	Multiple Sources	N
<b>N. America</b>	<b>43%</b>	<b>2%</b>	<b>11%</b>	<b>0%</b>	<b>43%</b>	<b>37</b>
<b>VS. Africa *</b>	76	7	10	0	8	91
<b>VS L. Am **</b>	49	1	18	2	21	90
<b>VS. India *</b>	82	3	8	4	10	73
Expanding						
<b>N. America</b>	<b>17</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>72</b>	<b>36</b>
<b>VS. Africa *</b>	52	12	13	4	19	93
<b>VS. L. Am *</b>	26	11	19	2	42	91
<b>VS. India *</b>	44	12	18	7	19	73

\*Differences between North America and regions significance \*\*Differences not significant

### Discussion, Summary and Limitations

As expected, Ashoka fellows in North America, Latin America, Africa and India are more different than they are similar. Clearly the most important differences are between North America and the other three regions. Most of the differences and similarities can be traced to institutional differences. As Kerlin (2010 and Urban (2008) pointed out social problems drive social entrepreneurs. But social problems arise out of environmental forces. The

weak economies in most sub-Saharan Africa create wide-spread poverty and disease. This study showed that of the four regions being compared, fighting rural poverty is most predominant among African social entrepreneurs. In contrast, rural poverty is least emphasized among North American social enterprises. Another major finding in the study relates to the high focus on social injustices in North America and India. Social injustices do exist in all four regions covered in the study, but they are most addressed by North American and Indian social entrepreneurs. As Alvord et al. (2004) and Datta and Gaily (2012) point out, it is safe and even attractive to address such injustices where strong democratic institutions exist, as they do in North America and India.

Opportunity recognition is the beginning of any entrepreneurial process. In addition, motivation is the basis of any entrepreneurial undertaking. In North America, a relatively big percentage of the Ashoka fellows fight against social injustices out of sympathy with the victims of social injustices. Such injustices arise out of the vagaries of the capitalistic market economy, such as closing a plant and relocating to a non-union region. In Africa a relatively large percentage of the Ashoka fellows fight against poverty because they experienced it personally (empathy rather sympathy).

Although the Ashoka fellows in the four regions differed in the ways they financed their social ventures, there are some noticeable similarities. Like commercial entrepreneurs, most social entrepreneurs finance their start-ups internally (personal savings and sweat capital and volunteers) (Allen, 2013). This was especially the case for African social entrepreneurs. North American fellows depended on their own resources the least. The dependence on own resources was still high for expanding social ventures because external sources of financing increased only slightly. Again this pattern is shared with commercial entrepreneurs (Meyskens, et al, 2010 and Austin et al., 2006). North American and Latin American social ventures depended on grants and charities the most. Probably this reflects the long history of charities and civic organizations in these regions.

This study clearly shows that economic and political institutions determine the nature of social entrepreneurship in any country. The comparisons between North American fellows and fellows from the other three regions indicate that Africa is the most different region from North America. Fellows from these two regions significantly differed in every category of comparison that was made in the study. The North American region is different from the other three regions economically, politically and socio-culturally, but the gap is biggest with regard to Africa. In this study five comparisons between North America fellows with other fellows were made. In four comparisons the differences between North American and Latin American fellows were insignificant, using Chi Squares. The comparisons between Indian and North American fellows yielded insignificant differences two times. It seems that Latin America is closer to North America than India is, at least in terms of social entrepreneurship. The similarities between North America and Latin America probably reflect economic measures, as per World Bank data (World Bank, 2016).

A major limitation of this study is the nature of the sample. Even though South Africa was excluded from the African sample, Nigeria and Kenya, probably the most developed countries in sub-Saharan Africa, contributed nearly 50 percent of the African sample. Additionally, the study is based upon write-ups about Ashoka fellows. These profiles aren't uniformly comprehensive. In addition, only Ashoka fellows focusing on Economic Development were studied. Extending the study to other focuses, such as Health, will most likely provide a fuller understanding of how social entrepreneurs are tackling the eradication of poverty.

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## ***Predicting Growth Potential of Small and Medium-Sized Logistics Companies***

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### **Abstract**

*Small and medium-sized logistics companies are unfairly neglected in scientific and professional research even though they usually account for majority of companies in logistics industry. Logistics SMEs are the most flexible part of the sector, both followers and drivers of overall economy and should be regarded as prospective large logistics companies. The purpose of this paper is to identify the main predictors of growth among small and medium-sized enterprises (SMEs) operating in logistics industry. The underlying notion is that business models of small and medium-sized logistics service providers with potential for high growth share some common features that will be reflected in the growth prediction model designed specifically for logistics industry. The dataset included predominantly financial indicators derived from balance sheet and income statements for 63741 SMEs who were active in the 2010-2014 period. The paper provides preliminary empirical evidence on growth similarities across SMEs in logistics industry. The results of the study are to a great extent in line with the previous research on SMEs growth. Increasing understanding of critical growth factors for logistics service providers can help bridge the gap between SMEs and large companies and may be of interest to entrepreneurs, managers, policy-makers as well as scholars.*

**Keywords:** growth prediction, logistics service providers, financial indicators, SMEs

### **Introduction**

Logistics industry is characterized with extremely high share of small and medium enterprises (SMEs) and exceptionally small share of large companies which generate majority of sales in industry. Logistics is not independent industry, but supporting part of many other industries (Cheng, 2006), and therefore it is not statistically monitored as a separate category of economy. It is often stated that logistics is a “backbone of economy” (Lee and Yang, 2003; Hesse, 2004; Kasarda, 2000; Schuldt, 2010; Xiu and Chen, 2012; Wei, 2010). Through its nerves (transportation routes and modes) it touches and connects all parts of economy, and by its flexibility logistics industry responsively adopts to highly demanding requirements of different fields of economy. With appropriately widespread capacity, logistics industry allows significant expansion of operations, both domestic and internationally. With spread logistics capacity it supports all business activities, and enables significant expansion of operations, both domestic and internationally. These backbone characteristics are mostly summarized in small and medium-sized logistics companies who are followers but also drivers of overall economy. Equally important, logistics SMEs are the source of future large logistics companies. Due to their significance, small and medium-sized logistics companies are unfairly neglected in scientific and professional research. Although growth potential of SMEs has been widely studied, predictions of growth potential of SMEs from logistics industry are very scarce and this papers gives additional contribution in this field.

The main purpose of this paper is to identify critical factors that lead to high-growth paths among SMEs in logistics industry. Prediction of growth based on financial indicators will assure comparability and replicability of the study as well as provide a preliminary empirical evidence of growth idiosyncrasies in the population of small and medium-sized logistics service providers. The objective of the study is twofold: 1) to develop a growth prediction model for all SMEs in Croatia and apply it on a sample of SMEs in logistics industry; and 2) to develop a

growth prediction model specifically for SMEs in logistics industry, and to juxtapose the two models. Overall, the study considers two research questions: Do small and medium-sized companies in logistics sector have distinctive growth determinants that differentiate them from other economic sectors in Croatian economy? and What are the critical business features or aspects that lead to high-growth path among logistics SMEs?

### **Economic Significance of Logistics Industry**

Logistics as supporting and integral contemporary business function focused on flows (also called business logistics or logistics management) arose relatively late in the 1950s when the additional potential for rationalization of material flows was observed (until then operating in the military sector, most successfully during the Second World War). Most cited definition of logistics is one by Council of Supply Chain Management Professionals - *process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements* (Vitasek, 2013). Logistics has always been a service industry - initially only as a secondary/supplementary function of companies from different sectors, and today also as the primary activity of specialized logistics companies called logistics service providers. Logistics service providers are companies that operate in logistics industry (or logistics sector) of certain country. Although sometimes identified by terms such as 3PL (Third Party Logistics), 4PL (Fourth Party Logistics), LLP Lead Logistics provider) etc., it is considered that the concept of logistics service providers or logistics companies is the broadest term encompassing all companies that as a primary activity provide part or all logistics services such as transportation, warehousing, order processing, inventory management, packing and picking in purchasing, production, distribution or reverse logistics. According to Statistical Classification of Economic Activities in the European Community (NACE), logistics industry consist of companies (logistics service providers) from NACE Rev. 2 divisions 49.2, 49.4, 49.5, 50.2, 50.4, 51.2, 52.1, 52.2 and 53.2 (Ecorys et al., 2015). The main subjects of this research are exactly logistics service providers, more precisely small and medium-sized logistics companies.

Logistics industry has significant influence on every economy. Development of logistics practice directly influence regional or national economic growth (Wang, 2010; Chu, 2012; Bolumole et al., 2015; Liu, 2009). According to Liu (2009), both the enlargement of logistics scale and the increase of logistics efficiency can bring tremendous influence on the development of national economy. Study conducted in Indonesia by Reza (2013) confirms logistics importance in supporting and sustaining economic growth. At the same time, economic growth influence logistics through significant demand-pull effect (Reza, 2013). Chu (2013) has indicated most recognized ways of logistics contribution to economic development: investment into logistics increases demand for goods and services, reduce travel time that is manifested in inventories reduction and better response on demand, attract more foreign direct investment, and accelerate industrial aggregation and consequently industrial productivity. Logistics is also prerequisite for successful domestic and international (global) trade. Additionally, Hoekman & Nicita (2010) pointed to significant positive connection between logistics performance and intensity of trade.

Most frequently used metric of logistics significance on macro level is share of logistics costs in GDP. Logistics costs vary considerably from approximately 8 % of GDP in developed countries like USA or EU countries (CSCMP, 2015; Statista, 2016) to sometimes more than 30 % of national GDP in less developed countries like Vietnam or some countries of Latin America where it is becoming one of critical elements of competitiveness and economic performance of a country (Guasch, 2011). In addition to serving as a measure of logistics sector size (Sheperd, 2011), low percentage of logistics costs in GDP indicates higher level of logistics efficiency and consequently more efficient production and distribution activity in domestic market. Size of European logistics market in 2014, measured in expenses of logistics services (or logistics costs), is estimated to € 960 billion, and 49.27 % is outsourced (Kille & Schwemmer, 2015). These outsourced activities of around € 476 billion, with increase of 7.11 % from 2013, represent size of logistics industry in Europe.

World Bank provided a more thorough metric of logistics performance on macro level named Logistics Performance Index (LPI). Consisting of both qualitative (worldwide survey on the logistics “friendliness” of the countries in which logistics operators operate and those with which they trade) and quantitative measures (data on the performance of key components of the logistics chain in the country of work), LPI is providing international and domestic perspective of logistics performance of a country (World Bank, 2016). LPI is also considered as combination of subjective evaluation of logistics performance and hard data (Guasch, 2012), representing new trend in logistics evaluation.

Micro level or firm-level data of logistics performance are used for analysis of companies or logistics sector, but, according to Sheperd (2011), for useful conclusions they need to be combined with other company characteristics (size, basic financial indicators, etc.) and trade performance (exporters vs. non-exporters, etc.). Micro approach to evaluating logistics performance is mostly based on firm survey and most important metric is logistics cost as percentage of product value (Guasch, 2011).

### **Small and Medium-Sized Logistics Companies**

Small and medium-sized companies account for majority of companies in logistics industry but they usually generate much smaller share of revenues. SMEs in logistics are usually more agile and competitive than large companies, and their success often lies in specialization by focusing on specific logistics field and filling market niches (Neubauer, 2011). Smaller logistics companies invest more in flexibility and perceive speed as their competitive advantage (Solakivi, 2015). On the other hand, rate of business failure in logistics industry is usually above average in total economy (Neubauer, 2011). Low level of logistics efficiency of small logistics companies is also detected in Finnish logistics industry, e.g. in lower level of perfect customer deliveries and supplier delivery timelines (Solakivi, 2015; Töyli et al., 2008). According to analysis of the EU logistics sector (Ecorys et al., 2015), small and medium-sized logistics companies in Europe have certain problems like relative slow uptake of innovations, lower utilization of resources, awareness, knowledge, limited financial means and time, high driver training costs. Töyli et al. (2008) indicate that these low performances are also an opportunity to gain competitive advantage through focusing on logistics improvement.

It is also important to stress that, according to The Establish Davis Logistics Cost and Service Database (2014), smaller companies have higher logistics costs - the smallest companies have even three times higher logistics costs (measured as percentage of sales) than the biggest ones. It can be explained by high capital investment requirements needed to enter the logistics industry, and/or to growth in it. Most of costs are fixed costs, especially in warehousing and in specific logistics field like logistics specialized in frozen assortment (Martinović, 2014). In that sense, logistics efficiency is even more important for small and medium-sized companies, as its improvement can have even greater influence on company performance. In addition, on Finish example can be concluded that large logistics companies are more advanced in using environmental friendly policies than the small and medium-sized logistics companies (Solakivi, 2015).

Most of the research from logistics industry is focused on large logistics companies. There are just few research considering only small and medium-sized logistics companies. Their subjects are related use of technology in logistics SMEs (Evangelista et al., 2013; Pokharel, 2005), cost evaluation (Campos-Garcia et al., 2010), financial and operational performance and its relationship to logistics performance (Töyli et al., 2008), and ways of cloud-based cooperation for regional logistics organizations and other virtual logistics networks (Oberländer & Franczyk, 2014; Chang et al., 2003).

There is only one paper (Xiao et al., 2010), to our knowledge, analyzing growth of small and medium-sized logistics enterprises based on enterprise symbiosis theory. Paper proposes building symbiotic system of small and medium-sized logistics companies and their cooperation with close large logistics company in a way that large company will focus on its core logistics services and outsource other logistical services to small and medium-sized

companies. This concept is not tested through empirical research. Additionally, Cheng (2016) in his doctoral thesis studied and empirically tested influence of characteristics of the owner-manger, the nature of the firm, and company strategy, together with the economic and government factors on SME growth in logistics industry.

Two studies results in general recommendations for small and medium-sized logistics companies (Ecorys et al., 2015; Gunasekaran & Ngai, 2003): (a) state support is needed for training of drivers and other employees; (b) training of SMEs to become more aware of the benefits of existing fleet and advanced logistics management systems; (c) receive technical support from client companies; (d) building long-term relationships and respect to all clients; (e) use of web based information and cooperation platforms; (f) ensure increase of SMEs in participation in innovative research projects (e.g. Horizon 2020); (g) subsidies for SMEs to adapt clean technologies and standards; (h) increase access to financial means for innovation.

Studies about small and medium-sized logistics companies usually use different questionnaire surveys and interviews (Gunasekaran and Ngai, 2003; Oberländer and Franczyk, 2014). Self-reported evaluation in questionnaire survey is data collection approach under considerable subjective influence, and thus is often combined with hard financial data (examples can be found in Töyli et al., 2008 and Ecorys et al., 2015). Another approach to performance evaluation of small and medium-sized logistics companies is through additional case study approach (examples in Gunasekaran and Ngai, 2003; Campos-Garcia et al., 2010; Evangelista et al., 2013).

### Logistics Industry in Croatia

Croatia is European country with population just under 4.3 million people and GDP of €10,162 per capita (Croatian Bureau of Statistics, 2015), located in Central and East Europe. In 2013, Croatia gained full membership in European Union. Specifics of Croatian logistics industry mainly result from its unique geographical shape (sometimes called “boomerang shape”) that requires much more logistics infrastructure (in terms of distribution centers and needed vehicles). Also, its geographical position strongly affects freight transport and transshipment routes. Some of the main European corridors like Vb, Vc and X are passing through Croatia. Croatia’s LPI in 2014 was 3.05 which places Croatia at the 55th place of 160 countries surveyed (World Bank, 2016).

Croatian logistics industry in 2014 consisted of 3126 active logistics service providers: 99.46% small and medium-sized logistics service providers, and only 0.54 % of large ones (TAB. 1). Small and medium-sized companies has 64,68 % of market share, while large ones hold 35,32 % market. With total revenues of € 2.92 billion, it constitutes only 0.003 % of the European logistics industry sector. Still, in Croatia only about 30 to 40% of logistics operations is outsourced to logistics service providers (Pavlović, 2015), therefore it can be assessed that total logistics market (primary and secondary logistics service) is around € 8 billion.

TABLE. 1 CROATIAN LOGISTICS INDUSTRY IN 2014 ACCORDING TO SIZE OF A LOGISTICS COMPANIES

	Logistics companies		Total revenues (%)		TOP 10 market share (revenues based)
	No.	%	€	%	
Large	17	0.54	1,032,275,579.21	35.32	33.81%
Medium	48	1.54	684,265,615.79	23.41	
Small	3061	97.92	1,206,200,158.42	41.27	
Total	3126	100	2,922,741,353.42	100	

Source: Croatian Financial Agency, 2014

Concentration coefficient of Croatian logistics industry points out that Top 10 performing logistics service providers in Croatia hold 33.81 % of market. This is moderate concentration, but it is expected that concentration will grow.

The most significant development in recent history of Croatian logistics industry is accession to the European Union on June 1, 2013. Due to participation on common EU market, Croatian logistics service providers significantly simplified their logistics operations regarding customs. Other Croatian companies also entered huge EU market with all potentials that it provides but also with all possible threats from foreign companies from other EU markets. Undoubtedly, accession to the EU has accelerated international trade and consequently movement of goods between Croatia and EU countries that was reflected in export increase of 8,7 % and import increase of 4,3 % in 2014 (Croatian Bureau of Statistics, 2015). One of consequences of accession to the EU is loosing of around 5000 jobs in Croatian logistics industry mainly due to lack of need for freight forwarding companies (Pavlović, 2015) and simplified customs operations. Most important changes in Croatian logistics industry upon accession to the European Union was summarized by (Stanković et al., 2014): (a) customs borders with EU countries have been eliminated; (b) border with non EU countries became EU customs borders with different customs regime; (c) main Croatian port – port of Rijeka – become an EU port; (d) due to its edge position in EU, Croatia has become a starting point for distribution and transshipment to south and east European countries.

### **Growth prediction in the context of small and medium-sized companies**

Companies' growth is a complex phenomenon that can be accessed from different perspectives (microeconomic, macroeconomic, management and entrepreneurship perspectives) and explored within several theoretical frameworks (the resource based view, the life-cycle model, the strategic adaptation perspective and motivational perspective being some of them). Growth is most commonly observed on three levels: characteristics of an entrepreneur, business and management practices, and institutional factors. Willingness to participate in situations with uncertain outcomes, mid-management experience (Cassia et al. 2009), education and entrepreneur's aspiration to grow (Kolvereid and Bullvag, 1996; Barringer et al., 2005) are selected as relevant growth predictors on an entrepreneur level. From the company's perspective age and size, strategic orientation (Barringer et al. 2005; Morone and Testa, 2008; Freel and Robson, 2004), level of R&D (McGee and Dowling, 1994), innovation (Christensen and Bower, 1996; Fischer et al., 1997), financial structure and productivity (Mateev and Anastasov, 2010) have strong positive relationship with growth potential. Finally, in the context of institutional factors, company's growth is under influence of tax system, regulated credit market conditions, employment security laws, low wage dispersion due to wage setting institutions, and public sector monopolization of the production of key services (Henrekson and Johansson, 1999).

Methodologically, growth can be measured quantitatively (in terms of increase in revenues, assets or number of employees), and qualitatively (in terms of quality of products or market position). The most common growth measures in studies focused on predicting enterprise growth are defined as change in sales (revenues), number of employees and value of assets (Kiviluoto et al., 2011; Davidsson et al., 2006). Operationalization of growth variable is an important step of the research design since it strongly influence selected set of predictors and implications of the results (Weinzimmer et al., 1998).

Growth prediction studies are mostly oriented toward growth potential of large companies (Davidsson et al., 2006) and researchers are yet to reach comprehensive understanding of growth specifics among SMEs. In the context of studies focused on growth of SMEs, the findings suggest that main growth predictors relate to the capacity to invest, particularly in R&D (Helmets and Rogers, 2011), firm size, firm age, internal cash flows (Sampagnaro, 2013), indebtedness, future growth opportunities, process and product innovation, organizational changes (Mateev and Anastasov, 2010), and lower availability of financial resources in the years immediately preceding company's growth (Moreno and Casillas, 2007). Furthermore, Stevenson and Jarillo (1990) and Baum et al. (2001) concluded that searching for and exploiting opportunities contributes to accelerated growth more than

efficiently managing acquired financial resources. Finally, Segarra and Teruel (2009) found a non-linear relationship between firm capital structure (mainly an increase in equity) and firm growth.

## Methodology

### Data set and samples

The study utilizes financial statements (balance sheet and income statement) provided by central financial agency in Croatia FINA. The data set includes 63741 SMEs in Croatia that were active in the period from 2010 to 2014. The entire data set was used to develop growth prediction model for all industries. For the purpose of predicting growth among logistics companies, companies that were included in the sample had following logistic services defined as their primary business activity (according to NACE Rev.2): land freight transport and transport via pipelines (49.2, 49.4, 49.5), water freight transport (50.2, 50.4), air freight transport (51.2), warehousing and support activities for transportation (52.1, 52.2), and other postal and courier activities (53.2).

The modelling procedure included developing several samples for the development and validation of the prediction models. The sample sizes and respective subsets are presented in TAB. 2.

TABLE 2. SAMPLE SIZES IN DEVELOPMENT AND VALIDATION STAGE OF ANALYSIS

Sample	Population of SMEs			Development subset of the sample		Validation subset of the sample			
	Total	High growth	% of high growth	High growth	Non-high growth	Total	High growth	Non-high growth	Total
SMEs in all industries	59950	4221	7.04%	3400	3400	6800	821	821	1642
SMEs in logistics industry	1968	130	6.61%	105	105	210	25	25	50

For the purpose of modeling, only companies that were active throughout entire 2010-2014 period were included in the samples. Therefore, the total number of SMEs population as well as total number of logistics companies was reduced (63741 vs. 59950 companies and 2040 vs. 1968 companies respectively).

### Variables

Independent variables are presented in a form of financial ratios (a total of 43 financial ratios are calculated for this purpose), except for the variables age, size and industry affiliation. Financial ratios were calculated for the years 2010 and 2011 and coupled with the percentage change of the ratios for the 2010-2011 period. Finally, 134 variables were created this way.

Dependent variable relates to the company's growth. Companies marked as ones with a high potential to grow recorded annualized growth in revenues greater than 20% a year, over a two-year period, from December 31, 2012 to December 31, 2014. Otherwise, an enterprise was defined as non-high growth.

## Methods

Due to a dichotomous outcome variable (company was classified as either high-growth or non-high growth) and a set of predominantly continuous and few categorical variables, a logistic regression was applied. Since categorical outcome variable violates the assumption of linearity in normal regression, logistic regression uses logarithmic transformation on the outcome variable to enable for modeling an outcome as a linear combination of the predictor variables.

For  $r$  independent variables  $x_1, x_2, \dots, x_r$  the logistic function would be:

$$p = \frac{e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_r x_r}}{1 + e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_r x_r}} \quad (1)$$

where  $p$  is the probability that a company will achieve high growth rates. The goal is to obtain  $\beta_i$ ,  $i = 1, 2, \dots, r$ . Clearly, the above logistic function is not linear, but by denoting  $g(x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_r x_r$  and through logistic transformation it becomes:

$$\begin{aligned} \text{logit}(y) &= \ln \frac{p}{1-p} \\ &= \ln \frac{\frac{e^{g(x)}}{1 + e^{g(x)}}}{1 - \frac{e^{g(x)}}{1 + e^{g(x)}}} \\ &= \ln \frac{\frac{e^{g(x)}}{1 + e^{g(x)}}}{\frac{1}{1 + e^{g(x)}}} \\ &= \ln e^{g(x)} \\ &= g(x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_r x_r. \end{aligned} \quad (2)$$

For a sample of size  $n$ , for  $i = 1, \dots, n$ , the observed variables are marked with  $y_i$  and explanatory variables are marked with  $x_i' = (1, x_{i,1}, \dots, x_{i,r})$ . The probability density function of  $Y$  is:

$$f(y_i | \beta) = p_i^{y_i} (1 - p_i)^{1 - y_i} \quad (3)$$

where  $p_i = \frac{e^{g(x_i)}}{1 + e^{g(x_i)}}$  (Jobson, 1992). For the entire sample likelihood function conditional on  $x_i$  is:

$$L(\beta | \mathbf{y}) = \prod_{i=1}^n p_i^{y_i} (1 - p_i)^{1 - y_i} \quad (4)$$

In order to simplify maximizing equation (4), the logarithm of it is used:

$$\begin{aligned}
\ln L(\beta|\mathbf{y}) &= \ln \prod_{i=1}^n p_i^{y_i} (1 - p_i)^{1-y_i} \\
&= \sum_{i=1}^n \ln p_i^{y_i} (1 - p_i)^{1-y_i} \\
&= \sum_{i=1}^n \ln p_i^{y_i} + \ln(1 - p_i)^{1-y_i} \\
&= \sum_{i=1}^n y_i \ln p_i + (1 - y_i) \ln(1 - p_i)
\end{aligned} \tag{5}$$

Further steps in maximizing equation (5) include partial differentiation, but there is no analytical result for  $\beta$ . The solution is obtained using iterative processes (Czepiel, 2002). To test the quality of the model, Kolmogorov-Smirnov (KS) statistics was used. It is defined by the function:

$$KS = \max_{a \in [L, H]} |F_{m_2, BAD}(a) - F_{m_1, GOOD}(a)| \tag{6}$$

where L and H are the minimum and maximum values of scores from the observed model, respectively.  $F_{m_2, BAD}$  and  $F_{m_1, GOOD}$  are defined as follows:

$$\begin{aligned}
F_{m_1, GOOD} &= \frac{1}{m_1} \sum_{i=1}^{m_1} I(s_i \leq a \ \&\& \ y_i = 1) \\
F_{m_2, BAD} &= \frac{1}{m_2} \sum_{i=1}^{m_2} I(s_i \leq a \ \&\& \ y_i = 0)
\end{aligned} \tag{7}$$

where  $m_1$  is the number of high-growth enterprises and  $m_2$  the number of enterprises which aren't high-growth. The  $I$  is an indicator function that demonstrates the value 1 if all its conditions are met, and 0 otherwise. Finally  $s_i$  is the score of the  $i - th$  client (Řezáč 2011).

In conducting these tests, a 5-fold cross validation was used, meaning the data was split into five subsets. Every one of these subsets was used in testing the model, making the remaining subsets the training data for modelling. After choosing the models, every one of them was tested separately on each subset. In presenting results of the chosen model, average from all subsets was given.

Finally, independent variables are added to the model by using a combination of backward elimination and forward selection. Backward elimination puts all the predictors in the model and then gradually removes the ones with the highest p-values until the desired number of variables is left in the model. On the other hand, forward selection starts with no variables in the model and then adds one by one variable with the lowest p-value, until no predictors can be added (Bursac et al., 2008).

## Growth Prediction Models and Empirical Results

The first step of the empirical analysis included development of growth prediction models based on predominantly financial data of all SMEs in Croatia that were active during the 2010-2014 period. Criteria for selection of the final model included hit rates indicator, Kolmogorov Smirnov statistics, area under curve (AUC) as well as the interpretability of the model itself. The result of logistic regression modeling procedures is presented in TAB 3.

TABLE 3: HIGH GROWTH PREDICTION MODEL FOR SMES FROM ALL INDUSTRIES IN CROATIA

<i>Business aspect</i>	<i>Variable</i>	<i>Regression coefficient</i>
Leverage	total debt/total assets	-0.001
Liquidity	current assets/current liabilities	0.010
Liquidity	(current assets-inventory)/current liabilities	-0.009
Activity	sales/total assets	-0.013
Activity	(current assets-inventory)/sales	0.011
Revenue model	revenues from government grants and subsidies	0.000
Revenue model	sales	0.000
Revenue model	export/sales	0.301
Investment	investments/total assets	0.761
Size	size	-0.205
Age*	age_4	0.043
	age_3	0.691
	age_2	0.541
	age_1	0.715

Accuracy of the model for all industries tested on SMEs from all sectors:

Total hit rate = 58.13%; Hit rates for non-high-growth = 56.29%; Hit rates for high-growth = 60.08%

AUC = 0.614, KS = 17.00%

Accuracy of the model for all industries tested only on data of logistics SMEs:

Total hit rate = 57.07%; Hit rates for non-high-growth = 48.49%; Hit rates for high-growth = 65,66%

AUC = 0.630, KS = 24.24%

The model incorporates financial indicators related to several aspects of business that are critical for growth. Firstly, the degree to which a company uses external financing sources (in case of SMEs in Croatia those are primarily bank loans) is represented by a total debt to total assets ratio. According to the model, companies more inclined to use higher financial leverage to fuel their business operations have worse prospects for high growth. In other words, companies that primarily use internal financing sources tend to grow at a higher rate. Secondly, liquidity seems to be polemical as the two financial indicators included in the model have opposite signs. The more current assets company has relative to its current liabilities, the more liquid company is. However, high levels of current assets in case of SMEs can also serve as an indicator of issues in the receivables collection or inventory obsolescence. Furthermore, two turnover ratios presented in the model relate to the ability of the company to use its assets to generate revenues. In terms of revenue model, SMEs with a potential for high growth are focused on developing their sales capabilities, generating revenues on international markets or they rely on government help in form of grants and subsidies as a short-term solution for growth (e.g. SMEs in agriculture industry). Besides, there is a positive relationship between level of investments and potential for growth. With respect to the company size and age, smaller companies are more likely to grow in the future, while the longer the company is present in the market, the better are prospects for its growth.

The second step of our analysis included running the prediction model on solely SMEs from logistics industry. In this case, overall accuracy of the model was a bit weaker, yet the model did a better job at identifying high-growth companies (see table 3). However, due to an idiosyncrasies of SMEs operating in logistics industry, our next step was to develop a growth prediction model specifically for SMEs in logistics industry to more precisely capture the critical factor of growth in this group of industries. The model is presented in TAB 4.

TABLE 4: HIGH GROWTH PREDICTION MODEL FOR SMES IN LOGISTICS INDUSTRY

<i>Business aspect</i>	<i>Variable</i>	<i>Regression coefficient</i>
Leverage	total debt/equity*	-0.021
Liquidity	current assets/current liabilities*	6.886
Liquidity	cash/current liabilities	7.624
Liquidity	(current assets-inventory)/current liabilities*	-11.539
Activity	sales/total assets*	-14.697
Activity	(current assets-inventory)/sales	5.491
Activity	sales/inventory	-0.002
Activity	current assets/sales	-2.891
Activity	revenues/total assets	15.805
Profitability	net income/equity	0.010
Assets structure	intangible assets/total assets	101.554
Assets structure	licenses, software and other intangible assets	1
	/total assets	39.361
	size*	7.441
	age_4*	18.769
	age_3*	4.044
	age_2*	-1.053
	age_1*	1.464

Accuracy of the model:

Average total hit rate = 75.00%; Average hit rates for non-high-growth = 85.71%; Average hit rates for high-growth = 66.67%

Average AUC = 0.794, Average KS = 60.32%

\* Predictor variables present in both models.

The main finding indicates significantly better performance of the model relative to the model for all industries in both identifying high-growth companies and non-high growth companies. Area under the curve (AUC) and Kolmogorov-Smirnov (KS) statistics confirm better quality of the model.

Higher portion of activity ratio included in this model relative to the number of activity ratios in the growth model for all industries points to the very nature of logistics industry that require companies to excel in their business operations and the way they use assets to generate revenues. Efficiency measures are among most important metrics for SMEs in logistics industry. The role that intangible assets play in company's performance is another distinctive feature of logistics companies. Liquidity and leverage ratios exhibit similar predictive power and behavior as in the first model.

### Discussion and Implications

The study utilizes financial information recorded in financial statements of SMEs operating in logistics industry to predict what companies are better candidates for the high growth path. Financial statements represent a relevant source of information for growth prediction as they reflect both endogenous factors (company-specific factors such as size, infrastructure and resource intensity) as well as exogenous factors (environmental factors such as degree of the competition, market demand and future market attractiveness) that ultimately shape company's performance (Hofmann and Lampe, 2012). The findings show that logistics sector has similar share of high-growth companies as the entire economy. This confirms the interdependence between the state of logistics industry and the state of entire economy.

Furthermore, several commonalities can be found in the structures of growth prediction models for the entire economy and for the logistics industry. First, they both indicate that companies with potential for high growth tend to use internal sources of financing to fuel their growth. This confirms previous studies on SMEs growth which findings showed that SMEs in transition economies rely predominantly on internally generated funds to support their sales growth (Mateev and Anastasov, 2010) and that internal sources of financing promote accelerated growth and predicts exceptional performance in terms of company's growth (Sampagnaro, 2013). Second, keeping sufficient levels of liquid assets is prerequisite for financial success according to the both models. And third, predictor variables related to age of a company suggest the positive relationship between growth and age. In other words, the longer the company exists in the market, the higher the chances it will reach high growth.

However, based on the two prediction models developed in the empirical part of the study, it can be stated that small and medium-sized logistics companies do possess certain idiosyncrasies that are reflected in a unique set of growth predictors. Their prospects for growth are founded in business models that put emphasis on efficiency of business operations, having the right structure of the assets that is in line with the overall strategy. This is reflected in the fact that turnover ratios are the most represented in model (five turnover ratios ended up as predictor variables) indicating that the efficiency of business activities is the critical factor of logistics SMEs growth. More precisely, the higher the speed at which a company converts its non-cash assets to cash assets, the better are prospects to grow. Still, the relationship is not completely straightforward. Company can boost its revenues and keep the same level of assets (by increasing efficiency of business operations, for instance). But, for the revenue growth to be above average, logistics company has to expand its pool of assets. Capacity building (more transportation vehicles, more storage space) is essential prerequisite for growth in logistics industry. Another result worth pointing out relates to company's size. Size is present in both models as a predictor of growth, but with opposite signs. This suggests the opposite direction of influence of the size variable. Contradictory results for the relationship between company's size and potential for growth are present in the previous research as well (Mateev and Anastasov, 2010). Despite plethora of studies devoted to this specific topic, scholars still have not agreed on the nature of relationship between age and size of the company as predictor variables and company's growth as response variable.

Finally, share of intangible assets also has predictive power in relation to growth. Small and medium-sized logistics companies can use intangible assets (in a form of licenses, for instance) to build competitive advantage over other logistics companies of the similar size. Companies who are innovators and early adopters in specializing in certain area of logistics service or adopting to new logistics trends (by preparing for and obtaining adequate licenses, certificates or software) have higher potential for growth.

## **Conclusion**

Small and medium-sized companies in logistics industry play an important role in national economy due to their extremely high share, specific logistics service they offer and flexibility and adaptability to all demanding requirements from different fields of economy. Still, we know very little about their business models and growth paths. To overcome this gap, this study shed some light on variables that serve as growth predictors among logistics SMEs. Efficiency of business operations, converting of non-cash assets to cash assets, capacity building, and use of intangible assets are main roads to growth for small and medium-sized logistics companies.

Although the study has yielded some preliminary findings, certain limitations are present and should be noted. First, financial statements are condensed and provide limited information about company's strategy and characteristics. This is even more emphasized by the fact that the strategy of small company is closely related to entrepreneur himself – his personal goals, desires, attitudes and ambitions. Therefore, introduction of additional soft variables might improve predictive power of the model and increase understanding of factors influencing growth of logistics SMEs. Second, due to the very nature of the logistics business, structure of the assets is very important. Therefore, it would be worthwhile effort to explore other measures of growth that are related to assets and include

them in the model design. Finally, the prediction model does not provide insight into the causality between financial indicators. Therefore, further research should focus on improvements in research methodology in this regard.

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## ***An e-Engagement Of Social Media With Micro, Small And Medium Enterprises Of Andhra Pradesh***

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### **Abstract**

*Social media is a relatively a new phenomenon that has significantly changed how the business operates. Businesses are able to gain access to scarce resources that were otherwise not available to them. It has also helped businesses to cultivate strategic partnerships and enhance their Relationship with customers and suppliers. This study examines how social media can be used by different businesses for a range of functions, including but not limited to marketing and customer relationship management. It is very important for the business owners to understand how social media works as a communication and marketing tool through which they can significantly grow the businesses. The study focused on establishing the effect of social media on the growth of small and medium enterprises in Andhra Pradesh, India. This was done by determining the effect of social media on the market access, customer relationship management and the impact of social media tools on the sales of Small and medium enterprises in Andhra Pradesh, India. The study used descriptive research design. Questionnaires were administered to 1017 Micro Small and medium enterprises of Andhra Pradesh in India, respondents being the owners. Cluster sampling was used to divide the population of interest and then simple random probability sampling technique was used to further identify the specific businesses to be used for the study. The study established that social media tools offer greater sales and in turn have a significant impact on the growth of MSMEs. The study recommends that policy makers such as the government should come up with policies that encourage best practices for the growth of the MSME sector. Also providing solutions and encourage more MSMEs to adopt the use of social media tools which would lead to their growth.*

**Keywords:** *Social Media impact, growth of MSME's, Social Media Tools.*

### **Introduction**

With the growth of Internet and smartphone penetration in India, The Social Media is touching large section of the society in many ways. The Social Media's adoption led by Facebook, Myspace, Pinterest, Twitter and LinkedIn etc offers tremendous power to the marketers to do precise targeting in a very cost efficient way. The best part of these platforms is they offer excellent reporting and analytics thus helping the executor to stay on top of campaign performance and take appropriate timely decisions to make the campaign more effective and result oriented. The traditional media like TV, Print, Radio etc are far from reach of the MSME's of India and mainly works well for large brands and business with deep pockets. The Digital Marketing and especially Social Media has emerged as a very cost effective medium for MSME's and good adaption of these mediums can bring significant benefits to the business and help achieve the growth objective of the organization not only domestically but globally as well. The social media leader board includes Facebook with 90 Million user base followed by 20 Million each of Twitter & LinkedIn. A comprehensive social media strategy coupled with other digital marketing tools like SEO & SEM can provide excellent platform for MSME's to reach out to its target clients and can result in building lifelong

communities of potential and existing clients. This paper attempts to highlight the impact of Digital Marketing and Social Media strategy on the MSME's and the earned benefits.

### **Classification of MSME**

The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 in terms of which the definition of micro, small and medium enterprises is as under:

(a) Enterprises engaged in the manufacture or production, processing or preservation of goods as specified below:

- (i) A micro enterprise is an enterprise where investment in plant and machinery does not exceed Rs. 25 lakh;
- (ii) A small enterprise is an enterprise where the investment in plant and machinery is more than Rs. 25 lakh but does not exceed Rs. 5 crore; and
- (iii) A medium enterprise is an enterprise where the investment in plant and machinery is more than Rs.5 crore but does not exceed Rs.10 crore.

In case of the above enterprises, investment in plant and machinery is the original cost excluding land and building and the items specified by the Ministry of Small Scale Industries

(b) Enterprises engaged in providing or rendering of services and whose investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006 are specified below.

- (i) A micro enterprise is an enterprise where the investment in equipment does not exceed Rs. 10 lakh;
- (ii) A small enterprise is an enterprise where the investment in equipment is more than Rs.10 lakh but does not exceed Rs. 2 crore; and
- (iii) A medium enterprise is an enterprise where the investment in equipment is more than Rs. 2 crore but does not exceed Rs. 5 crore.

### **Literature Study**

Technology evolves and changes rapidly on a frequent basis. But every now and then something with potential to change the business environment comes to the forefront. The business world is not an exception. Social media is one such which was evolved as a potential tool. Social media which is sometimes referred to as social networking and Web 2.0. The users of social media have the ability of sharing their views and encounters. This assists in creativity, open communication and sharing of knowledge among users. Facebook, Skype and discussion forums are examples of social media tools (Tapscott and Williams, 2008).

Small businesses getting started in India are no different. There are around 40 million small business owners in India, out of which, around 500,000 have their presence online while there are 23 million small businesses in the US.

They are discovering innovative ways to educate, manage their business and engage with potential customers via mobile networks. If you combine India's mobile internet proliferation with the natural willingness to tell and share stories, then social business will prevail. India is among the top three fastest growing Internet markets in the world as stated by industry body Assocham and ComScore. "Among the BRIC nations, India has been the fastest growing market adding over 18 million Internet users and growing at an annual rate of 41 per cent." The report further suggests that internet users in India are expected to touch 350-450 million by 2015-16 and this will act as a catalyst in the growth of SMBs.

Social networking allows businesses to gain access to resources that might otherwise not be available to them. It can also aid the development of a firm's worthiness, increase the customer and supplier contacts, bring to light where resources and funding are available, promote innovation and help in the cultivation of strategic partnerships (Zontanos and Anderson, 2004). Business owners rarely possess all the skills and knowledge needed to expand their enterprise, and finding people with the necessary skills, and getting them to contribute, is a vital aspect of their networking (Simon, 2012). Owing to of the flexibility of social networking tools, businesses can realize different benefits. These according to Simon (2012) are greater access to different audiences, improved customer service, improved products and services and adoption of favorable pricing practices.

The 21st century has seen a shift in the way businesses market their products and services. Smith and Taylor (2004) reveal that companies are presently experiencing several new unanticipated events and the development of the Internet as a communication channel is almost certainly one of the most influential factors. It has made consumers more accessible, it has emerged with a completely new set of communication tools that make the process of exchanging information much easier and faster, and it has compelled companies to rethink how they are communicating with their customers (Jaokar, Jacobs, Moore and Ahvenainen, 2009). As of January 2012, there were more than 800 million active Facebook users, with over 250 million of them logging in everyday. In addition, the average Facebook user has 130 friends and likes 80 pages but this figure is expected to expand with time. Additionally, over 3.5 billion pieces of contents such as blog posts, web links and news stories are shared on this social network (Digital Buzz, 2012). It is important for entrepreneurs and marketer to grasp how the Internet functions and the expectations of its users.

Mangold and Faulds (2009) recognize that social media allows an enterprise to connect with both existing and potential customers, Further, an information rich website can help a business to develop relationships with customers by providing more effective marketing, new communication and distribution channels, shorter time to market, customized products, 24hour online technical support and online interactive community. Social networking can be an excellent way to acquire new customers and retain existing ones. Social networking sites can build online groups around various companies, where clients and prospective customers can interact with like-minded individuals. These groups provide valuable insights, plus useful feedback that help the marketers improve their products to suit the needs of their customers. Social networking has led to the introduction of social media marketing and presented new ways of communicating to expanse audiences on various Internet platforms. Marketers can no longer rely on mass media channels alone to communicate with their consumers. They must adopt new strategies if they wish to succeed (Kotler and Armstrong, 2011).

### **MSMEs in Andhra Pradesh**

Among the strategies to be pursued for accelerating growth of SMEs, a few prominent ones are presented in this section. Cluster development, export potential, and promoting complementary between small, and medium and large units can be the directions for fostering speedy growth. Another dimension is focusing on emerging and high value added product lines to create wealth. A few emerging areas indicated for the State are: drugs, pharmaceuticals, information technology (IT and IT enabled services and business process outsourcing – BPO), biotechnology, nanotechnology, leather, textiles, garments, electronic hardware and telecommunication equipment, agro and food processing, and mineral-based product lines, gems and jewellery, apparel parks, etc.

## **Internet Penetration in India**

The latest round of I-Cube, a research conducted by IAMAI and IMRB International in June 2013, indicates that the Internet usage in India has gone up with more and more Internet Users using the Internet on a regular basis. In June 2013, India had 190 Million Internet Users. Of this, 130 Million belonged to Urban India and the rest 60 Million were from Rural India. In October, the number of internet users reached 205 Million and is estimated to reach 213 Million by December 2013. The number of internet users in urban India is 137 Million in October 2013 and is estimated to touch 141 Million by December 2013. In Rural India, there are 68 Million Internet users in October 2013 and will reach 72 Million by December 2013. Mobile Internet, too, has garnered a huge base among the Active Internet Users

## **Mobile Internet Usage**

India is expected to have close to 165 Million mobile internet users by March 2015 as shown in the figure:1 and the number of people access the internet through mobile devices and dongles, according to the report by IAMAI Internet and Mobile Association Of India (IAMAI) and IMRB( Indian Market Research Bureau). According to the recent report published by exchange for media there was a considerable increase in the user base for various social media drivers such as 130% increase in tumblr accounted to 185 Million. 589% increase in pinterest accounted to 151 million and 140 to 150 million customer base for instagram and vine for the promotions of their business globally as on 2015.

## **Social Media in India**

The number of social media users in Urban India would reach 86 million in October this year, and 91 million by the end of this year, according to the report '**Social Media in India – 2013**' by the Internet and Mobile Association Of India (IAMAI) and IMRB released in Oct 2013 there are nearly 86% of indian web users visit social networking Sites among which 33 million people are twitter users, 90 million facebook users and 18 million users for linkedin constitute a promising and potential customer base. Social media users in urban India are expected to grow by 19% between June and December 2013. The report further found that 19.8 million users use mobile phones to access social media platforms in urban India.

## **Research Problem**

The use of social media by small businesses is an important but under-researched area. With the development and availability of Web 2.0 tools the capacity of small businesses to grow significantly has become a very real possibility. Social Networking, incorporating Web 2.0 technologies has been credited with the ability to increase social contacts, hasten business operations, the betterment of customer relations, facilitation of innovation and favorable pricing. The Internet provides leverage for MSMEs because it has created mechanisms for attaining sustainable competitive advantage. Social media is one of these mechanisms and there is need for research to understand the effect that it has on the growth of MSMEs. The power of social networking cannot be ignored and there is need to research on how its business characteristics impact on MSMEs. With the global outpouring of social media usage, many businesses are experiencing tremendous pressure to extend to where their customers are paying attention. In the present day, the heart of customer activity is progressively becoming virtual, situated inside a social media or social networking site (Baird and Parasnis, 2011). The proper understanding of social media tools has yet to be fully achieved. Business Wire (2012) illustrates this through a survey conducted by Constant Contact® Inc. in the United Kingdom (UK) on 680 SMEs in October 2011. A number of SMEs report that social media has a rapid

effect on the growth of sales and employment rate in their enterprises. The study also sought to bridge the gap for SMEs to understand how social media are able to transform and grow them in terms of usage as marketing and communication tools, and how they can tap into the dynamism and potential social media presents.

## Social Media Landscape 2015



Fig:1

### Research Gap

This research was intended to find out the effect of social media on the growth of MSME's of Andhra Pradesh. The gap that we identified was, many researchers have found the SME's across the UK have recorded rapid growth in its sales after using social media. With this research we would like to examine the growth of MSME's growth in Andhra Pradesh which has huge potential in this area to study.

### Specific Objectives

- i. To identify the impact of social media on the growth of MSME's in Andhra Pradesh.
- ii. To examine the sales of MSMEs based on the region/location in Andhra Pradesh, India.
- iii. To analyze the sales of MSME's of Andhra Pradesh, using social media as a tool.

### Research design and Methodology

A research design is a plan and structure of investigating in order to obtain answers to research questions (Kothari, 2009). In order to examine the effect of social media on the growth of MSMEs, descriptive research design was used. The target population for this study was MSMEs within Andhra Pradesh. A list 21422 enterprises sourced from the micro, small and medium enterprises, Andhra Pradesh, India was used as the sampling frame. The reasons for sampling in this study included lower costs, greater speed of data collection and availability of population elements. Firms in the population were selected based on their respective district from the small Agro-based, Forest-based, Textile-based, Mineral-based, Engineering & Allied Products, Chemical and Rubber Products, Animal based, Building Material sector as given in the database of the MSME- Department register, Andhra Pradesh, India.

Cluster sampling was used to divide the entire population of interest. Andhra Pradesh is made up of 13 districts which made up the clusters – Rayalseema ( 4 districts) , and Coastal Andhra(9 Districts) Each district was considered as a cluster. Further on, to get equal 10% representation of MSMEs from each cluster, simple random sampling was used. After the elements were selected, the specific respondents were identified using convenience sampling technique.

In order to conduct the research the supporting data has been collected from the Commissionerate of Industries, Andhra Pradesh, Hyderabad which shows the growth of MSME in Andhra Pradesh as per the region and further classified into district wise. The data has been furnished in the tabular form from which the authenticity of number of registered MSME in Andhra Pradesh as per the district and region wise.

**TABLE 1: Growth of MSMEs in Andhra Pradesh – District-wise and Region-wise**  
(2006 and 2012) (cumulative picture for the year ending March)

Sl. No.	District / sub-region / Region	No. of Enterprises			Fixed investment (Rs. crore)			Employment (persons)		
		2006	2012	CA GR (%)	2006	2012	CA GR (%)	2006	2012	CA GR (%)
1	Srikakulam	4731	5086	1.2	104.7	329.1	21.0	40751	51618	5.6
2	Vizianagaram	3490	3918	1.9	80.9	265.4	21.9	30868	37859	3.5
3	Visakhapatnam	10231	13644	4.9	295.6	1226.9	26.8	81163	144365	10.1
4	East Godavari	8151	11329	5.6	266.2	1484.2	33.2	73315	114478	7.7
5	West Godavari	6897	7671	1.8	247.0	633.2	17.0	61471	73859	3.1
(A)	<b>North Coastal Andhra</b>	<b>33500</b>	<b>41648</b>	<b>3.7</b>	<b>994.4</b>	<b>3938.8</b>	<b>25.8</b>	<b>287568</b>	<b>422179</b>	<b>6.6</b>
6	Krishna	8583	10604	3.6	336.9	1083.4	21.5	80458	112923	5.8
7	Guntur	7168	8454	2.8	314.2	831.7	17.6	71882	90630	3.9
8	Prakasam	5290	6636	3.9	171.2	662.6	25.3	51652	71326	5.5
9	Nellore	6130	6651	1.4	106.8	345.8	21.6	60042	67624	2.0
(B)	<b>South Coastal Andhra</b>	<b>27171</b>	<b>32345</b>	<b>3.0</b>	<b>929.0</b>	<b>2923.4</b>	<b>21.1</b>	<b>264034</b>	<b>342503</b>	<b>4.4</b>
(C)	<b>Coastal Andhra</b>	<b>60671</b>	<b>73993</b>	<b>3.4</b>	<b>1923.4</b>	<b>6862.2</b>	<b>23.6</b>	<b>551602</b>	<b>764682</b>	<b>5.6</b>
10	Kadapa	3829	4950	4.4	77.7	423.2	32.6	33629	47332	5.9
11	Kurnool	4337	4912	2.1	133.4	274.7	12.8	38026	44986	2.8
12	Ananthapur	4696	5581	2.9	122.5	431.4	23.3	40281	49784	3.6
13	Chittoor	4079	5240	4.3	157.9	607.1	25.2	39015	64253	8.7
(G)	<b>Rayalaseema</b>	<b>16941</b>	<b>20683</b>	<b>3.4</b>	<b>491.5</b>	<b>1736.4</b>	<b>23.4</b>	<b>150951</b>	<b>206355</b>	<b>5.3</b>
(D)	<b>Andhra Pradesh</b>	<b>146766</b>	<b>190895</b>	<b>4.5</b>	<b>4963</b>	<b>20909.3</b>	<b>27.1</b>	<b>1325903</b>	<b>2042288</b>	<b>7.5</b>

Source: Commissionerate of Industries, Andhra Pradesh, Hyderabad.

**TABLE:2 Sampling Frame**

Sl. No	District /sub-region /Region	No of MSME	SAMPLE	
		as on 2012	% in each region	population
1	2	3	4	5
1	Srikakulam	5086	10%	508
2	Vizianagaram	3918	10%	391
3	Visakhapatnam	13644	10%	1364
4	East Godavari	11329	10%	1132
5	West Godavari	7671	10%	767
<b>(A)</b>	<b>North Coastal Andhra</b>	<b>41648</b>		
6	Krishna	10604	10%	1060
7	Guntur	8454	10%	845
8	Prakasam	6636	10%	6636
9	Nellore	6651	10%	6651
<b>(B)</b>	<b>South Coastal Andhra</b>	<b>32345</b>		
<b>(C)</b>	<b>Coastal Andhra</b>	<b>73993</b>		
10	Kadapa	4950	10%	495
11	Kurnool	4912	10%	491
12	Ananthapur	5581	10%	558
13	Chittoor	5240	10%	524
<b>(G)</b>	<b>Rayalaseema</b>	<b>20683</b>		
<b>(D)</b>	<b>Andhra Pradesh</b>	<b>190895</b>		<b>21422</b>

The total registered MSME's in Andhra Pradesh was 190895 and due to limitation of time for the convenience of conducting the research in the stipulated time we considered 10% of population in each region we limit our self to 21,422 and considering this as a population which has the similar characteristics to the entire population. Calculating the sample by considering 21,422 at 95% confidence level and standard 3% as a margin error it is found a sample size of 1017. A structured questionnaire was administered to 1017 Managers of the MSMEs as The questionnaire comprised of closed questions to enhance uniformity and open-ended questions to ensure maximum data was collected. The questionnaires were administered on a "drop and pick-later" basis. The research assistant went through the questionnaire with the respondent and left it with them to fill. The respondent then later submitted the completed questionnaire to the assistant at an agreed time. The data was analyzed using Statistical Package for Social Sciences (SPSS) for the Windows platform version 20.0, where measures of central tendency, regression and correlation analysis were undertaken to establish the degree of relationship between the variables.

## Results and Discussion

### Response Rate

All the Respondents have returned their questionnaires to the research associate, giving a response rate of 100%. All the respondents have extended their extreme cooperation in conducting the research.

### Use of Social Media Tools

Table 3 shows the findings, which indicate that nearly 59.9% of respondents do not use social media tools in their businesses while only 40.1% of respondents use social media tools. This question was important in differentiating the users from the non-users of social media so as to thereafter be able to focus on the users in achieving the set objectives of the study.

**Table: 3 Whether Using Social Media For Business**

USAGE OF SOCIAL MEDIA		Frequency	Percent
1	USING	408	40.1
2	NOT USING	609	59.9
	Total	1017	100.0

### Use Of Social Media As Per The Locality Of The Msme.

Table 4 represents the analysis of number of MSME's as per the locale. It is evident that out of 408 MSME's who uses the Social media are constituted 204 MSME from both urban and rural areas. Also 609 MSME's which do not use social media have a higher population from rural areas. This data will be useful to investigate further for revealing the reasons for not using social media.

**Table 4: Region Of Msme And Locale Of Msme**

USAGE OF SOCIAL MEDIA	LOCALITY OF MSME		Total
	URBAN	RURAL	
USING	204	204	408
NOT USING	271	338	609
Total	475	542	1017

### Reasons for not using Social Media Tools

Table 5 presents the responses given by the respondents who were asked about, why their businesses do not use social media tools. This helped to discover the challenges and perceptions that are carried about social media by businesses and form a point of reference when coming up with recommendations to various beneficiaries of the study.

It is evident that over 26.6% respondents have felt that businesses utilizing the services of social media is an expensive affair and it was the reason for them for not being using the powerful tool. And also closely 20.0% respondents have felt that there is no need of social media tools for their business. Also 13.3% respondents don't possess any computer knowledge.

**Table 5: Reasons For Not Using Social Media**

REASONS FOR NOT USING SOCIAL MEDIA	Frequency	Percent
Not applicable for business	203	20.0
Perception of high cost	271	26.6
Not aware of social media applications	135	13.3
Total	609	59.9

### Social Media Platforms used by SMEs

According to table 6, nearly 26.7% MSME Owners those who use who use social media has ben using it for for social networking, 6.7% MSME Owners who use social media for their business use both micro blogging and Publishing each, for publishing MSME uses websites such as dealfish.com, zetu.com and rupu.com. This helped to further indentify the most preferred social media networks/tool used by SMEs which resulted in Facebook, twitter, Myspace, Pinterest, indiamart others. The respondents indicated they preferred these social media networks because of the ability to reach wide range of people, user friendliness and cheaper compared to traditional modes of marketing and advertising. Additionally, there were those who said that their customers are also users of the social media networking sites.

**Table 6: Which Type Of Platform Been Using**

Various Platforms Been Using By Msme	Frequency	Percent
Social Networking	272	26.7
Publishing	68	6.7
Bloggng	68	6.7
Total	408	40.1

### Preferred tool for social networking

From analyzing the table 7, it is been evident that the respondents who use social networking revealed that, 24.8% respondents out of 408 MSME's prefer myspace as their preferred tool of social marketing and also 21.6% for Alibaba,18.4% for Facebook respectively for their business.

**Table 7: Which Social Networking Tools Are Preferred**

Preferred Social Networking Tool	Frequency	Percentage
Facebook	75	7.4
Twitter	71	7.0
Myspace	101	9.9
PINTEREST	7	.7
INDIAMART	66	6.5
ALIBABA	88	8.7
Total	408	40.1

**Reason For Using Social Media Tools**

From the table 8, it establishes the reason why respondents using social media tools, having given them a list of choices to select from. According to table 8, the key uses of social media tools were 13.4% for sales Improvement and Market developments, also 6.7% each for new product development and building customer database. It is clear from table 8, that social media tools play different roles to different SMEs and that the tools could be incorporated into different operational roles in the businesses

**Table 8: Reason For Using Social Media**

Reason For Using Social Media	Frequency	Percent
For Enhancing Sales	136	13.4
For Developing New Markets	136	13.4
For Developing New Products	68	6.7
For Building Customer Database	68	6.7
Total	408	40.1

**Correlation between the factors of Location, tools used and sales.**

From the below table 9, it is evident that the factors, location of MSME is highly correlated with the sales recorded by the MSME than the other factor social media tools used and the sales. ie. The correlation factor 0.756 for the location of MSME and sales determines the correlation is positive and high where as the correlation value 0.148 determines a slightly lesser value but positive and establishes a positive relation among each other.

**Table: 9 Correlation Between Tools Used, Location And Sales.**

		WHICH SOCIAL NETWORKING TOOLS ARE PREFERED	SALES OF MSME	LOCATION OF MSME
WHICH SOCIAL NETWORKING TOOLS ARE PREFERED	Pearson Correlation	1	.148	.756
	Sig. (2-tailed)		0.003	0
	N	409	409	409
SALES OF MSME	Pearson Correlation	.148	1	.354
	Sig. (2-tailed)	0.003		0
	N	409	1017	1017
LOCATION OF MSME	Pearson Correlation	.756	.354	1
	Sig. (2-tailed)	0	0	
	N	409	1017	1017

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Frequencies of various reasons for using social media on sales of MSME.**

From the below table 10, it is identified that out of 409 MSME’s who uses social media tools for various reasons nearly 33.49% of MSME’s use it for Enhancing the sales. Also from the table it is evident that 99.2% of MSME’s who uses social media tools for enhancing sales have recorded satisfactory results.

Also out of 409 MSME’s who uses social media tools for various reasons nearly 33.2% of MSME’s use it for developing the markets. Also from the table it is evident that only 50% of MSME’s who uses social media tools for developing markets are delivering the value more than expected.

**Table: 10 Reason For Using Social Media & Sales Of Msme**

Reason For Using Social Media	Sales Of Msme					Total
	Low	Low To Medium	Medium To Moderate Profits	Satisfactory	More Than Expected	
For Enhancing Sales	0	1	0	136	0	137
For Developing New Markets	67	0	0	1	68	136
For Developing New Products	0	0	0	67	0	67
For Building Customer Database	0	68	1	0	0	69
Total	67	69	1	204	68	409

### Research Hypothesis

*H0: There is no significant impact of social media tools used on sales of the MSME's*

In order to test the hypothesis, in this research a chi square test has been used and the following are the findings.

**Table 11: Chi-Square Test**

#### Impact of social media Tools used by MSME's on the sales

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	793.789	20	.000
Likelihood Ratio	670.023	20	.000
Linear-by-Linear Association	8.881	1	.003
N of Valid Cases	409		

From the above test, it is observed that the significance level is less than 0.05 so H0 is rejected and it can be inferred that there is a significant impact of social media tools on the sales of MSME's.

### Conclusions and Recommendations

#### 1. Conclusions

The study established that most SMEs in Andhra Pradesh, India had not fully understood and internalized the potential of social media for their businesses. Those who use social media have recorded a considerable growth in the business, but compared to the respondents who are not using the social media have a very little edge. They use only selected few tools due to limitations emanating from technical capabilities and infrastructure. This means that businesses in Andhra Pradesh, India have not benefited adequately from technology and specifically social media

despite its wide usage by potential customers. This is an opportunity that could enhance MSMEs growth and gain a competitive edge against large organizations that traditionally have resources and have been in business for a longer time. The study had sought to establish how social media affects the growth of MSMEs.

This translates into new methods of reaching customers and opening frontiers where small, medium and large organizations compete equally without traditional advantage that was previously enjoyed by large firms. This presents an opportunity for MSMEs to target customers and create their niche in the new frontiers to build their market share and consequently increase their sales. This can only be done by flexibility and a positive attitude towards learning how best social media tools can be used to facilitate market access.

## 2. Recommendations

This study recommends that the policy makers who include the Andhra Pradesh government as well as Government of India, ministries and agencies such as the Ministry of Trade, Ministry of Finance, Ministry of Information and Communication and Communications of India to come up with favorable internet surfing rates and e-business policies to encourage the technological adoption that would grow the MSME industry. It is further recommended that the Government of

India offer funding to enable MSMEs adopt the necessary technology to advance this sector that makes a substantial contribution to the GDP of India annually. MSMEs should seek to learn and adopt social media tools that provide an opportunity for growth of the business through increased sales, profits and providing employment for MSME's in Andhra Pradesh. The MSMEs therefore have no option but to ensure that their employees/manager's/owners are computer literate or can use mobile internet technology and can engage customers in social media platforms for the benefit of the business.

Investors should focus on helping MSMEs tap the potential that comes with social media through training and provision of business solutions that bridge the existing gap where many MSMEs are not using social media as a result of various limitations. The investors can further help in the adoption of social media by offering funding and technological solutions and also rewarding MSMEs that grow as a result of incorporating social media in their operations. To the marketing practitioners and entrepreneurs, this study recommends a keen evaluation of business needs and environment in choosing the social media tools to adopt. Marketers and entrepreneurs should also note that the customers have become increasingly knowledgeable on social media networks therefore they are more technologically informed or educated consumers.

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## ***The Role of Business Incubators on Start-Up Growth***

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### **Abstract**

*The purpose of this paper is to inquire (1) the role of an incubator as an intermediary between the incubating companies and various stakeholders, and (2) the impact of incubators on the development of personal skills of the entrepreneurs at the individual level. Political skill is an ability to influence others by using manipulative, self-interested behaviors. Political skill has four components as social astuteness, networking ability, interpersonal influence and apparent sincerity. During the initial period of the incubation process, entrepreneurs usually lack political skills to access necessary resources, investors and entrepreneurial community. So we propose that “in this period the incubation centers have an intermediary role”. Incubators act as high level self-monitors in lieu of the entrepreneurs and help them realize, convince and satisfy the role expectations of different stakeholder groups. But during the later phases of the incubation period, the entrepreneurs are expected to develop their political skills through the education programs, seminars, and pitching meetings provided by the business incubators. Hence we propose that “in the further period of incubation process the incubators’ role will transform into a developmental role” for the entrepreneurs.*

**Key Words:** Incubators, entrepreneurship, startups, social competence, political skills, networking.

### **Introduction**

Start-ups and new ventures are the backbones of the developed and developing economies around the world today. Although they are considered to be crucial in accelerating the business markets, it is known that they go through difficult periods in their initial stages, especially with the imperative to combat in many facades. Young entrepreneurs with their technical knowledge, courage and passion to start a new venture, usually lack important skills, business knowledge and experience, necessary networks, a good team and funding. The limited possession of resources results in high failure rates, estimated to be at least 50 % in the first five years of their operations among the new U.S. companies (Badal, 2014).

Business incubators are relatively new and efficient forms of organizations to increase the chance of survival for new start-ups. In the most general meaning of the term, incubators are places where prematurely born infants are nurtured and taken care of based on the principle that premature born infants require temporary care in controlled conditions (Aernoudt, 2004, p. 127). Similarly, “business incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable” (Aernoudt, 2004, p. 127). Incubators are institutions “designed to provide space for and support to a new business over a period of several years” (Markley and McNamara, 1996, p. 17) in which the infant businesses will survive through the most challenging periods and become self-sustainable. The extent of the incubator support ranges from providing space, networking opportunities, seed funding, professional consultancy to partnerships, supplying resources and the ability to assist in R&D and risk capital through a network of external providers. Entrepreneurs struggle to survive in highly uncertain and ambiguous environments (Lichtenstein, Dooley and Lumpkin, 2006). Taking a start in a business incubator helps to reduce the uncertainty and benefits entrepreneurs to leverage and utilize resources that they would otherwise not be able to use. Accordingly, an incubator creates a suitable and supportive environment (Bergek and Norrman, 2008) for the initiation and growth of the startup firms and accelerates this process (Aaboen, 2009).

Such an opportunity is important for the startups to cut down the initial costs and enhance the affordability of starting a new venture. Provision of a large range of common and shared services such as enterprise counselling and training, shared secretarial support and utilities, start up financing and assistance with product development and marketing (Adegbite, 2001, p. 157) decreases the costs for the startups while increasing the chances of survival through the first few crucial years of their existence.

Incubator research is relatively new, as the field has been growing since 1980s. A careful exploration of the incubator research displays that focus of the researchers is towards different incubator models, incubating strategies and organizational structures (Clarysse, Wright, Lockett, Van de Velde, and Vohora, 2005) or understanding the impact of the incubators on the start-up success at the company level. Accordingly the literature concentrates on the kinds of assistance and support the incubating companies can receive (Scillitoe and Chakrabarti, 2010), comparing the success rates on the incubating versus the non-incubating companies (Mian, 1997), macro impact such as local economic and state fiscal impacts of business incubators (Markley and McNamara, 1996).

The purpose of this paper is to (1) research the role of an incubator as an intermediary between the incubating companies and various stakeholders, and (2) to inquire the impact of incubators on the development of personal skills of the entrepreneurs at the individual level. We will focus on the progress of political skills of the entrepreneurs, those that go through an incubation process, and how business incubators help the entrepreneurs to better equip themselves with political skills. The notion of “political skills” is usually associated with self-interested, manipulative, and dishonest behavior, but the meaning of political skills in this context is “an ability to influence others’ actions in the business environment” (Tocher et al., 2012, p. 285). We have chosen to address the political skills since “an emerging stream of thought among entrepreneurship researchers holds that social competence, defined as an individual’s overall ability to interact with others effectively (Spence, Donovan, and Brechman-Toussaint 1999), is likely a key variable which allows entrepreneurs to operate high performing new ventures” (Tocher, Oswald, Shook, and Adams, 2012, p. 283). Social competence is required for the entrepreneurs to be able to have the ability to influence stakeholders’ actions in order to reach high levels of performance (Baron and Markman 2000, 2003; Holt and Macpherson 2010; Zhang, Souitaris, Soh and Wong, 2008). Using their communication, networking and relational skills is crucial for young stage entrepreneurs to interact effectively with their stakeholders and to build the social capital they need to turn their personal ties into firm-level relationships necessary for high level outcomes. Consequently, “political skill is the component of social competence which specifically assesses an individual’s ability to influence others’ actions within the business environment (Ferris and Judge 1991; Ferris et al., 2005) and should thus help entrepreneurs to effectively leverage network ties” (Tocher et al., 2012, p. 284).

## **Business Incubators**

Bergek and Norman (2008) indicate that the previous literature on incubator organizations groups the support services provided by these institutions into four groups: (1) shared office space, which is rented under more or less favorable conditions to incubatees, and sometimes can even be free of rent, (2) pool of shared support services to reduce overhead costs, (3) professional business support or advice (coaching, mentoring, consultancy) and (4) network provision (internal and/or external).

Similarly, Scillitoe and Chakrabarti (2010) identify two different types of assistance given to the infant companies as the outcomes of the incubation process: business assistance and technical-related assistance. Business assistance provides support in all business-related areas such as business planning, tax assistance, personnel recruiting, marketing, management, accounting, legal expertise, accessing financial capital, and business contracts. On the other hand, technical assistance support ranges from access to university related research activities and technologies, laboratory and workshop space and setup, industry contracts, technology transfer processes to intellectual property protection and technological know-how (Scillitoe and Chakrabarti, 2010, p. 157). The relative emphasis of research on each of the above mentioned topics varied over time, from an initial focus on facilities,

infrastructure and administrative services to a more recent emphasis on the importance of entrepreneurial business support (Peters, Rice and Sundararajan, 2004).

Incubators may be specialized in a certain field such as, technology, software, biotech, social entrepreneurship or research and development, or they may not be restricted to any specific field and open to any startups firms (Aernoudth, 2004). The business model, development programs and strategies are developed depending on the type of the incubators. Accordingly the business and technology assistance provided by the incubator and the criteria to assess the success of the incubator and the associated startups differ exceedingly. For example, technology transfer, intellectual protection such as patents and licensing and catering technological know-how may be especially important in a technology incubator and the criteria for success may be assessed according to the number of new patents registered or new products commercialized yearly. On the contrary, the social impact may be the primary indicator of success for a social venture measuring the number of people affected by the services or the regions served by the social enterprise. A variety of criteria is considered to assess the success of the incubators or the associated firms that grow out of these incubators. However, the impact of business incubators on the personal development of the entrepreneurs has not gained much attention and individual level analysis has been ignored so far.

### **Political Skills**

Behavioral perspective on entrepreneurship literature claim that individualistic characteristics of the entrepreneurs such as personality, motivation, cognition, affect, social skill, and political skill (Fang, Chi, Chen and Baron, 2015) are important determinants of entrepreneurial behavior and performance. Political skill is defined as “the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one’s personal and/or organizational objectives” (Ferris et al., 2005). Politically skilled individuals are described as people with the ability to modify and adjust their behavior in varying social situations according to the demands of the environment in a trustworthy and sincere manner, not annoying other people (Tocher et al., 2012).

Theory of planned behavior (Ajzen, 1985) relies on the sociological approach that most human behavior is goal-directed (Lewin, 1951). Human behavior, whether in social situations or at work, can be described as following more or less well-formulated plans (Ajzen, 1985, p. 11) to achieve personal goals. The intentions and attitudes of individuals create planned behavior that lead to reasoned actions. Accordingly, people exercise control over their performance of a behavior (Ajzen, 2002) to attain desired outcomes. Theory of planned behavior claims that intentions forecast behavior and these intentions are contingent on behavioral attitude, subjective norms and perceived behavioral control (Phipps, Prieto and Kungu, 2015, p. 179). This chain of thought is imperative in explaining the importance of having political skills for entrepreneurs. Entrepreneurs with the intention to start a new venture and accomplish high levels of performance shape their attitudes and behavior with their political skills to execute planned and reasoned actions in their work related environments. In this sense, Phipps, Prieto and Kungu (2015) argue that political skills can be categorized as elements of perceived behavioral control as they would contribute to the entrepreneurial activities that will lead to entrepreneurs’ potential outcomes and success.

Fang, Chi, Chen and Baron (2015) indicate that political skill is essential for entrepreneurs to be successful in entrepreneurial environments often characterized by high uncertainty levels and that political skill and social networks work together to affect venture performance (p. 177). The authors argue that there is a constant interplay between social networks and political skills during the entrepreneurial processes and certain individual characteristics of the entrepreneurs defined by political skills influence the construction and use of social networks to enhance venture performance.

Political skills have been researched in both organizational settings (e.g. Bedi and Skowronski, 2014; Blickle et al., 2011; Mintzberg, 1983, 1985; Pfeffer, 1981) and entrepreneurial environments (Fang et al., 2015;

Huang, Fridger and Pearce, 2013; Tocher et al., 2012) to a large extent but the most comprehensive construct of the term and a tool to measure it, *Political Skill Inventory*, have been presented by Ferris et al. (2005).

Based on an in-depth literature review on political skills, Ferris et al. (2005) designed the political skill construct on four dimensions, which they considered as the essential concepts to be incorporated in any representative content-valid measure of political skill construct. These dimensions are: social astuteness, interpersonal influence, networking ability, and apparent sincerity. This construct will be the foundation of the proposals presented in this paper.

*Social astuteness*: Astuteness is a social intelligence and an adaptive ability that is pro-active, strategic and ego-defensive allowing for the rationalization of actions. It is an “intellectual capacity that involves acute understanding and serves strategic behavior, which involves both anticipation and pretense” (Parales-Quenza, 2006, p. 39). Individuals with high levels of social astuteness are good observers and have empathy to accurately understand and interpret the reasons of others’ behavior. They then can identify with others to strategize on their own behavior to obtain what they need for themselves (Ferris et al., 2005). Socially astute people have a clever understanding of social situations and interactions and a crafty way of reacting to these situations.

*Interpersonal influence*: Individuals with political skills have the ability to influence the people around them and can convince and manipulate the others’ beliefs and behavior in favor of attaining personal and organizational goals. They are “capable of appropriately adapting and calibrating their behavior to each situation in order to elicit particular responses from others” (Ferris et al., 2005, p. 129). As part of the political skill construct, it is important to note that “not just everyone can initiate influence attempts and see them result in effective outcomes. Instead, it depends on situational diagnosis to select the proper type of influence tactic or strategy, as well as the interpersonal style and savvy to deliver the influence attempt in properly calibrated ways so that the execution results in the desired outcomes” (Treadway et al., 2013). Those individuals with high interpersonal influence will be successful to use the appropriate influence tactics to persuade and employ others to behave in certain ways.

*Networking ability*: Defined as an individual’s skill to easily develop friendships and coalitions by means of understanding power structures and the force of one’s typically subtle style (Blass, Brouer, Perrewé, and Ferris, 2007; Ferris et al., 2005), networking ability is crucial for building networks and social capital. Individuals with distinct networking abilities can position themselves well on their networks and are good at using the social influence strategies and tactics necessary to develop, maintain, and mobilize powerful alliances and coalitions in order to achieve their personal objectives (Ferris et al., 2005; Hochwarter et al., 2007; Semrau and Sigmund, 2012). Furthermore these individuals can use their strong and weak ties to reach and leverage the resources of others in their networks enabling stronger exchange relationships.

*Apparent sincerity*: Apparent sincerity is defined as the ability to appear honest, authentic, genuine, and sincere, all of which help to avoid the suspicion by others of an ulterior motive (Todd, Harris, Harris, and Wheeler, 2009). People with political skills appear to be honest, open, straight forward and have high levels of integrity (Ferris et al., 2005). This ability enables them to build trust and confidence in other people, hence making it easier to build powerful and productive alliances.

### **Incubation effects on new ventures**

Incubators may have two disparate kinds of effects on newly formed incubating ventures at different phases of their lifecycles. At first, during the initial stage of its lifecycle, when the venture is new and the entrepreneur lacks many skills, including political skills, incubators act as an intermediary assuming the role of a higher level self-monitor to provide the new venture with necessary resources and access to external social capital. Later, during the growth phase of the venturing process, the incubator helps the entrepreneur to develop the necessary political skills into forming a self-sustainable organization and build his/her own networks to approach the departing process.

## 1. Intermediary Role

Perceptiveness, the characteristic that reflects the ability of those with high political skill to be astute observers of others, is imperative for the entrepreneur to apprehend the political nature of the organizational life. Ferris et al. (2008) indicate that measuring perceptiveness can be operationalized through the concept of self-monitoring (p. 747). The theory of self-monitoring (Snyder, 1974) “presumes consistent patterns of individual differences in the extent to which people regulate their self-presentation by tailoring their actions in accordance with immediate situational cues” (Lennox and Wolfe, 1984, p. 1349). “Individuals high in self-monitoring are thought to regulate their expressive self-presentation for the sake of desired public appearances, and thus be highly responsive to social and interpersonal cues of situationally appropriate performances” (Snyder and Gangestad, 1986, p. 125).

Self-monitoring is closely related with social astuteness in the sense that it reflects an awareness of self, others and the environment the entrepreneur operates in. Entrepreneurs with high levels of self-monitoring can manage their impressions in accordance with the expectations of the environment. Entrepreneurs who have high self-monitoring levels observe their social environment and present themselves as trustworthy actors by using the social clues. Hence, readily able to realize the role expectations of the social environment they are embedded in, individuals with high levels of self-monitoring are usually also politically skilled.

Entrepreneurs need to convince and satisfy different stakeholder groups at different stages of their ventures’ life cycle. Accordingly, the following relevant question cultivated by Tocher, Oswald, Shook, and Adams (2012), “at what point in the lifecycle of the new venture is entrepreneur political skill more critical – during the start-up years or when the venture is in a growth mode?” can perhaps be discussed in relation to “when the most crucial time for an entrepreneur is to use his/her self-monitoring skills –and to what extend– to gain trust and acceptance by the environment to enhance the consent, adoption and diffusion of the innovations by the entrepreneurial environment” (p. 300).

If the entrepreneur has a low level of self-monitoring, he/she will have a lesser chance of observing the environment in an astute way and building trusting relations to fulfill the role expectations of the surrounding stakeholders. In such a case, there will be a need for an intermediary process to provide the unpossessed political skills and manage the relationships with others. Business incubators can be realized as high level self-monitoring intermediaries to provide such political skills. Business incubators have the resources and opportunities to bring together different stakeholders such as entrepreneurs, mentors, investors, supportive organizations and intermediary supply chain actors together. They can undertake a consultant or intermediary role to manage these relationships and the impression management of the new startups. Institutionalization of the entrepreneurial environment through incubation will be an efficient way to reach the necessary resources and allocate them to the incubating firms.

Adler and Kwon (2002) differentiate between two types of social capital. The external social capital (bridging) “focuses primarily on social capital as a resource that inheres in the social network tying a focal actor to other actors. On this view, social capital can help explain the differential success of individuals and firms in their competitive rivalry: the actions of individuals and groups can be greatly facilitated by their direct and indirect links to other actors in social networks. Social capital is a resource located in the external linkages of a focal actor” (p. 19). Internal social capital (bonding) “focus on collective actors’ internal characteristics. The social capital of a collectivity (in this case an organization) is not so much in that collectivity’s external ties to other external actors as it is in its internal structure-in the linkages among individuals or groups within the collectivity and, specifically, in those features that give the collectivity cohesiveness and thereby facilitate the pursuit of collective goals” (p.20).

There are six types of critical resources for startups to spin-out: human, social, financial, physical, technological and organizational (Clarysse et al., 2005). Business incubators support the new startups to find ways to achieve these resources. The ability to reach the above mentioned types of resources is limited with the political skills of an entrepreneur. Those entrepreneurs who have internal social capital manage their relationships more

effectively to achieve their common goals whereas the ones with lower levels of internal social capital must produce external social capital. As external social capital is created through external ties and linkages, the ability of the entrepreneur to present himself/herself as a trustworthy actor and manage his/her behavior according to the expectations of the others becomes significant. Hence, possessing and using political skills alleviates the risks associated with this process. External social capital is developed by the actors through weak ties in their networks, therefore an entrepreneur needs to position himself/herself well in different networks to provide accessibility (Ozen and Aslan, 2006). Those entrepreneurs, especially at the very initial stage of a startup, lacking the necessary political skills to place themselves in the structural holes in different networks and create external social capital are in need of assistance and support to manage their self-monitoring processes and manage their political skills.

*Proposal 1: Entrepreneurs with low levels of self-monitoring and political skills will be leveraged through the incubation processes to increase their external social capital at the initial stage of the start-ups.*

## **2. Developmental Role**

Entrepreneurs need influential social ties to achieve social competence. Having high levels of political skills provides ease of access and effective management of resources for an entrepreneur. Entrepreneurial performance is closely related with the abilities of “persuasion, negotiation and accurate communication” (Mintzberg, 1983) which determine the political skills of the entrepreneurs enabling them to create social capital (Burt, 1997) for the social and political ties they need. Furthermore, having political skills is a key predictor of high performance since the entrepreneur needs to convince each stakeholder in a different aspect.

Ferris et al. (2005) indicate that some political skill aspects are dispositional, but others can be trained and developed through formal and informal developmental experiences. In this paper, we propose that incubators – sometimes intentionally and sometimes not– facilitate the development of political skill in entrepreneurs and contribute to the future success of the entrepreneurs.

Social network refers to the number of informal and formal ties that an individual has (De Carolis, Litzky and Eddleston, 2009). Networks are very powerful in their roles to build a bridge between an individual and others (Easley and Kleinberg, 2010). In the case of entrepreneurs, building networks is crucial to gain access to scarce resources and powerful individuals. In fact, networks themselves are fruitful resources for an individual to start a successful venture. Networks provide information and opportunities (Bull and Willard, 1993; Ellis, 2000), may be used as a source of social status and reputation (De Carolis et al., 2009), prevent failure (Miner, Amburgey, and Stearns, 1990; Westhead, 1995) through sharing experiences and providing legitimacy (Aldrich and Fiol, 1994; Zimmerman and Zeitz, 2002), reduce risks (Lipparini and Sobrero, 1994) through providing support, credibility, and contact for entrepreneurs (Ostgaard and Birley, 1996).

Granovetter’s (1973) influential research on the strength of weak ties indicates that the strength of a tie is the “combination of the amount of time, the emotional intensity, the intimacy and the reciprocal services which characterize the tie” (p. 1361). Based on the principle of triadic closure, “If two people in a social network have a friend in common, then there is an increased likelihood that they will become friends themselves at some point in the future” (Rapoport, 1953). Accordingly, if individuals A and B know each other, and A knows C, the probability that B and C will come to know each other at some point is higher if the dyadic tie between A and B is stronger (Granovetter, 1973). In other words, the stronger the dyadic tie, the higher the probability that A and B’s friends will meet.

In a large network of people, there are three possibilities of ties for each pair of people: strong, weak or absent. When two people have strong ties with each other, the people around them will also be tied strongly and the type of relationship will be repetitive and therefore redundant. Granovetter (1973) argues that strong ties will not be powerful in the diffusion process across networks because strong ties will limit the number of relationships.

Conversely, weak ties are the valuable source of diffusion because they have the capability to form links by “bridging” (brokerage) different networks to each other and connecting the otherwise disconnected social groups. Weak ties close in the triad and create new relationships through connecting unrelated people and groups. Therefore, individuals with weak ties have greater mobility and greater chance of meeting with new people with resources.

Compounding on the theory of strength of weak ties, Ronald Burt (2004, 2009) presents the idea of structural holes. Most social structures have dense relationships with strong ties. Homogeneity of information, new ideas, and behavior, therefore resources, is generally higher within any group of people compared to that of between two groups of people (Burt, 2004). A structural hole is a gap between two non-redundant contacts, a gap between two individuals or groups with complementary resources and information. When these two unrelated individuals are connected through a third person, the structural gap is filled, creating important competitive advantages for the third person. Creating a bridge and having the position of a brokerage between distinct social groups allows the individual to transfer valuable information from one group to another. In the case of an entrepreneur, competitive advantage is a matter of access to structural holes in relation to market transactions (Burt, 2009). Entrepreneurial networks are rich in structural holes, and the entrepreneurs benefit from these structural holes through forming new networks and creating social capital.

Incubators contribute to the development of political skills of entrepreneurs in various ways. Political skill construct (Ferris et al., 2005) is composed of social astuteness, interpersonal influence, networking ability and apparent sincerity. We propose that incubators especially help develop social astuteness, interpersonal influence and networking ability of the young entrepreneurs.

Entrepreneurs of the incubating companies usually start their ventures lacking the access to resourceful networks and the ability of networking to position themselves in the structural holes. Starting out in an incubator increases networking ability of the entrepreneurs and the chances of networking in two different ways. First, the incubating companies at the beginning of their lifecycles innately become a part of the network emerging in the incubator per se. The neighboring companies network with each other and help one another to reach resources and contacts they otherwise cannot utilize. As their relationships with each other get deeper, their ties get stronger. Companies provide contacts for each other and each new contact becomes a new and weak tie for an entrepreneur that links him/her to distant resources. The structural holes between the non-redundant networks are filled by entrepreneurs, hence, these entrepreneurs gain competitive advantages through access to resources, information and innovations. Secondly, when the entrepreneurs start their venture lacking networking skills, incubators help them develop these skills through the business assistance support (Scillitoe and Chakrabarti, 2010) they provide by means of mentoring, training, consulting and facilitating the networking processes through their intermediary roles mentioned above.

*Proposal 2a: Incubators facilitate the processes to help entrepreneurs develop their networking abilities.*

Social perception which is closely related to the social astuteness component of political skill “involves perceiving others accurately and research findings have suggested that social perception predict positive outcomes in organizational contexts. Skill at social perception (i.e., perceiving others accurately) is directly relevant to important activities performed by entrepreneurs, such as selecting excellent partners or employees and conducting successful negotiations” (Baron andTang, 2009). Social astuteness is closely related to self-monitoring through which individuals observe their environment and manage their own behavior to satisfy the expectations of others. On the other hand, interpersonal influence is the component of the political skill in which individuals have the ability to influence the people around them and can convince them to behave in ways that will permit the achievement of personal goals for the individual. Both social astuteness and interpersonal abilities for entrepreneurs can be developed through the incubation process. The mentoring, and business assistance support received from the incubator will help the entrepreneurs to increase awareness about themselves and about the expectations of the stakeholders. This inter-relational development process will facilitate the enhancement of social astuteness and

interpersonal influence skills of the entrepreneurs, thus, increasing their competencies in using political skills. For example, constantly having the opportunity to participate in pitch competitions through incubator networks gives the entrepreneurs the chance to meet with the investors and venture capitalists, get feedback from them on the pitched ideas and business models, understand the expectations of the investors and learn to act accordingly. Through the pitch competitions and the learning process that comes along with them, the entrepreneurs can advance their social astuteness and interpersonal influence skills. Likewise, both skills will be developed through workshops, training opportunities and mentoring in areas such as customer relations, building and managing teams and stakeholder management.

*Proposal 2b: Incubators facilitate the processes to help entrepreneurs develop their social astuteness skills.*

*Proposal 2c: Incubators facilitate the processes to help entrepreneurs develop their interpersonal influence skills.*

### **Proposed Research Design and Methodology**

Incubators are relatively new forms of organizations to provide support for infant ventures and contribute to the economic development. There empirical research and literature on incubators are very limited. The proposals presented in this paper should be tested empirically in order to extend the present literature and offer new business models for incubators.

In this study, we plan to collaborate with multiple incubators. A pre-and-post test methodology will be used to assess the differences in the political skill level of the entrepreneurs. A survey composed of Ferris et al.'s (2005) Political Skill Inventory and the Self-monitoring Scale developed by Snyder (1974) together with a limited number of demographic questions developed by the researchers will be given to the companies at the time of their entrance to the incubator. The same survey will be given to the same entrepreneurs at the end of their incubation (usually around 3 years) to see the differences in their scores since it is expected that their skills would be developed throughout the incubation process. Using the longitudinal data delivered from the participants dependent sample t-test will be used since it allows the researchers to compare the means of two related groups to detect whether there are any statistically significant differences between these means. Related groups indicates that the same subjects are tested more than once (the same subjects are present in both groups) at different times.

Additionally, a qualitative study will be carried out to support the results of the quantitative study. The entrepreneurs will be asked to participate in exit interviews in which they will be assessing themselves, particularly their political skill development and sharing their incubation experience with the researchers. This process will help the researchers to get an in-depth understanding about the incubation models and intermediary roles of various incubators and how they affect the personal development of the entrepreneurs.

### **Conclusion and Discussion**

The limited research on incubators focus on the services provided by the incubators, success of the incubator models and the success and survival rates of the incubating companies in their future business lives. We argue that little consideration is given to the personal development of the entrepreneurs during the incubation process. Political skill is a crucial competency for the entrepreneurs. Politically skilled entrepreneurs find it easier to position themselves on distant networks, build social capital (Burt, 1997) through using the weak ties (Granovetter, 1973) to reach resources and fill in the structural holes (Burt, 2004) between the non-redundant networks. Incubators take important roles to facilitate this process and provide assistance and resources to the incubating companies at the initial stage of their lifecycles.

In this paper, we studied the impact of incubators on the development of political skills and presented proposals for further inquiry. Further research should be carried out to empirically test the proposals displayed in the previous sections. Moreover, it is important to extend the research on incubators to understand the impact of incubating on entrepreneurs at an individual level to be able to present more efficient models and strategies for business incubators.

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## ***Creation Of Social Value In An Unfavourable Economic Environment: Latin American Agro-Industry Smes In AI-Invest***

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### **Introduction**

The aim of this paper is to show the SMEs as an engine for development in low-income countries and growing inequality, as in the case of Latin American. Based on evidence recovered in the past five years on internationalization and innovation in unfavourable economic environments; generating social value of the town is analysed. The main conclusion is that the SME is closer to local problems. It recognizes the local need. This allows the existence of a virtuous circle between the competitiveness of SMEs and local development.

### **Delimitation of the problem**

Based on a multisite case study method, Zain & Ng (2006) examined how indigenous Malaysian small and medium-sized enterprises (SMEs) use their network relationships to facilitate their internationalization process. The evidence from the case of three software firms and one control firm in their study support the firms' internationalization process in the ways that network relationships trigger and motivate them to internationalize, influence their market- selection decision and mode-of-entry decision, help them gain initial credibility, allow access to additional relationships and established channels, help in lowering cost and reducing risk, and influence their internationalization pace and pattern (Zain & NG, 2006). But, it is not enough for local development across the internationalization of SMEs.

The internationalization of the companies does not guarantee the dissemination of technological progress between different local production systems. Production linkages with external dynamic activities are reduced. The net creation of skilled jobs is limited and the effect of diffusion of innovations in the productive base of each territory is low. For this reason, is important a territorial policy that fosters both innovation as enterprise development. Training of human resources in line is also needed with each local production system. Political conditions also ensure environmental sustainability by economic activities (Albuquerque, 2001). The important thing is to incorporate the exogenous dynamics as part of the strategy for local development. (Albuquerque, 2001)

What does the creation of social value? Improvements in lifestyle of the population with respect to education, health, culture, work and leisure, etc. Improvements through economic activities that the company encourages locally. The social value has always been linked to the economic value.

If the company only focuses on obtaining economic value for themselves without considering the generation of value to the community then depletes the local economic system. It is essential that the company

displayed the long-term links with the territory. The latter gives the business sustainability, in turn, provides benefits to the territory.

### **The problem with the policies for SMEs Latin-American**

SMEs have a key role to play in enhancing Latin America's potential growth. But SMEs are highly heterogeneous in terms of access to markets, technologies and human capital, as well as their linkages with other firms, and these factors affect their productivity, export capacity and potential growth (OECD & ECLAC, 2012). On the one hand, SMEs are a fundamental building-block of the productive structure, accounting for around 99% of businesses and employing around 67% of employees. But on the other hand, they contribute relatively little to GDP, which reflects their low levels of productivity. In Latin America, around 70% of GDP is produced by large firms. So while SMEs provides many jobs in Latin America, they contribute little to production. This reflects their heterogeneous production structure, their specialisation in low value-added products and the scant contribution SMEs make to exports (less than 5% in most countries). (OECD & ECLAC, 2012)

Furthermore, levels of internationalisation for SMEs in Latin America are significantly lower than in Europe and East Asia. For instance, while only around 10% of Latin American SMEs engage in export activities, 40% of European SMEs do so. Within this productive context, well-designed co-ordination policies are essential to ensuring that production is diversified, which is one of the region's major structural challenges. Latin American SMEs are highly heterogeneous, ranging from sole traders running informal microenterprises to highly efficient innovative companies with the capacity to export products. If a set of coherent, co-ordinated policies is introduced, SMEs could contribute to structural change by helping to improve productivity, complementing the economies of scale of large firms fostering the creation of production clusters (and contributing to social inclusion). (OECD & ECLAC, 2012)

Multi-enterprise ties have been essential to enable SMEs to internationalize, while a positive impact on local development. This type of link is only achieved when entrepreneurs involved recognize that reach low competitiveness cooperation strategies. Not all links within a network are classified as multi-enterprise tie because not enough spatial proximity or existence of a contract is required each eliminate the centrality and that all members cooperate . Cooperation understood as a highly selfish act (Axelrod, 1997) leading to creating value for the share (Sáez & Cabanelas, 1997).

### **Dimensions of the public policies**

Public policies should support the development of SMEs in order to close the gaps with larger enterprises, with the objective of supporting SMEs as catalysts of structural change. To accomplish this, SME policies should consider six relevant dimensions (OECD & ECLAC, 2012):

First, in addition to their small size, a frequent problem SMEs confront is their inability to achieve economies of scale or the necessary specialisation. Because these firms are isolated, policies are often more effective when: a) they focus on the full production cluster or value chain in which SMEs are integrated; b) the policy intervention is adjusted to the type of company, taking into account its different policy needs; differentiating, for instance, between microenterprises operating in the local market and an incipient cluster of competitive companies that exports products. There are no blanket solutions, and interventions must be specifically adapted to the production chain, cluster or region.

Second, given the significant interactions between policies, a high level of co-ordination is needed among sectoral policies, including infrastructure policy and the provision of services to remove the bottlenecks affecting the productive development of SMEs and their sphere of influence. Furthermore, it is of critical importance to facilitate

the integration of these policies in other overarching policy areas such as industrial policy and innovation policy, as well as the national development strategy.

Third, in addition to these improvements to horizontal co-ordination, greater vertical co-ordination is also necessary given the role that local and regional actors play in policies that support production clusters and chains at the sub-national level. For example, instruments should be operated in a decentralised manner to ensure they reach the intended beneficiaries throughout the country.

Fourth, given the long maturation period, policies must have specific objectives that are sustained over time. More than being intensive in financial resources, these policies must provide specific inputs and services with monitoring and assessment mechanisms so they can be tweaked and fine-tuned accordingly. For instance, co-ordination policy initiatives should be accompanied by a business plan with a clear timeframe. Such a plan requires a regulatory framework, including a monitoring system, a set of regulations and a favourable macroeconomic environment.

Fifth, better co-ordination is needed among economic actors. With financial restrictions limiting the scope of public policy and a need for investment that is often beyond the capacities of individual companies, incorporating associative actions into programmes for SMEs provides an opportunity to reduce transaction costs. The fixed cost of support activities will thus be shared among a larger number of beneficiaries, boosting efficiency and coverage. Creating opportunities for co-operation among firms stimulates competitive advantages and externalities that will help consolidate and drive forward business modernisation. The main objectives of these partnership programmes to support SMEs are: a) to distribute information on markets and technologies; b) to adopt new techniques and technologies; c) to find and develop processes for the exchange and complementing of resources, knowledge and skills; d) to build up trust so actors will come together and engage in dialogue.

Finally, the integration of production clusters into global value chains (GVCs) presents opportunities for SMEs. The global production structure has moved towards internationally integrated production systems. This segmentation of the production process can provide SMEs in the region with new opportunities to access new markets, especially those firms that operate in small domestic markets. The integration of clusters and business networks into GVCs can help SMEs diversify exports, create new jobs and acquire new technological capacities in accordance with international best practices, thereby strengthening competitiveness. However, this integration into GVCs also presents challenges. The distributional effects and spillovers to domestic economies are not automatically guaranteed. Whether SMEs seek to improve their product, production process or function in the chain depends on several factors such as governance of the chain and the specific characteristics of the sector. Despite the challenges these strategies present, governments, non-governmental organisations (NGOs) and transnational enterprises in the region are expanding their activities and programmes to support the inclusion of the region's SMEs in GVCs through various policies, such as supplier development programmes, better access to information on external markets and existing chains in the country, as well as training programmes within universities and businesses to provide specific skills required at different stages of the production within these chains. (OECD & ECLAC, 2012)

With regard to the latter suggestion OECD & ECLAC (2012) is essential to remember that it is not relationship; rather, it is how they relate. The cluster does not guarantee that companies operate under cooperation strategies; as there are other centripetal forces (Fujita, Krugman & Venables, 2001), obtain profitability without social value which reduces the impact on local development (González & Martin).

With regard to the GVCs, the SMEs to be linked with larger companies generate asymmetrical relations which again lead to acts of opportunism, reducing the impact on local development.

It would be essential to identify multi-enterprise tie, analysis and generation mechanisms to cause the generation of such links. Once monitored, there are three areas of intervention particularly useful for removing bottlenecks for the development of multi-enterprise tie in Latin America (OECD & ECLAC, 2012): 1) access to finance; 2) innovation and technology policies, especially access to information and communication technologies (ICTs); 3) the development of skills and human capital

One point that cannot escape is the South-South cooperation, leading to the redirection of international operations of Latin American SMEs within the region and to other low-income countries

The prescriptive approach limits the scope and understanding of SMEs as an engine of development. In fact, learn from reality leads to recognize that the creation of social value is linked to CSR, in turn, the bridge between the generation of social value and CSR explains the impact of the internationalization of SMEs in local development (González, 2015).

The prescriptive approach is twofold: first, believes that CSR is a product of prestige or image of the company (Dabija & Băbuț, 2015; De Oliveira & Rodriguez, 2015; Mejri & Bhatli, 2015; García, 2014; Schwalb & García, 2014; Sierra et al. 2014; Fernández, 2014; Saiz & Xifra, 2014; Mercadé- Melé et al. 2014; Ramos et al. 2014; Sierra et al. 2014; Maldonado, 2014; Parad et al. 2014; Teresa et al. 2013; Romo & Rodríguez, 2013; Saldarriaga, 2013; Martínez-Campillo et al. 2013); the second is by formality or legal commitment (Padilla, 2014; Montiel & Llamarte, 2014; Nascimento, 2014; Volpentesta et al. 2014; Vázquez et al. 2014; Morales et al 2014; Fernández, 2014; Moreno & Bonet, 2014; Salgado & González, 2014; Avendaño & William, 2013; Mejía et al. 2013).

A company is socially responsible when it generates social value to the local community in which intervenes as a supplier of goods and services, distribution, processing, expropriating resources.

What does the creation of social value? Improvements in lifestyle of the population with respect to education, health, culture, work and leisure, etc. Improvements through economic activities that the company encourages locally. The social value has always been linked to the economic value (González, 2013).

## **Research Method**

The study focuses on agribusiness companies that have participated in one or more international business events organized by the Eurocentre, Nafin (Nacional Financiera). The agribusiness sector saw the highest number of events organized by Nafin in the period 2002-2009 (seven events of 16; 2724 companies participating in the event; 1171 are agribusiness companies). A data matrix was constructed by agribusiness companies listed by Nafin on these events for recording qualitative and quantitative variables per company (unit of study). These variables were determined based on The Resources-based Theory of Competitive Advantage (Barney & Clark, 2007; Ray et. al, 2004; Hunt, 1997; Black & Boal, 1994; Barney, 1991; Grant, 1991), Internationalization of SMEs (Wright et. al, 2007; Lu & Beamish, 2006; Zain & Ng, 2006; Knight, 2000; Gankema et. al, 2000) Corporate Social Responsibility and Local Development.

Logical variables were determined based on the operational definition of the theoretical model. To give dimension to the binary number system is used. The digit one has the value "attribute exists in this qualitative study unit". The digit, zero means that "there is no such attribute in the study unit". The binary system allowed creating dichotomous variables for nominal variables.

The set of nominal variables allowed knowing the company profile to determine within the study population if they were atypical, critical or typical cases. In the same way, they were grouped by profiles and / or countries of study units. Discrete variables considered in this analysis are derived from these groupings.

The study was observational. The independent variable is “the existence of international links” for the study unit. The dependent variable is “the creation of social value in the unfavourable economic environment.

The criterion for inclusion of the study units was: participation in at least one business meeting organized by Nafin for the period 2002-2010. At the descriptive level, the comparison between two or more study groups without sampling does not require the application of statistical tests because it is not required to make statistical inference.

### **Research scope.**

It is a descriptive study. It presents nuances in terms of uniqueness and particularity of the phenomenon studied. This study aims to be complementary to the many explanatory studies on economic development, poverty and inequality that establish generalities, and that have been developed by PNUD, EU, OECD, among others.

### **Research limitations.**

Only causal relationship between the variables is proposed; associations between variables are described in terms of the unit of study and company profiles are identified through the data matrix.

### **Discussion of Results**

The first study group (1112 SMEs in Spain, Argentina, Mexico, Chile, Brazil, Guatemala, Colombia, Ecuador and Uruguay) was used for a comparative study between the Spanish, Argentine and Mexican companies. At this stage of data collection companies in the other countries we were excluded. Although we analysed only to members of the first three countries.

An exploratory survey allowed the identification of missing enterprises; in order to eliminate them. The Nafin directories were created almost 13 years before this research (2002). This is necessary for retrospective analysis of the links behaviour between SMEs and local economic agents. Thus a group of 476 companies (42.8 % of 1112) companies present in electronic directories were obtained. In addition, 435 have a page on the web (39.1 % in 1112).

The analysis presented now dismisses companies in Spain, Mexico and Argentina. Data collection started from observable reality. In order to make a thorough job he went to different sources. Sources of information on open access complemented and confirmed the information provided by the companies. When a research project on an observable reality (each company represents a unique reality) lasts several years, then the study group of companies tends to decrease naturally. Include ups to keep the number of these would be detrimental to the consistency in the study.

The research project aims to meet the particularities of each case, which is favourable natural shoulder of the study group because space is gained in the deepening of the phenomenon. In this second phase of analysis, it has 209 companies. Spanish (113), Mexican (45) and Argentine (26) companies were eliminated. So a group of Latino agribusinesses was obtained. These companies took part in AI- Invest meetings organized by the Euro Centre, NAFIN (Table 1). They are companies with impact on local economic development in poor areas (Graph 1).

**Table 1**  
**Latin Agro-industry, SMEs with impact on local economic development in poor areas**

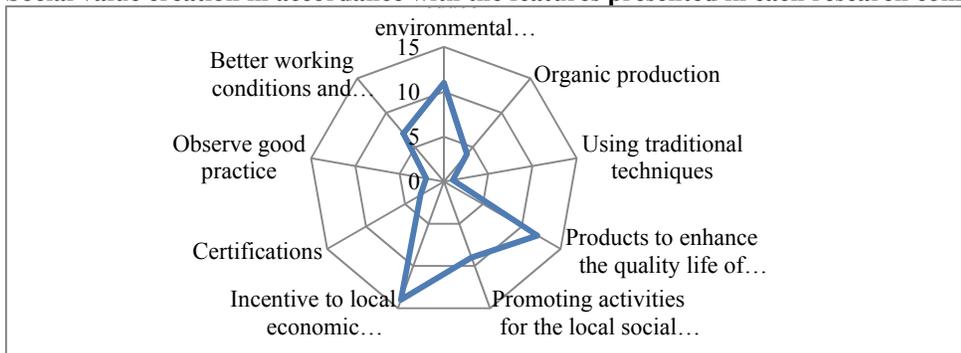
Country	Units
Brazil	2
Chile	3
Colombia	4
Ecuador	2
Guatemala	5
Uruguay	5
Venezuela	4
<b>Total</b>	<b>25</b>

**Source: Project CA 0012/10 ULSA**

Descriptive statistics were used to create a matrix of data. This matrix shows socially responsible features. Some of these features do not match the prescriptive models. Identified entrepreneurial features are more specific than those included in theoretical models. This difference is due to the peculiarities of the observed reality. In terms of social commitment, local experience and close ties with the territory, these are features of CSR.

The close relationship with the town is a common distinctive in the research companies. These companies are well aware mechanisms to meet the needs of the local population, in terms of generating social value.

**Graph 1**  
**Social value creation in accordance with the features presented in each research company**



**Source: Project CA 0012/10 ULSA**

## Conclusion

SME is socially responsible when it generates social value to the local community in which intervenes as a supplier of goods and services, distribution, processing, expropriating resources.

The social value to generate a local system is determined by the characteristics of the same and is limited to specific periods. The expectations of the people involved tend to vary according to the customs, values and needs. In turn, customs, values and needs are modified in the course of time both endogenous and exogenous variables, being complicated analysis (González, 2015). For this reason, among closer the ties of the company with the town, it will be easier for the actions and results achieved CSR gain in precision and consistency. SME is when the engine becomes local development. The multi-enterprise tie may contribute to SMEs' participate in international markets and to contribute to local development (González, 2008). SMEs could create social value in an unfavourable economic environment.

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## ***The Impact of Educational Level on Behaviour during Knowledge Transfer in Small and Medium Enterprises (SMEs)***

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### **Abstract**

*This study investigated the impact of educational levels on behaviour during knowledge transfer in SMEs. A select set of behaviours under study were ability, facilitation and ethical conduct. A questionnaire was administered to 200 employees from a sample of SMEs in Durban. The results confirm that there are differences between different levels of education in behaviour in the knowledge transfer process. Educational level is proven to have effect on the way employees facilitate co-workers, ethically and unethically conduct themselves and their ability to perform different tasks in SMEs. The study recommends the need to retain and recruit skilled and qualified employees for SMEs sustainability. Though limited in terms of resources, SMEs should capitalise on their key employees to diffuse knowledge capability, support and improve co-workers' ability to perform different tasks in an organisation.*

**Key words:** SMEs, Level of education, knowledge transfer, facilitation, ability and conduct

### **Introduction**

Small and medium enterprises (SMEs) become a vital part of national economies, regardless, of whether the country is developed, developing or underdeveloped (Desouza and Awazu, 2006). Parker (2009) points out the criticality of small business on self-employment workforces of country members of organisation for economic co-operation and development (OECD). In the context of South Africa, it has been the priority of government since 1995 to move away from the dominance of large and capital intensive firms in order to promote small enterprises (KZN-DEDT 2010).

To survive and grow entrepreneurs are required to utilise the intellects of people, unlock and share in their people skills, and use wisdom in nurturing relations within the firm (Nieuwenhuizen, 2011). Thus, it can be argued that the complexity of knowledge asset in the context of small businesses is mostly linked to the limited resources to create knowledge and maintain individuals who possess it. It can also be assumed that high level of education predisposes employees to facilitate learning and to show abilities and conduct behaviours that are likely to enhance the transfer of knowledge in SMEs. As aptly stated by Hislop (2013) businesses tend to neglect individual behaviour that facilitates the learning process especially as employees' knowledge and skills could not be dissociated with their behaviour within organisations. Though, small businesses have their own considerations and problems pertaining to knowledge management, different to corporations (Wong & Aspinwall 2004), it can be argued that the closeness and easy interactions of employees in small and medium enterprises (SMEs) constitute an advantage for the transfer of individual knowledge in case employees exhibit productive behaviours (Tuan, 2011).

However, the lack of resources prevents SMEs from employing highly qualified employees and to undertake training programmes to leverage employees' knowledge (Wong & Aspinwall, 2004). Furthermore, Desouza and Awazu (2006) find that small businesses in contrast to larger businesses, were individual centred in transferring knowledge. Closely related to that, Peters and Brijlal's (2011) and Lewis (2011) studies on SMEs conclude and support that there is a relationship between the entrepreneur's level of education and their business success. In this context, Jansen and Taylor (2003) further state that South Africa post-apartheid has a clear policy as far as education and training is concerned, strives to establish the relationship between education and economic growth, between investment in human resources and social development, between curriculum revision and

citizenship, democratisation, and tolerance. In summary, there is a strong alignment made in policy between education and development. It can be argued that there are expectations from individuals who have achieved certain level through education or training to be able to contribute to achieving their organisational goals. The above introduction leads to the following problem statement: Do employees' level of education affect their behaviours during the transfer of knowledge in Small and Medium Enterprises?

The education system of any country should be expected to play a critical role with regard to contributing to the capacity building of small and medium enterprises. In capacity building of SMEs, individuals play important role in the knowledge transfer process. Though studies have been conducted on knowledge management in SMEs, it is still paramount to establish whether educational achievement of employees impact on their behaviour in sharing knowledge and information with co-workers. Therefore, the purpose of this study is to investigate the impact of employees' levels of education on behaviour during knowledge transfer in small and medium enterprises.

This study is then structured as follows: the first section introduces the background and states the problem under study. The next section reviews the literature on levels of education, knowledge transfer and a select set of behaviour. The research methodology is then presented, followed by findings, discussion and conclusion. The study's managerial implications and recommendations are provided last.

## **Literature Review**

Though knowledge seemed to be a survival and growth weapon for SMEs, Wong and Aspinwall, (2004) confirmed that knowledge should be harnessed and leveraged. According to Gibb (1997), knowledge economy forced small firms to be learning organisation in order to remain competitive. Scarborough, Wilson and Zimmerer. (2009) also state that this new structure of the economy favoured small firms due to their low cost of managing and transmitting knowledge and information. The educational levels, behaviours and knowledge transfer in SMEs are discussed under this section

### **Levels of education and Individual Knowledge**

Lin (2007) confirmed that further research was required to establish the impact of personal traits such as level of education on knowledge transfer process. In the same context, Sun and Scott (2005) stated that individuals were the source of knowledge in the sense that brought new patterns of thinking or challenged the current norms and assumptions of organisations. Closely related to that Riege (2005) identified that difference in education levels was one of the barriers of knowledge transfer. With reference to South African educational system, three components might be identified (Nuffic, 2015):

- General education and training (GET) includes grade R to 9
- Further education and training (FET) includes grade 10 to 12 as well as further academic schooling such as vocational and technical colleges, community colleges, and private colleges
- Higher education and training (HET) mostly universities of technology and universities.

The table 1 below classifies the levels of education according to national qualification framework (NQF).

TABLE 1: NATIONAL QUALIFICATION FRAMEWORK LEVELS

NQF Level	Band	Qualification Type
		Post-doctoral
10	HET	Doctorates
9		Master's degrees
8		Bachelor honours degrees and Postgraduate diplomas
7		Advanced diplomas, Bachelor's degrees
6		Advanced certificates and Diplomas
5		Higher certificates
2-4	FET	National certificates
1	GET	

Source: Nuffic, (2015)

In distinction to explicit knowledge, Nonaka (1994) and He and Li (2010) defined tacit knowledge as rooted in action, commitment and involvement in a specified environment: it is unarticulated and consequently less permissible to transfer. Closely related to that, Little, Quintas and Ray, 2002 also confirmed that tacit knowledge had both cognitive and technical elements that could not be shared in an explicit form. This type of knowledge was difficult to be separated from the knowledge source or knowledge owner (Desouza & Paquette 2011). However, the lack of resources prevented SMEs from employing highly qualified employees and to undertake training programmes to leverage employees' knowledge (Wong & Aspinwall, 2004). In the same context, Endres, Endres, Showdhury and Alam (2007) asserted that the self-efficacy theory to tacit knowledge sharing confirmed that knowledge is shared through behaviours. This knowledge should increase under certain conditions such as consideration of team members; current opportunity to share knowledge; and appreciation or acknowledgement of the transferor in sharing knowledge.

However, Schermerhorn, Hunt, Osborn and Uhl-Bien (2011) confirmed that individuals had knowledge-based or expert power. To maintain their status or position; knowledgeable employees had the abilities to control other members' behaviour in the process of knowledge transfer (Sun & Scott, 2005). Especially, the fact that the basic premise of human capital theory confirmed that the capital did not belong to the firms, but to the individuals who possessed knowledge.

### **Small Businesses need for Tacit Knowledge**

National Small Business Act 102 of 1996 states that small, micro and medium enterprises must have:

- Minimum of five and maximum of two hundred full time employees.
- Minimum and maximum of annual turnover of R0.15-R50 millions
- Gross asset value excluding fixed property of R0.10-R18 millions.

One of the critical factors for success or failure of small firms could be analysed in the context of knowledge management implementation (Wong and Aspinwall 2004). As new economy presents opportunities and threats for small businesses and entrepreneurs (Nieuwenhuizen 2011). Wong and Aspinwall (2004) argued that the success and failure to transfer individual knowledge in SMEs were characterised, among other things, by how the knowledge transfer presented advantages and disadvantages for SMEs' development through a business structure and a set of behaviours which might facilitate sharing knowledge.

Desouza and Awazu (2006) stated that SMEs were people centred in managing knowledge; and so the humanistic aspect was highly considered. They confirmed that knowledge could be created, shared, transferred, and applied via people based mechanisms though technology might play only an automation role. SMEs capacity to

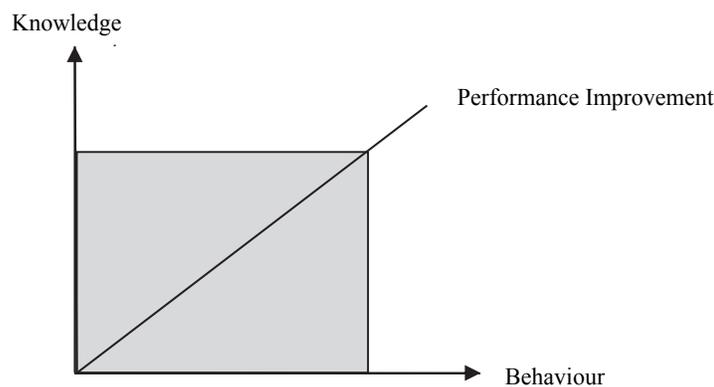
compete on their know-how; therefore the fact that they possess limited resources implies knowledge as a resource should be used to their advantage (Desouze & Awazu, 2006). According to Wong and Aspinwall, (2004) the need for knowledge in SMEs stemmed from a “pull” and “push” perspective. The former identified the potential benefits or improvements which were critical for small businesses whereas push perspective referred to the external or environmental thrusts that pushed them to the forefront of knowledge. As it was evident that knowledge transfer could happen on the basis of person-to-person interactions within SMEs. The person-to-person appeared to be a proper channel of tacit knowledge transfer and the focus of this study. In this context, Wong and Aspinwall, (2004) confirmed that on one hand from the pull perspective, knowledge was a key resource, strategic asset, and contributed to improve competencies and performance of organisations. On the other hand from the push perspective, built on the uniqueness of tacit knowledge allowing SMEs to respond effectively to external environment. It is a survival tool and reason for sustainable competitive advantage for SMEs (Wong & Aspinwall, 2004).

Gertler (2003) stated that to solve the problems of creation, appropriation and diffusion of individual knowledge, firstly, the learning region or tacit knowledge source should be determined. Secondly, the practices should be established and knowledge enablers or ‘knowledge activists’ should be identified. In this context, previous findings confirmed that there was a strong foundation for knowledge transfer in SMEs despite resource challenges of creation and appropriation of knowledge.

### Individual Knowledge Transfer and Behaviour Patterns in SMEs

Any organisation regardless of sector or size is constituted by a group of people with special skills, knowledge and other attributes to work together to accomplish individual, group and organisational goals (Hodge, Anthony & Gales 2003:9). From the above statement, Leibold, Probst and Gillert (2005) confirmed that the distinctiveness of individuals in terms of knowledge, skills and behaviour could be explained through the “Holcim model”. This model is two-fold focusing on both knowledge and behaviour. According to this model being successful today did not guarantee future success. The performance needed to be continually strengthened through improvement of operations, efficiency in systematically addressing knowledge, skills and processes. Leibold et al. (2005) further stated that in improving professional knowledge and skills, it was imperative to address employees’ behaviour. Consequently the impact of behaviour on knowledge transfer process was likely to determine the level of performance improvement in an organisation as depicted in figure 1 below:

FIGURE 1: HOLCIM, PERFORMANCE IMPROVEMENT



Source: Leibold, Probst & Gillert (2005)

The above mentioned model laid on the premise that knowledge as an asset of an organisation, could only become a capability if shared and applied. Leibold et al., (2005) further stated that expertise was applied through behaviour to achieve performance improvement. In this context, Gertler (2003), pointed out in support of literature that tacit knowledge as “know how” was likely to be acquired through informal mechanisms of learned behaviours and procedures. Further noted by Argote and Igram (2000) how knowledge was acquired and transferred could apply or fail to apply through employees’ behaviours. The next section will discuss a select set of behaviours under study.

### **Individual behaviour in small businesses**

Individual behaviour (IB) was defined as a person’s intention to act towards someone or something in a certain way (Gibson, Ivancevich, Donnelly & Konopaske 2009). In this context, Wong and Aspinwall (2004) asserted that the limited number of members was more salient in SMEs in terms of a unified culture. The commonly shared values and beliefs among small number of employees underlay behaviours and actions within small firms. Liebowitz (2004) and Gottschalk (2010) also confirmed that the foundation of knowledge flows was based on individual members’ behaviour. Closely related to that, Schuler and Jackson (2007) and Cope, Kempster and Parry (2011) further referred to the concept of ‘discretionary behaviour’, and reaffirmed that a sender and a receiver of knowledge were mostly influenced by individual behaviour patterns that can be either a barrier or a bridge for transfer of knowledge. The selected set of behaviours were aligned with types of individual behaviours as stated by McShane and Glinow (2014) and were referred to as facilitation, ability and conduct. Ability, facilitation and conduct behaviours are discussed next.

#### **Ability behaviour**

According to McShane and Glinow (2014), task performance behaviour described an individual behaviour that supports organisational objectives. This type of behaviour is goal-directed and involves different dimensions of business. In the same context Moorhead and Griffin (2010) stated that task performance behaviours were the sum of work related behaviours that the business could expect the employees to display in performing their tasks. According to Robbins, Odendaal and Roodt (2004), ability describes an individual’s capacity to perform various tasks in a job which is made up of intellectual and physical abilities. The former was the type of ability which carried out mental activities and the latter was relevant to less skilled, standardised jobs with demanding information-processing requirements. Pinder (2008), job competence is a set of knowledge and behaviours which determines the degree of job performance and consequently the business performance.

**Hypothesis 1:** There is statistically significant difference between the mean values of levels of education in ability of employees to perform different tasks in SMEs

#### **Facilitation behaviour**

According to McShane and Glinow (2014), the organisational citizenship behaviours referred to the behaviours of employees associated with their commitment to go beyond their normal job duties. This type of behaviours were likely to describe the disposition of employees to help others without selfish intent, get involved in organisational activities, avoid unnecessary conflicts and perform tasks beyond the call of duty. In the same context, Moorhead and Griffin (2010) confirmed that organisational citizenship (facilitation behaviour) was the extent to which an employee’s personal behaviour could make a positive overall contribution to the organisation. Though informal rules and procedures were likely to hinder knowledge transfer and its efficient use, Wong and Aspinwall (2004) confirmed that systems and processes in SMEs were people dominated, flexible and easily adaptable to changes. Furthermore, Nystrom, (2012) asserted that there was relationship between levels of education and the employees involvement. For employees with doctorate level were less likely to have intrapreneurial intentions in organisations.

**Hypothesis 2:** There is statistically significant difference between the mean values of levels of education in facilitation behaviour of employees in SMEs

### **Conduct behaviour**

Moorhead and Griffin (2010) stated that the counter production work behaviour and work attendance behaviour referred to as conduct that might harm or favour the sustainability of SMEs. In this context, McShane and Glinow (2012) confirmed that counterproductive work behaviours referred to voluntary behaviours that could potentially harm the business by reducing the effectiveness of its employees or property or functioning. These behaviours included the acts of commission and omission. The former behaviours built on deliberate acts that intended to harm an organisation and its employees whereas omission related to behaviours that might lead to ignoring and avoiding actions that could possibly benefit a business and its employees.

It appeared likely that counterproductive behaviours were associated with personality traits such as Machiavellianism and individualist behaviour contrary to the spirit of SMEs (McShane & Glinow 2012). Furthermore, Goetsch and Davis (2010) stated that ethical challenge within the organisation stemmed from human nature combined with competitive global marketplace. Some look at ethical practices as loss of business opportunities ignoring long term benefit of avoiding harm and affirmative benefits. In the same context, highlighted the fact that high standard behaviour is expected within the firm because ethics and morality cannot be legislated (Nelson & Quick, 2008, and Scarborough et al. 2009). Despite most support that level of education as one of the personality traits was likely to affect employees' behaviour, Roman and Munuera, (2005) found that education was not related to ethical behaviour of employees. Supported by Krish-Gephart, Harrison and Travino (2010) who confirmed that there was little systematic support that levels of education of employees' impact on their behaviour.

**Hypothesis 3:** There is statistically significant difference between the mean values of Level of education and conduct behaviour in SMEs

Most of literature on knowledge management comments on the distribution of the right knowledge from the right people to the right people at the right time being one of the biggest challenges in knowledge sharing. Barriers originating from individual behaviour or people's perceptions and actions can relate to either individuals or groups within or between business functions. At the individual level, barriers are manifold and this review has identified the importance of well over a dozen barriers to sharing knowledge (Riege, 2005). Supported by Nystrom, (2012) who confirmed that the knowledge marginal effects increased with level of education and largest effects could be observed for individuals with tertiary education. The next section discuss research design with emphasis on the data collection and participants chosen.

### **Research design**

#### **Data Collection Methods and Participants**

Data sources that were consulted, included Small Enterprise Development Agency (SEDA), Yellow page database business directory, KwaZulu Natal department of economic development and tourism, the EThekweni Municipality's Business Support Unit, and Durban Chamber of Commerce and Industry (DCCI). Though the stated databases exist and actively operate in the city and update their contents at least annually, the sample was drawn from the Durban Chamber of Commerce and Industry (DCCI) membership directory of SMEs. The reason for this, was the data source has been found to be more reliable and inclusive as it includes information from other sources listed above. The database also included SMEs with at least 5 employees operating from the Durban Metropolitan area. Lastly, the database contains a population of 1620 businesses mostly SMEs in different business sectors. A total of 50 SMEs were selected randomly allowing equal opportunity for each element of the population to be selected. Different sectors were represented in the targeted population and based on the above procedure the sample error was reduced. The choice of non-probability sampling particularly purposive or judgment sample in this study

was based on the discretion of the researcher. The total of 50 SMEs constituted the sample selected from Durban Chamber of Commerce and Industry membership directory. The total number of two hundred (200) employees who were full time workers were selected from 50 small businesses of different business sectors. The individual members must be full time employed within the business and be involved in any role within the organisation. From the 50 SMEs, four most senior personnel were chosen from each organisation, giving the researcher a sample of 200 (50 x4). Given the size of SMEs, both owners-managers and employees were included in the sample. Next section will discuss the survey questions.

### **Survey Questions**

According to van der Velde, Jansen and Anderson (2004), the written questionnaire is an appropriate instrument design to use in taking into account the following advantages: research time frame, number of units to be analysed, cost, and anonymity of respondents as well as the simplicity in collecting and processing data. It also presents disadvantages as relating to the time invested in constructing the questionnaires and the general low response rate due to lack of researcher intervention as compared to oral interview (van der Velde et al., 2004, and Saunders, Lewis and Thornhill 2009). As Welman et al. (2007) confirmed that survey questionnaires may be used to obtain different types of information from respondents such as:

- Biographical details in terms of age, educational qualifications, income, and so forth
- Typical behaviour such as preferences
- Opinions, beliefs, and convictions about a topic or issue.
- Attitudes: for instance a pay system

Primary data, as mentioned above, was collected as biographical, opinions, beliefs, convictions and behaviour information of participants in order to answer the research question. The utilisation of closed questions to collect primary data for this study was basically justified by the easiness for both the researcher and the participants to self-administer the questionnaire in terms of time and efforts. The secondary data as related to literature review was equally used and stemmed from variety and credible sources relevant and pertinent to this project. The questionnaire consisted of two sections comprising demographical information of the participants and questions relevant to facilitation, ability and conduct behaviours of employees:

### **Facilitation**

Questions relevant to facilitation behaviour of employees in SMEs were addressed and measured on the Likert 5 interval scale of 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5 strongly agree. The questions covered aspects such as, employees' readiness and perception to share of knowledge, ones view on the importance of sharing knowledge, employee interaction within the business, processes followed in knowledge sharing and how management approach in sharing and transferring knowledge among employees

### **Ability**

Questions focused on employees' abilities in performing different tasks in SMEs were asked and measured on the Likert 5 interval scale of 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5 strongly agree. Questions included aspects such as business awareness of individual knowledge and its transfer, decisions making of skilled and qualified employees to participate in the activities allowing knowledge transfer, ones view on knowledge priority in an organisation.

## **Conduct**

Questions were built around productive or counterproductive behaviours of employees in SMEs. The statement under this section highlighted questions of ethical conduct of employees in relation to individual knowledge transfer and were measured on a 5 point Likert scale of 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5 strongly agree. The questions covered the following aspects: ethical behaviour in transferring individual knowledge, ones view on the organisational policy or regulations on knowledge transfer, business priority of ethical behaviour, and ethicality in the transfer of individual knowledge in terms of what should be acceptable and unacceptable as right conduct conducive to sharing information.

## **Data Analysis**

Analysing data included gathering, cleaning and examining of data generated (Polonsky & Waller, 2011). In the same context, Zikmund et al. (2010) pointed out at the preparation level, raw data is edited to ensure consistency, completeness and legibility before being codified and stored in order to become ready for analysis. Different levels of measurement can be used depending on the nature of data to be measured (Walliman 2011). Data was analysed using statistical package for the social science (SPSS) to provide useful information for business and management purposes, descriptive and inferential analyses were considered (Biggam 2008). Next section presents the research results.

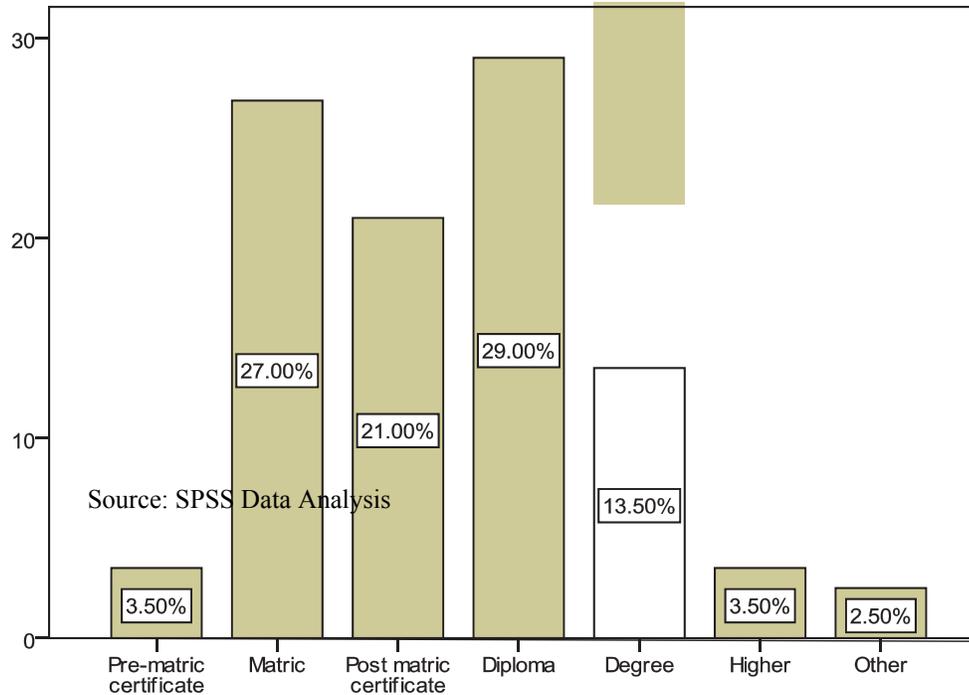
## **Research findings**

This section presents the results based on the statistical analysis done using SPSS package. Descriptive and inferential tools such as mean score, standard deviation, percentages and covariance were generated.

## **Descriptive statistics**

As shown in the figure 3, diploma respondents dominated with 29%, followed by matric, post matric and degree holder respondents who represented 27%, 21% and 13.5%, respectively. The respondents with pre-matric qualification were 3.5% as well as those with other unspecified qualification constituted 3.5% of the sample. Lastly, the high degree holders were 2.5%. As it was planned to target respondents who could understand the research topic in order to respond relevantly to the statements within the questionnaire, the results reveal that 69.5% were above the matric level and only 2.5% did not complete their matric. Furthermore, the respondents in possession of diploma qualification dominated the sample with 29%. It can be confirmed that the sample was well represented as a high rate of the employees were equipped with necessary knowledge to provide reliable opinions to the subject of this study. The figures prove that SMEs are able to attract skilled employees and consequently they have got potential to benefit from individual knowledge.

FIGURE 2: RESPONDENT LEVEL OF EDUCATION



The table 2, level of education distribution shows a mean score of (3.43) proving that most employees' educational levels are around or up to diploma. However, the standard deviation of (1.335) reveals variability in the educational levels of employees. This variability confirms that SMEs cover employees with different levels of education.

TABLE 2: LEVEL OF EDUCATION DISTRIBUTION

	N	Mean	Std. Deviation	Variance
Education	200	3.43	1.335	1.783
Valid N	200			

Source: SPSS Data analysis

**ANOVA Test:** Individual Behaviours with regard to levels of education

Under this section, one-way ANOVA was used to examine statistical differences among levels of education and a select set of expected behaviours in SMEs. This test of analysis of variance intends to determine whether there are any significant differences between means groups of variables. However, statistical package for social science (SPSS) was used to make comparison of the means between the groups. Firstly, Levels of education

and difference in ability behaviour: Hypothesis 1, states that: There is a statistically significant difference between the mean values of Levels of education and ability behaviour (H1). Furthermore, levels of education and difference in facilitation behaviour: Hypothesis 2, states that: There is a statistically significant difference between the mean values of Levels of education and facilitation behaviour (H2). Finally, levels of education and difference in conduct behaviour: Hypothesis 3, states that: There is a statistically significant difference between the mean values of Level of education and conduct behaviour (H3). Hypotheses were tested using the analysis of variance method (ANOVA). The findings are shown in Table 3 and a discussion is followed thereafter.

TABLE 3: ANOVA: LEVEL OF EDUCATION AND BEHAVIOUR PATTERN VARIABLES

		Sum of Squares	df	Mean Square	F	Sig.
Facilitation	Between Groups	447.219	6	74.537	3.263	.004
	Within Groups	4409.336	193	22.846		
	Total	4856.555	199			
Conduct	Between Groups	262.064	6	43.677	4.176	.001
	Within Groups	2018.531	193	10.459		
	Total	2280.595	199			
Ability	Between Groups	77.836	6	12.973	2.325	.034
	Within Groups	1076.644	193	5.578		
	Total	1154.480	199			

Confidence Interval 95%  $\alpha = 0.05$

Source: SPSS data analysis

### Discussion of Findings

This study provides interesting results as depicted in Table 3, all the p values of (0.004), (0.001) and (0.034) confirm that, indeed, there is level of education a statistically significant differences respectively in facilitation, conduct and ability behaviours.

There is a statistically significant difference between the mean values of level of education and ability behaviour of employees in SMEs (H1): As shown in Table 3, there is a statistically significant difference between the mean values of level of education and ability behaviour of employees to transfer knowledge to co-workers in SMEs. The results show a p value of  $0.004 < 0.05$  indicating statistical significance. The research hypothesis is therefore accepted. The findings reveal differences between levels of education and ability behaviour as depicted in the Table 3. Literature suggested that individual's capacity to perform various tasks in a job was made up of intellectual abilities (Robbins, Odendaal & Roodt 2004). Closely related to that, Riege (2005) identified that difference in education levels was one of the barriers of knowledge transfer. Furthermore, Nystrom, (2012) confirmed that the knowledge marginal effects increased with level of education and largest effects could be observed for individuals with tertiary education. The findings of this study establish differences between levels of education in terms of ability or disability to perform and complete tasks that allow knowledge transfer in SMEs. This findings of this study support the literature and confirm that despite the scope of tasks in SMEs, the above analysis and interpretation prove that the SME sector skilled and qualified employees are likely to reinforce, engage and contribute to its capacity building. These findings could be the solution to SMEs human resource challenges as few key employees' engagement is likely to create synergy

There is a statistically significant difference between level of education and facilitation behaviour of employees in SMEs (H2): The results, as shown in Table 3, indicate that there is a statistically significant difference between the mean values of gender and facilitation. The p value of  $0.001 < 0.05$  proves that there is a statistically significant difference since the p value is smaller than  $\alpha = 0.05$ . This indicates that level of education of employees is likely to affect the way they facilitate co-workers absorb information and carry out their duties. Hypothesis 2, is therefore accepted. It was stated in the literature review that there was relationship between levels of education and the employees' involvement (Nystrom, 2012). For example, employees with doctorate level were less likely to have intrapreneurial intentions in organisations, but they are well position to diffuse knowledge and support low skilled employees to improve their skills and perform. The findings support the literature and confirm that accumulated sufficient knowledge and skills improve interpersonal relations. This study's findings confirm therefore that level of education differences affect the transfer of individual knowledge among co-workers in SMEs as purported in literature. Although individual knowledge is shared through interactions, it is proven in the context of SMEs, that qualified and skilled are more likely to facilitate individual knowledge better than unqualified and unskilled employees.

There is a statistically significant difference between the mean values level of education and conduct behaviour of employees in SMEs (H3): The findings in the Table 3, depict that there is a statistically significant difference between the mean values of level of education and conduct behaviour as shown by a p value of  $0.034 < 0.05$  confirming statistically significance. Hypothesis 3, is therefore accepted. It can be confirmed that the level of education of employees in SMEs affect their conduct behaviour during knowledge transfer. Furthermore, it can be argued that conduct of employees regarding sharing individual knowledge with co-workers is likely to improve with level of qualification and skills. Though Krish-Gephart, et al., (2010) found that there was little systematic support that levels of education of employees' impact on their behaviour. The findings of this study confirm that the conduct or misconduct of employees in the transfer of their individual knowledge could be related to their educational level or training achievement.

## **Conclusion**

Though there is an agreement in literature that high level of education improves employees' facilitation and ability behaviours in the knowledge transfer process in SMEs' sector, there are contradictory results and conclusions in terms of whether conduct behaviour is affected by employee's education and training. Existing literature tends to point to level of education differences in behaviour during knowledge transfer as far as facilitation and ability are concerned. In contrast, the literature is divided in terms of whether conduct behaviour is affected education or training level of employees. This study confirms instead the assertions that facilitation, conduct and ability behaviours of employees in the knowledge transfer process are justified by their level of education or training. In the context of SMEs, the findings underpin that change in education level will result in change of facilitation, conduct and ability behaviours. This once again reiterates that level of education differences reflect the necessity to develop skills for business continuity and success. This constitutes an opportunity for SMEs to prioritise values and good practices, organisational citizenship and ability of employees in sharing their know-how in SMEs.

## **Implications for SMEs knowledge management practices and further research**

The researcher undertook to study the limited scope of this topic in order to establish how individual knowledge could be well used in SMEs as an asset to enhance organisational capability. It seems therefore that this is a vast topic that requires further research to reach more informative findings and conclusions enabling managers, owners and strategists of SMEs to improve the standard, quality of products and services, to sustain, grow and become job creation engines of the economy. Nevertheless, it is paramount to consider this little contribution in the field of management through the following recommendations that stem from this study:

- The study recommends the need to retain and recruit skilled and qualified employees for SMEs sustainability. Though limited in terms of resources, SMEs should capitalise on their key employees to diffuse knowledge capability, support and improve co-workers' ability to perform different tasks in an organisation
- It is recommended to managers of SMEs to identify the behaviours of employees in order to monitor their performance and commitment in business development.
- Beyond multitasking roles of employees, it is recommended to managers to use knowledge workers in their areas of expertise in order to fully utilise knowledge resources.
- It is recommended to owners and managers to establish internal mentorship programmes where qualified employees use success cases from all over the world to convey certain business skills to new employees in SMEs
- The researcher recommends to management of SMEs to continuously analyse the internal organisation to ensure that knowledge resources are effective.
- Managers and owners of SMEs are recommended to establish mechanisms to identify talented employees or those with special skills who can improve business competitiveness regardless of their gender and positions in SMEs
- Managers in partnership with all stakeholders must continue to improve employees' business skills through seminars, workshops, mentorship, on the job training, and business incubations regardless of the seniority, gender and qualifications of employees.
- It is recommended to all members of SMEs, employees and managers, to make sure that they understand the changes in business environment and be equipped to adapt their skills and respond to changes effectively within environmental complexities of SMEs.
- Optimal use of individual knowledge through understanding of productive behaviour and building a learning environment of knowledge in order to efficiently and effectively utilise the scarce resources.
- Initiate tasks allowing employees to share their individual knowledge with co-workers willingly without persuasion and constraints in SMEs through improvement of communication.
- Managers and owners must emphasise the necessity to fully use individual knowledge for innovations in SMEs through talent management and ethical business practices.
- Managers and owners should instil and encourage employees to cultivate a knowledge sharing culture and teamwork to ensure smooth succession and sustainability in SMEs. In improving internal communication, identifying and resolving dysfunctional conflicts, maintain fairness and trust among employees.
- It is recommended to management of SMEs to initiate and identify knowledge projects and protect the intellectual capital of the business for long term competitiveness and innovations.
- Managers, owners, employees, government agencies, lenders, civil society, etc. are recommended to promote gender equality and participation as far as women involvement is concerned in order to close the gap between men and women in SME sector for the purpose of alleviating poverty, empowering women, promoting an entrepreneurial spirit among women, etc.
- It can also be recommended to government agencies and private incubations in KwaZulu Natal province to avail updated data of the SME sector as far as recent development and activities in the province are concerned.

This study focuses on small firms and raises other questions considering the criticality of knowledge transfer in the development of organisations regardless of size. It is important to highlight that further research can be conducted using case studies of big organisations in South Africa or other parts of the world. Furthermore, it is crucial to establish whether culture and socio-economic background affect the behaviours of people in sharing or not knowledge. Finally, it can be suggested that a comparative study be conducted considering different educational systems as far as individual abilities to apply and share knowledge is concerned using a bigger and multi-countries sample size. Next are the limitations of this study.

## Limitations

According to Hussey and Hussey (1997), limitations identify potential weaknesses in the research which may hamper for instance, the generalisation of the findings. Also Walliman (2011) emphasised that there is no research project that can provide all the answers. Therefore any contribution to knowledge is acceptable as long as the limitations of the study are highlighted in order to avoid overstatement of the case when conclusions and recommendations are made (Walliman, 2011:158). This study presents the following limitations:

- Only the metropolitan area of South Africa was considered for this study, however other countries, other areas especially rural areas might reach different conclusions.
- All the business sectors or subsectors might not have been covered; therefore the inclusion of uncovered sectors and subsectors may reach different conclusions. It is also possible that a study into a single industry may lead to different conclusions.
- A quantitative sample which is drawn on a clear sample frame provided by SMEs may possibly lead to different conclusions as the statistics of SMEs continually change.
- Taking into consideration the definition of SMEs in other countries in Europe and USA in terms of number of employees and size of assets, a similar study on SMEs may possibly reach different conclusions.

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## ***Research on the CSR of Small and Medium-sized Enterprise: Take a Company Semir as an Example***

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### **Abstract**

*Corporate Social Responsibility has received more and more eyes with the deepening of globalization. It has been a consensus for almost all companies in China to shoulder the Corporate Social Responsibility. However, there still are a lot of problems in the knowledge and measures of small and medium-sized enterprises. Also, scholars put more attention to large enterprises, not the small and medium-sized enterprises. This study focused on the reason why there is a lack of CSR in small and medium-sized enterprises, and then propose to establish "three in one" solution for corporate social responsibility, which including enterprise culture, industrial clusters, as well as government policy.*

**Key Words:** SMEs; CSR; corporate culture; industrial cluster; government

### **Introduction**

Along with economic development, enterprises' production and management activities have been gradually deeper into people's lives, at the same time, a growing number of social problems have erupted, like waste oil, fake beef and fake mutton, air pollution, melamine-tainted milk powder incident is not uncommon. CSR has attracted more attention from the whole society. CSR, just referred to achieve corporate' s benefit maximization through providing products or services to consumers in the past. As the contacts among enterprises being closer, they need to balance the interests of stakeholders, including shareholders, employees, suppliers, and consumers, etc. In this context, it is necessary to coordinate the relationships among stakeholders so that they can take up a stable market share to survive in the fierce competition. Therefore, it is important for enterprises to know how to fulfill CSR.

SMEs, as an whole, is an important part of the market in China, and play an important role in the sustainable development of the national economy. By 2015, SMEs accounted for more than 99% of the total number of Chinese enterprises, contributed to GDP over 60%, more than 50% of tax, almost 70% of import and export volume, 80% occupations around town. It can be seen that SMEs have become an important power in promoting China's economic development. So we can say that solving the problems that SMEs could meet when taking social responsibilities is vital for steady economic development in China.

Corporate social responsibility is committed or not, has become one of the key indicators of how consumers evaluate an enterprise. A corporate with high sense of CSR can gain the public trust easier. At present, large and medium enterprises have both sense and ability to take responsibility, at the same time, a increasingly number of SMEs are also aware of the importance of CSR. However, the fact is that SMEs find it difficult to take CSR, which results from small corporate scale, lack of capital, and low profit. In the short term, it not only leads to an increased cost, but also a low performance. We proposed that it is important for both large company and SMEs to take CSR in this paper. On one hand, CSR can help companies to establish brand image; Besides, it is the inevitable requirement of globalization, which eventually aims to a long-term development of enterprises and harmonious society.

## **Literature Review**

### **1. Research Literature**

Study on this aspect in foreign is earlier than that in China. Tilley(2000) pointed out that there is a big difference between large enterprises and SMEs on CSR. Due to the differences in organizational structure of the enterprise, environment and others, there are many deficiencies in SMEs, such as lack of implementation. Spence and Lozano(2003) found that the different identities and environment which managers live in would lead to a different style of taking CSR. Perrini(2006) proposed that SEMs thought more of corporate reputation and social trust. Heledd Jenkins(2006) organized an empirical investigation of SMEs in the United Kingdom, and then he concluded that most of SMEs in UK thought the government paid great attention on CSR, while SMEs tended to focus on their own internal issues when they took CSR. He pointed out the key to internalization of social responsibility of SMEs is to make use of active attitude and character of civil organization. Krishna Udayasankar (2008) proposed that we should pay attention to the extent of the practice of internal corporate social responsibility. Esben Rahbekedersen (2009) found that enterprises would face social responsibility issues in the supply chain based on investigation among SMEs in Denmark, and then he proposed that SMEs can promote the relationship with suppliers and the condition of environment on medium, NGO, consumers and government.

### **2 Research in China**

As for the problems probably existing when SMEs take corporate social responsibility. Zhang Ruihai (2009) listed some main issues of CSR in SMEs, for example, many enterprises ignored tax and requirements of social security, even escaped from paying tax and social security fee; Some provided false information of the products or off-test products to cheat consumers; Some tried to compress employees ' compensation and welfare, just treated them as a machine to make money. Pu Chunping (2011) pointed out that several wrong behaviors in SMEs when they take CSR, such as ignoring employees ' rights, which make it difficult to guarantee workers ' psychological and physical health, had made issue of infringed legal rights more serious; Manufacturing fakes, lacking credits; Neglecting environmental protection, which lead to a more serious condition of wasting resources; Lacking public consciousness, disregarding for public causes, and so on.

When summing up the successful experience of taking social responsibility in SMEs, Xu Liqing (2007) listed the successful experiences of SMEs in CSR implementation all over the world, in order to provide a reference to SMEs in China to ensure that they can take CSR well. Zhang Ruihai (2009) studied social responsibility of SMEs on legislation, and proposed to formulate an advanced CSR legal system to guarantee the performance of SMEs in CSR. Li Xuanfu and Guo Yi (2009) investigated the implementing mode of SMEs 's social responsibility in Italy, and then concluded that the government should play a leading role in the promotion of social responsibility of SMEs. When choosing specific social responsibility project, they needed to respect the inherent differences in SMEs. Moreover, they should take advantage of SMEs cluster to share the cost of fulfilling social responsibility. Mao Qinghua (2011) analyzed how SMEs take CSR reasonably according to their condition on the various stages of the life cycle of enterprises through absorbing Life Cycle Theory into the research of SMEs. Guo Yi (2011) analyzed systematically the problems that SMEs may encounter when they fulfilled the social responsibility. After that, he pointed out that we should learn from the overseas success stories as well as successful models of governance to build SME CSR implementation mechanisms which suited to China's national conditions, so that SMEs in China could also fulfill CSR better.

## **Research Methods and Case Background**

### **1. Research Methods**

The approach in this study is single case, which is a common method of qualitative research, usually follow the inductive logic, and is suitable to investigation of complex and specific issues in reality so that we can find out

the potential contribution to the theory (Mao Jiye, Li Xiaoyan, 2010). In this article, we focused on the rich and detailed information we had gotten by this way.

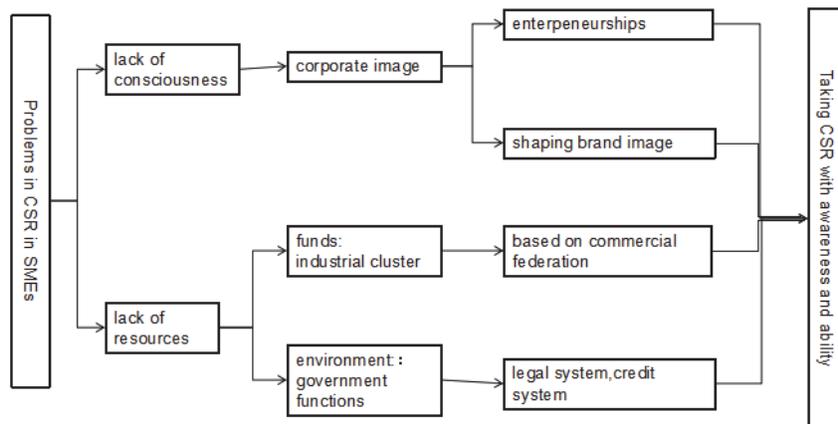
When choosing the most proper case, we decided to use Semir as the object of the study. Zhejiang Semir Garment Co., Ltd., located in Wenzhou, Zhejiang province, is a typical *Wen Shang* we called in China with a high regional culture. We chose Semir as the study object for following reasons: (1) It published its first corporate social responsibility report; (2) it has been widely recognized by the public by its contribution to CSR; and (3) its successful experiences in CSR could help other SMEs to fulfill it better. Finally, we hoped to answer questions like *Which aspects of CSR could SMEs fulfill*, and *How could SMEs contribute to CSR*.

## **2. Case Background**

Zhejiang Semir Garment Co, is a clothing company which is specialized in virtual management, and regards adult casual wear and children clothing as its leading products. It has been the top 500 in private enterprises in China, has got the reputation of double top in sales and profits in clothing industry during the past 12 years, and now has been one of the superior enterprises in clothing industry in China. It adopted the virtual management and then tried to practice with continuous innovation, focused on product design, brand communications, supply chain management and channel development through the strategy of *Making the long board be longer, and Outsource the short board to others* since it set up. Under the guidance of operation pattern of *Integration and Innovation, Win-win development*, it played different but still important roles in past 16 years, such as manager to plan its channels well, manager to integrate its resources, manager to manipulate its brand, and manager to exercise its culture. At the beginning of formation, It set *Harmonious and Win-win* as its core value, which emphasizes that the enterprise and other stakeholders all wins and the harmonious development among the enterprise, employees and society.

## **3. Research Framework**

In this article, we pointed out that there is two problems for SMEs to take social responsibility, such as consciousness and resources, and then proposed that they need to establish "three in one" solution for corporate social responsibility based on Semir' s successful or failed experiences, which including enterprise culture, industrial clusters, as well as government policy.



**Figure 1 Research Framework**

## Path Analysis

### 1. Enterprises' internal and external shape

#### 1.1 Constructing enterprises culture

As we all know, the establishment of corporate culture is an important basis of the survival and development of enterprises. The good culture could be the corporate spirit, and could guide the enterprise move forward, even determine the goals and development direction. Once established, it would be difficult to change later. Therefore, we can say it is important for enterprises to establish a proper and right corporate culture. Semir pursued the social harmony, and it proposed the concept of creating benefit for the society, and shouldering the responsibility to return society. Under the guidance of this concept, Semir rooted in Wenzhou, and repay the society these years. Semir people believed *if there is water in rivulet, they would fill up the great river* and values of respecting occupational virtues and talents. There are four meanings of their values, including creating values for agents and consumers to shoulder the value responsibility to consumers; creating the profit for corporate to shoulder the financial responsibility to corporate development; creating promotion for employees to shoulder the responsibility to the growth of the employees; creating prosperity for the society to shoulder the social responsibility during the development of corporate. Now, Semir has successfully achieved a sound and rapid developments, and created more than 50,000 occupations for the community.

A typical characteristic is that the the leaders' influence on corporate culture would be stronger in SMEs than the large enterprises, the leaders' quality can determine the corporate cultural themes. We can say, Qiu Guanghe set up the corporate culture for Semir. Before he entered into clothing industry, he had tried come into electric industry, real estate industry and etc, and eventually he focused on the clothing industry. In 1996, he set up Wenzhou Semir, which is the processor of the Zhejiang Semir, then he adopted the virtual management mode, achieved Semir's great-leap-forward development with the help from outside. During this time, he combined his thought and attitude with the development, and then gained acceptance from all employees and the public. In the corporate social responsibility report Semir published in 2012, he promised, "We should try our best to fulfill the social responsibility actively, combine the CSR with the process of the company operation, pursue simultaneous development between enterprise civilization and social civilization. We should combine the corporate economic development with the environmental development, give consideration to both corporate interest and social interest, find ways to realize a healthy and steady relationship for both corporate labors and social labors. Eventually, we try to achieve a harmonious development for both corporate and society."

Qiu Guanghe established a unique corporate culture for Semir, proposed the Win-win concept and the business philosophy of *if there is water in rivulet, they would fill up the great river*. With his effort, We can see a well-known Semir now.

## 1.2 Shaping the brand image

Social responsibility is an important method to measure the corporate and brand competition, especially today, a brand with a strong sense of social responsibility are more vulnerable to consumers' trust. Therefore, while the enterprises establish its corporate culture, it is necessary to pay attention to shaping a good brand image. Actually, Semir suffered from a loss on this aspect. In 2012, Semir published an advertisement with ad words *I can do nothing for global warming, but at least I can be good-looking*. In the picture, a young man is listening to music with a headphones, while the words is placed on a very striking position. Due to disregarding the environmental protection in the ads, once it came out, it attracted a lot of attacks from majority of cybercitizens. A student from China University of Mining and Technology issued an article named *What are you doing, Semir?* in his blog after he saw this ads. In this article, he accused Semir of using environmental issues to attract eyes of consumers under the tough condition, and hoped it could withdraw the ads and apologize to the public immediately. Then, it received tens of thousands of clicks in a very short period of time. Finally, with the masses of condemnation from the public, the ads was deleted, and Semir published an apology. However, its image of lacking sense of social responsibility would still remain in consumers' minds in the short term.

Brand image is a corporate appearance, which directly faces consumers. Whether it good or bad decides the condition of corporate development. Once it is impaired, we need to spend long time in repairing it, even more, it could lead the enterprise to the end.

## 2. Building clusters

Industrial Cluster, refers to a large number of companies which are related to each other or competitive with others and supportive institutions gather at the space so that they can gain a strong and sustainable competitive advantages in specific industry. As is known, Semir is located in Wenzhou, which has formed a regional business culture-- *Ou Yue* culture, which influenced every Wenzhou people in the past hundreds of years. It gathers people lived in Wenzhou, and then help them to contribute to the development of the enterprises and Wenzhou. Now, there has been lot of distinctive industries in Wenzhou, including plastic manufacturing, textile industry, hats manufacturing, electrical machinery and equipment manufacturing, and so on, almost these clusters were formed based on a series of SMEs and family artisanal enterprises, who are small but plenty so that they can gather in space to cooperate with each other and finally build a advantage in scales, technology, and finance and so on.

Semir used its thought to the whole industry, not limited to one area. It not only deal with the complex situations coming from home and abroad by using its continuously advanced strategies, but also pay attention to the development of the whole industry. By the end of 2012, there is a stock crisis in apparel industry, Semir invited journalists to visit its Industrial Park in Shanghai, at the same time, it communicated with them on industrial development to make them have a comprehensive and in-depth knowledge for the industrial condition and announced a voice benefiting to the steady development of the industry.

Wen business men have been gathered by establishing industrial clusters which were based on region, blood, family relationships. With this media, enterprises would be able to take social responsibility. Actually, it obviously is an effective approach to solve problems about lack of resources to take social responsibility in SMEs.

## 4.3 Government supervision

There are two conditions when enterprises take social responsibility, one is they takes it on their own, while the other is they takes it with the urge from outside. Government plays an important role in it. Because business

activities has brought a great damage to environment, people located in one place recent years, the governments regard CSR as one of the most important indicators they need to supervise. With the economic developments and more and more prominent issues, it has been increasingly more and more important.

In February 2008, Zhejiang province government published a document named the *several Suggestions of Pressing Enterprises fulfill Social Responsibility actively*, which is the first document which published by provincial government and aimed to help enterprises to take CSR. In this document, it emphasized the governments need to guide companies do well in credit management, resource conservation, environmental protection, and charity career. At the same time, the institution served to CSR construction set up in Zhejiang.

In August 2008, Wenzhou People's Government Office issued an announcement named *the Practical Views of Deepening the Reform in Wenzhou in 2008*. The ninth in this document talked about that we need to set up the private corporate social responsibility mechanisms, launch a pilot project of it. Strengthen private corporate duties and obligations in taxes, safety, product quality, employment and other aspects, explore to establish a private corporate social responsibility assessment mechanism and the mechanism of rewards and punishments.

On December 28, 2012, the Commission, SASAC, CSRC, and CBRC held the corporate social responsibility report conference in Zhejiang Province, which could be the first provincial social responsibility report publishing platform.

With the effort of governments these years, Wen business men has made outstanding progress in implementing social responsibility, now they has been known by more and more people. Until the end of 2012, enterprises in Zhejiang province had published 96 CSR reports in 2011 totally.

## **Implication**

Problems of SMEs in social responsibility is focused on lack of awareness and resources. The former refers to entrepreneurship in SMEs. As for the corporate resources, include money, relationship network and so on. In order to resolve these problems, not only the entrepreneurs need to promote their quality, but also do governments help to provide a good environment.

### **1. The consciousness to take CSR**

The corporate consciousness is mainly reflected in the corporate culture. As for SMEs, their culture is almost founded by the entrepreneurs, who have an profound influence on the corporate. Therefore, in order to establish the concept of social responsibility in the enterprise, we need to pay much attention to the promotion of entrepreneurs basically.

Entrepreneurs need to have a right awareness and understanding to corporate culture, they need to know advanced culture and turn it be their own. Also they can tell employees what is the corporate culture through stories so that they could earn a lot of supporters to their culture. Besides, they can encourage employees by letting themselves become the examples or finding other examples among employees in the companies. All of these can help build the corporate culture among the whole employees.

### **2. Establishing clusters on CSR**

SMEs belong to regional industries basically, their small scale, deficient funds, and invisible performance in short term make it difficult to fulfill social responsibility. Therefore, we proposed they can be gathered based the initial industrial clusters, and coordinate with others on CSR to solve the problems of insufficient resources.

Commercial federation, as an important carrier to connect enterprises, plays an important role in social development. We can establish it based on region, industry or other characteristics to combine SMEs who have same attributes so that they can work together for local social responsibility.

### 3. Exerting the government's functions

The government could exert its functions on CSR by regulating and guiding SMEs.

In terms of policy, the government need to promote the legal systems by involving social responsibility into corporate appraisal to guide them to take CSR. As for environmental protection, the government could propagate social values with various channel to create a good condition for people to focus on social responsibility. Also, they can establish a a social credit system, help to turn social responsibility concept into social responsibility behaviors. Eventually, we can promote both ability to make profit and the ability to take social responsibility.

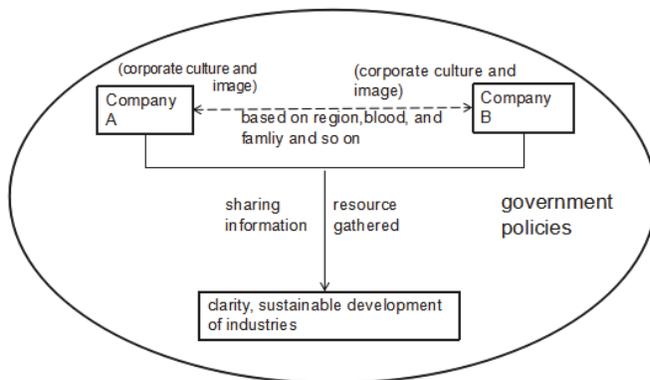


Figure 2 the Platform for CSR in SMEs in China

### Limitation and Research Direction

We proposed the mode based on summarizing Semir's successful and failed experiences, which can be a good guidance for SMEs on CSR. However, because we only focused on one case, there are a bit of deficiencies on adaptation and generalization. Therefore, we suggested that enterprises should combine the results with their own condition when they practice in market. In further studies, we can choose multiple cases, or quantitative analysis to get more specific and adaptive conclusions.

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## *Using the UTAUT Model to explain the adoption of Mobile Money Usage by MSMEs' Customers in Uganda*

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### **Abstract**

*Technology advancement has always been part of organizational efficiency and organizations take investment in technology as part and parcel of their annual plans. The increase in mobile telephone penetration in the emerging economies has presented new frontiers for technology to enhance Micro Small and Medium Enterprises' (MSMEs) operations. Combining technological advancement in mobile connectivity with the low coverage of financial institutions/ services, has given rise to the phenomenon of mobile money which has in a way affected the MSMEs both positively and negatively. This paper uses both Meta-analysis and primary data to test to try and determine the extent to which the Unified theory of acceptance and use of technology (Venkatesh et al. 2003) can be used to explain the adoption of Mobile money services by the customers of Micro, small and medium enterprises in Uganda.*

**Key words:** Unified Theory of acceptance and use of technology (UTAUT), Mobile Money, Uganda, Micro Small Medium Enterprises (MSMEs).

### **Introduction**

Technological connectivity positively influences a number of Business activities for business (Statistics New Zealand 2013). A number of technological connectivity advances have been achieved globally but none has had a bigger impact than the mobile phone connectivity in the developing world (World Economic Forum 2015). The increasing number of mobile phones in the developing world and the potential of the mobile platform to address business challenges present a lot of enthusiasm and opportunities for Micro, Small and Medium enterprises.

The mobile phone revolution has traversed different spheres of life in the developing world including Commerce, health and education (Malhotra, A. Kanesathasan, A & Payal P 2012). From the context of a small business, Mobile connectivity through mobile money can be used to facilitate money transfers, trading, as well as payments including salaries (UNCTAD 2012). The evolution of mobile money is a result of the convergence of mobile technology and financial services to address a challenge of accessible banking services (AfDB 2013) and this has transformed economic activity and risk management by Small and Medium Enterprises. This is complemented by the migration of the working individuals from rural to urban areas or from their home areas to the areas that working opportunities are available (Egbuta 2013) with a desire to maintain family ties in the African context. Previous money remittance avenues such as courier companies, use of buses or family and friends travelling to such rural areas have been replaced by mobile money services which are more reliable and less prone to risks.

Micro, Small and Medium Enterprises (MSMEs) have been defined in different ways from one region and country to another. What can be noticed clearly is that most definitions are based on factors such as number of employees, annual turnover and asset values (Kayanula and Quartey, 2000). According to Ayyagari, Beck and Demirgüç-Kunt (2005), the World Bank defines MSMEs as those enterprises having a maximum of 300 employees, generating a maximum of US\$ 15 Million as annual turnover and having a maximum of US\$ 15 million in value of Assets. The OECD, MSME and Entrepreneurship Outlook (2005) defines MSMEs as non-subsidary, independent firms which employ fewer than a given number of employees varying across countries but the most frequent upper limit being 250 employees within the European Union. In the African context, the African Development Bank (ADB) defines MSMEs as enterprises with not more than 50 employees (Tom and Van der Vaart, 2008). In Uganda, MSMEs are classified distinctively between small and medium enterprises. Small enterprises are defined as those

employing a maximum of 50 individuals, with working capital of less than Uganda Shillings (UGX) 50 Million and turnover not exceeding Uganda Shillings (UGX) 50 Million per annum. Medium sized enterprises are those employing between 50 and 100 employees (Kasekende and Opondo, 2003). One can then conclude that MSMEs in Uganda are those with a maximum of 100 employees.

Across the world, MSMEs form a vital part of many countries' economies (Peter and Naicker, 2013) in terms of contribution to Gross Domestic Product (GDP), as a source of employment as well as a source of livelihood for citizens of these countries and as engines of economic development. According to Ayyagari, Demirgüç-Kunt, and Maksimovic (2011), it is estimated that nearly 95% of all firms worldwide are MSMEs and their total contribution to employment is at around 60% of private sector employment. France, Germany and Japan had the highest proportion of MSMEs among the developed countries at a rate of over 99% by the year 2007 (EIU (2010). On the side of developing countries, MSMEs have still been the major contributors to their economies with 75% of all businesses being in the category of MSMEs in Kenya (Government of Kenya, 2009) while in Uganda, MSMEs contribute up to 70% to the National GDP (Obanda, 2011).

## Background

### 1. Mobile Money Usage

Mobile money is a term loosely used to refer to platform that allows money to be stored and transacted using the SIM (Subscriber Identity Module) as the key identifier rather than the common use of an account number with a financial institution (Ndiwalana, Morawczynski, & Popov, 2010). According to IFC (2011) report, Mobile money refers to the use of mobile phones to perform financial and banking functions. Mobile money services were introduced in Uganda by Mobile Telephone Network (MTN) in 2009 following the success story of the same service in Kenya two year earlier. In a press release from MTN, by October 2015, the company estimated the number of mobile money transactions per month at 40 Million with a total value of UGX 1.8 trillion. According to Bank of Uganda, by June 2014, the number of registered Mobile money users (Just over 17,600,000) was more than three times that of the known account holders (5,587,251) with financial institutions supervised by the same bank (The Monitor 2014). According to Uganda Communication Commission, the growing popularity of Mobile money services has seen the number of registered mobile users rise from 5.7 million in 2011/12 to 12.1 million in 2012/13 up to the most recent record of 17.6 million in 2013/14 reflecting an average growth of 78% per annum. By end of December 2014, there were a total of 18.8 million mobile money registered users (Bank of Uganda 2015) representing a growth rate of 32.4% in comparison with the previous year. In comparison with the year ending December 2015, a total of 21.1 million users had been registered. Below is a table showing the growth of Mobile money services in the country.

TABLE 1: GROWTH OF MOBILE MONEY TRANSACTIONS AND CUSTOMERS

Year	Number of transactions	Number of registered customers
December 2010	28,816,000	1,683,713
December 2011	87,481,000	2,879,968
December 2012	241,728,000	8,870,873
December 2013	399,461,000	14,243,379
December 2014	496,249,000	18,800,416
December 2015	693,000,000*	21,100,000*

\*Estimated Figures

Source: Bank of Uganda

Indicated below is a graph showing the growth trend in the number of registered Mobile money users from the year mobile money services were introduced in the country to the most recent available data.

FIG. 1: GROWTH OF MOBILE MONEY REGISTERED CUSTOMERS

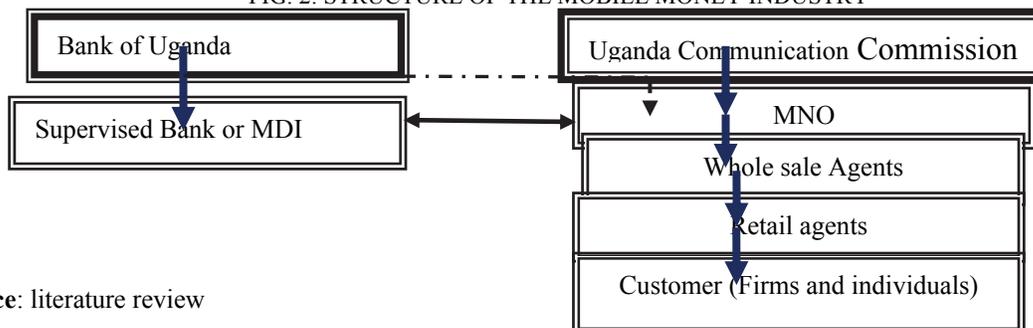


Source: Bank of Uganda

## 2. Mobile Money industry Infrastructure in Uganda

The current infrastructure for Mobile money services has the Mobile Network Operator (MNOs) as the driving force in charge of both the design as well as instituting safeguards to ensure the safety of the user's funds. At the moment, the financial institutions regulator indirectly supervises the operations of the MNOs through the requirement for all operators to partner with a financial institution (Bank or Micro Deposit taking Institution (MDI)) or under its supervision for purposes of securing the funds associated with mobile money settlement services. This is the approach similar to the one adopted in Kenya with a view of promoting growth of the industry and innovation. As a way of creating clarity, the central bank has issued mobile money guidelines referred to as Bank of Uganda Mobile money guidelines 2013. Other than the Central Bank, the general operations of the MNOs are supervised by the Uganda Communication Commission which issues licences for the continued operations of the MNOs upon satisfaction of the minimum requirements. As far as mobile money services are concerned, the MNO delivers services to the final customers through a chain of wholesale and retail agents.

FIG. 2: STRUCTURE OF THE MOBILE MONEY INDUSTRY



Source: literature review

### 3. Mobile Service Business Models and Services Offered in Uganda.

Mobile Money business in the country is dependent on all the actors in the structure. The MNO provides the platform for mobile money transactions to take place as well as contracting the network of agents both wholesale and retail. The bank controls the settlement accounts held by the various agents to ensure that the liquidity or cash flows are balanced in such a way that the liability of each agent does not exceed the amount on their accounts. The Wholesale agents act as intermediaries to the retail agents by accepting deposits from them and releasing virtual money on their settlement accounts. The retail agents are the primary contacts for the final consumers of the mobile money services. In terms of services, Mobile money provides a number of services including: Person to Person (P2P) transfers, Person to Business (P2B), Business/ Government to Person (B/G2P), Business to Business (B2B), Mobile Banking and International transfers. These services according to Gencer (2011) can be broadly classified into three: Mobile payments, Mobile banking and Mobile finance.

FIG. 3: MOBILE MONEY SERVICES BY CATEGORIZATION



Mobile payments include the various models of payments such as: P2P which is person to person transfers involving one person transferring virtual money to another person both domestically as well as internationally (Gencer 2011). This is the most common use of mobile money services within the country among the customers, according to the primary data obtained from interviewed users. The most common use being the sending and receiving of money to and from friends and family.

P2B/G is the Person to Business or Government, this involves an individual making payments to a business or Government. Within the country, a number of Business have through a partnership with the MNOs provided such an avenue for payments to be effected using mobile money. This payment form is common among utility providers, educational institutions and other merchants including retailers of goods or consumables. On the side of Person to Government, individuals can make payments to settle their tax and non-tax obligations to the state.

B/G2P is where it's either a business or the government effecting mobile money payment to a person. This takes the form of payment of salaries and/or allowances to an individual and in the case of Government, it has been implemented in payment of social benefits to the elderly.

B2B is for payment for goods and services between firms.

### 4. Mobile Finance

Products based on Mobile money have been developed by mainly Micro finance institutions to offer credit facilities to mobile money registered customers. Under credit, loans are disbursed and recoveries effected through Mobile money. The credit products normally move together with savings although savings can be another independent product of mobile money where a customer has an electronic wallet. As part of Mobile finance, MNO have partnered with Insurance companies provide insurance services to their registered customers who may not be on the mainstream insurance schemes.

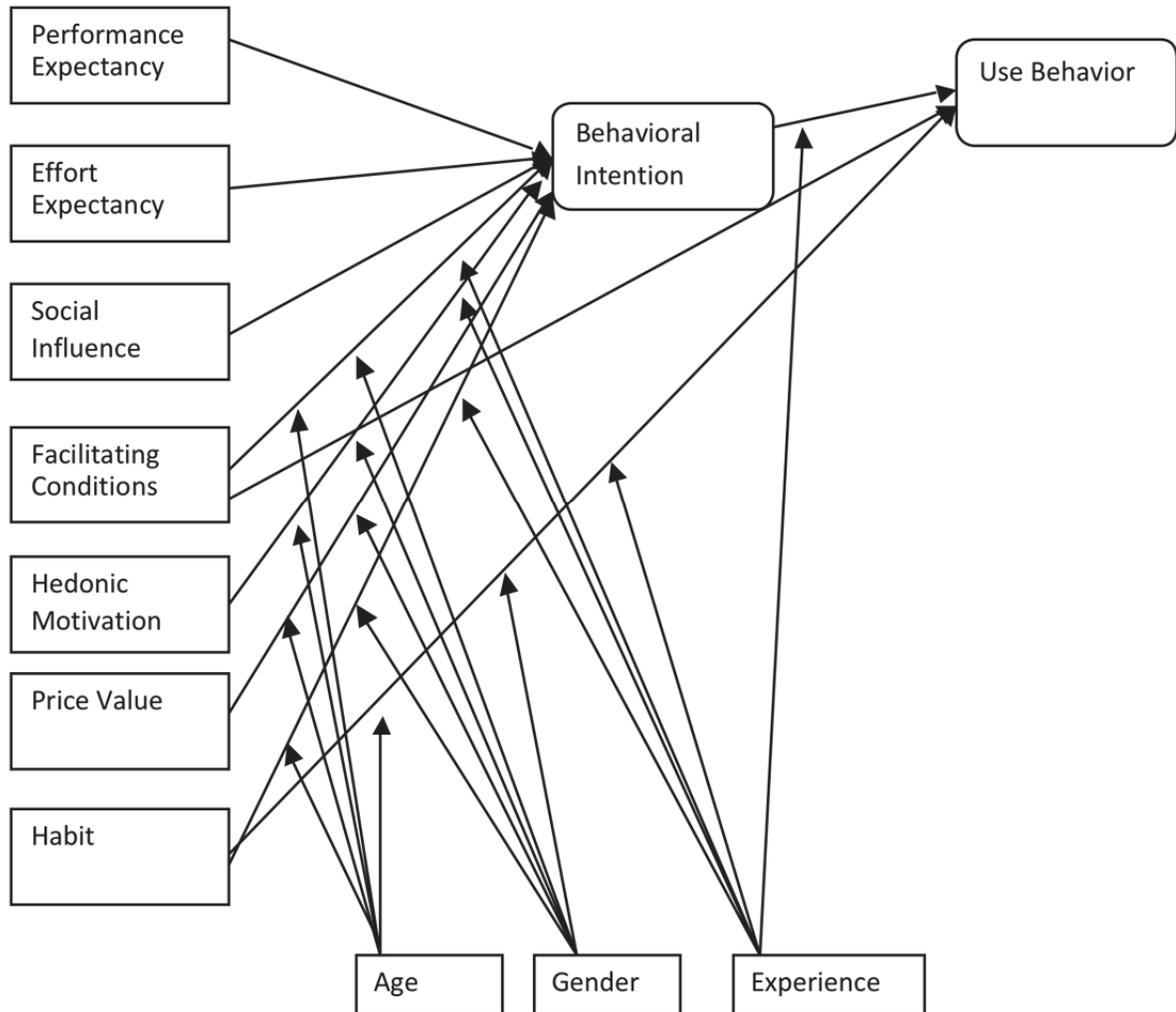
## **5. Mobile banking**

MNOs in Uganda, through partnerships with mainstream financial institutions, offer Mobile banking services to their customers (Lwanga & Adong 2016). The mobile banking services include taking deposits and withdrawal of cash either using the ATM or through mobile money agents as well as provision of an easy access to a registered customer to access information about their bank account transactions. Beyond these, the arrangement also allows payments to be effected by a customer using their mobile handset.

### **Theoretical background**

Explaining the acceptability and use of technology by different individuals has been a subject of debate among researchers with different models to explain this being fronted (Benbasat and Barki 2007). One of such models is the Unified Theory of Acceptance and Use of Technology (UTAUT) according to Venkatesh et al. (2003). This model is based on four important constructs of Performance expectancy, Effort expectancy, social influence and facilitating conditions being the direct determinant of the behavioral intention of the eventual technology user. Other than these four constructs, the relationship is moderated by individual differences in terms of Gender, Age, Experience and Voluntariness (Venkatesh et al. 2003). Upon review of UTAUT, Venkatesh et al. (2012) dropped voluntariness as one of the moderating variables leaving only three constructs but also introduced three additional direct constructs as Hedonic motivation, Price value and habit in what they called UTAUT2. The theoretical backbone of this paper is the second model as extended in 2012.

FIG. 4: UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT) 2



Source: Venkatesh Et Al., 2012

According to Venkatesh et al (2012), from the above model, Performance expectancy is defined as the degree to which using technology will provide benefits to the users; Effort expectancy is the degree of ease associated with the use of technology to the user; Social influence is the extent to which the user perceives those who are important to him or her believe they should use the technology; Facilitating conditions refers to the user's perception of the resources and support systems available to use the technology. In the extended version, Hedonic motivation is the pleasure derived from use of the technology; Price value is the cost and pricing structure associated with the use of the technology; Habit is the extent to which people tend to perform behaviors automatically because of learning. In the model, facilitating conditions, habit and behavioral intention determine the actual technology use while the remaining constructs influence behavioral intention.

## **Methodology**

### **1. Data collection**

In undertaking this study, meta-analysis (DeCoster 2004) was adopted for secondary data collection and in the review of literature in support of the study. Data from differing sources was obtained, analyzed and reported in line with the Meta analysis principles. In addition to the Meta analysis, primary data was obtained from a sample of 400 mobile money registered customers using mobile money for transaction purposes. A purposive sample of the 400 customers registered customers were targeted using survey questionnaires with emphasis being on using mobile money for transaction purposes. Out of these, 354 customers were successfully reached and upon review and cleaning of the returned questionnaires, for completeness and integrity, a total of 321 responses were found to be appropriate for further analysis and indeed were analyzed.

### **2. Data analysis**

The key variables (constructs) in the study were coded as Performance Expectation (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), Habit (HA), Behavioral Intention (BI) and Use Behavior (UB). Partial least Squares (PLS) was used to test the model in line with the original UTAUT studies (Venkatesh et al) due to the numerous interaction that needed to be tested. Building onto this, factor loadings, composite reliability and Average variance extracted (AVE) were the basis for determination of convergent validities and the discriminant validity was assessed by using the square roots of AVE in comparison with the correlations between constructs (Yu 2012). Internal consistency reliability (ICR) was the basis for measurement of reliability in line with Venkatesh and Zhang (2010).

## **Results**

The output from the factor loading for the final factors and ICR were as per the table below

Tables from 2 to 4 indicate the results of the survey. Table 2 shows the factor loading for the constructs where all the factors that made up the final loading had in excess of 0.7 which indicate adequate reliability and convergent validity (Lee et al 2009). It's important to note that factors that reported less than 0.7 were eliminated on the reliability grounds. In line with the above, figures in table 3 indicate that all composite reliabilities were in excess of the threshold of 0.6 just like all Ave values were in excess of 0.5. These all supported reliability and convergent validity of the constructs. The same table also shows the ICRs where the minimum returned was 0.730 which is also above the threshold of 0.7 as additional support to the reliability.

TABLE 2: FACTOR LOADINGS FOR THE CONSTRUCTS

		Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor6	Factor6
Performance Expectancy	PE1	0.807							
	PE2	0.741							
	PE3	0.770							
	PE4	0.719							
Effort Expectancy	EE1		0.870						
	EE2		0.865						
	EE4		0.915						
Social Influence	SI1			0.892					
	SI2			0.946					
	SI3			0.834					
Facilitating Conditions	FC1				0.810				
	FC2				0.786				
	FC3				0.842				
	FC4				0.804				
Hedonic Motivation	HM1					0.738			
	HM2					0.829			
	HM3					0.762			
Price value	PV1						0.706		
	PV2						0.728		
	PV4						0.747		
Habit	HA1							0.789	
	HA2							0.734	
	HA3							0.745	
	HA4							0.773	
Behavioral Intention	B11								0.783
	B12								0.801
	B13								0.849

TABLE 3: ICR, COMPOSITE RELIABILITY AND AVE

Construct	ICR	Composite Reliability	AVE
Performance Expectancy (PE)	0.772	0.724	0.628
Effort Expectancy (EE)	0.902	0.866	0.740
Social Influence (SI)	0.848	0.742	0.698
Facilitating Conditions (FC)	0.756	0.827	0.625
Hedonic Motivation (HM)	0.730	0.655	0.612
Price Value (PV)	0.867	0.894	0.746
Habit (HA)	0.782	0.862	0.782
Behavioral Intention (BI)	0.864	0.830	0.645

TABLE 4: DESCRIPTIVE STATISTICS, CORRELATIONS AND SQUARE ROOTS OF AVE

	Mean	SD	PE	EE	SI	FC	HM	PV	HA	BI	UB
PE	4.34	0.32	<b>0.792</b>								
EE	4.06	0.68	0.355**	<b>0.860</b>							
SI	4.60	0.36	0.425**	0.365**	<b>0.835</b>						
FC	4.15	0.56	0.340**	0.550**	0.325*	<b>0.791</b>					
HM	3.89	0.89	0.335*	0.395*	0.235**	0.315**	<b>0.782</b>				
PV	4.01	0.62	0.265**	0.350**	0.225**	0.350**	0.405**	<b>0.864</b>			
HA	3.99	0.86	0.375**	0.485**	0.302*	0.465**	0.405**	0.465*	<b>0.884</b>		
BI	3.72	1.02	0.330**	0.235**	0.520*	0.250*	0.07	0.175**	0.315*	<b>0.803</b>	
UB	3.06	0.98	0.250**	0.190**	0.205*	0.265**	0.250**	0.325**	0.300**	0.585*	<b>NA</b>

\*p<0.05; \*\*p<0.01

Table 4 with descriptive statistics, correlation and square roots of AVE helps to assess discriminant validity. In the table, the second and third columns are for descriptive statistics, then following the diagonal figures are square roots of AVE and off-diagonal figures are correlations between constructs. From the table, the diagonal figures were in all cases greater than the off diagonal figures in the corresponding rows and columns which means that discriminant validity was supported.

In terms of relationships, the results indicated a relatively strong relationship between the independent constructs and behavioral intentions with R being 0.792 while behavioral intention with the other two direct constructs of Facilitating conditions and habit were related with behavioral use, with R of 0.833 which also signifies a strong relationship.

In terms of explaining the change in one variable due to change in another, the combined constructs explained a change in Behavioral intention of  $R^2$  of 0.628 which means that they accounted for 0.628 of the change in behavioral intentions. Likewise Behavioral intentions with the other direct constructs accounted for a total of 0.694 of the change in Behavioral use.

Individually, Social influence ( $R=0.632$ ) had the most significant effect on the mobile money usage by customers of firms in the country followed by habit (0.386) and facilitating conditions. This seems to be in agreement with some studies conducted in other countries (Sripalawat et al 2011) but at the same time in disagreement with Nassuoro (2012) whose conclusion were that Facilitating conditions did not affect behavioral intention.

## Conclusion

Technological advancement brings with it new way of completing different transactions and one those has been the advent of mobile money in the developing world. The ease with which this technology has been adopted by different user for business transaction purposes in away impacted on the customer base of MSMEs across different countries. The explanation for this adoption cannot be attributed to only the wide spread availability of mobile phone devices since mobile money services are not equally popular in countries with higher penetration of mobile phones. The study used UTAUT model to explain the adoption and usage of mobile money services by customers of that MSMEs in the country and a clear linkage was found in some of the constructs affect behavioral intention such as social influence, Habit and Facilitating conditions. On the other hand price value, Effort expectancy and hedonic motivation were found to be of the least significance.

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## *Factors Influencing the Use of HRIS: Case Study from SMEs in Vietnam*

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### **Abstract**

*This research is a pilot study with aim to explore which factors influencing the use of HRIS in Vietnamese SMEs. In order to accomplish the purpose of the study, a conceptual model is conducted based on literature review on the IT innovation adoption process and HRIS adoption in particular. Technology Acceptance Model (TAM) is used in measuring the user acceptance perception of HRIS Usage in post-adoption stage. Organizational characteristics are grouped in feasibility study dimensions represented for factors influencing the proposal for adoption stage and adoption-decision stage in HRIS adoption. The survey has collected 73 responses from SMEs in Vietnam. Statistical tests are used to measure the difference and association of Organizational factors in user acceptance of HRIS. All of the hypotheses are accepted and suggestions are focus on HRIS-suppliers' activities and internal management activities to improve the collaboration effectiveness and to increase the capability to successful adoption of HRIS in Vietnam's context.*

**Keywords:** HRIS, organizational innovation adoption, SMEs, Vietnam

### **Introduction**

Vietnam is a developing country with the growing GDP rate rather high although there were impacts of financial crisis over the world and its internal weaknesses believed by the country policies on economic growth strategy.

The trend of SMEs sector in Vietnam (Runckel, 2011) is increasing from 2000 to 2010, which described by the following figure. Nguyen et al. (2008) figured out the important of SMEs sector in Vietnam economic as indicated by the high share of total firms over ninety percent and approximately thirty-five percent share of total labor forces. The main purpose of this research is to explore "which factors influencing the using of HRIS in Vietnam's context". Therefore, the research will identify factors by conducting literature review on the technology innovation adoption specified in HRIS and build a conceptual framework.

In addition, it is required to clarify the relationship among factors influencing HRIS using and recommend on the effective acquisitions, implementations and use of HRIS in enterprises. Therefore, the following purposes will be answered:

- To explore the relationship between Organizational structure (including firm size, type and financial condition) and the perception of using HRIS by SMEs in Vietnam;

- To explore the importance of IT infrastructure as the enablers of adopting HRIS by SMEs in Vietnam;
- To examine the TAM model to measure the attitude toward the use of HRIS by SMEs in Vietnam;
- To investigate the top management support influence on successful adoption of HRIS by SMEs in Vietnam;
- To examine the employee experience with computer in using HRIS by SMEs in Vietnam.

This research is important due to the following reasons:

- HRIS is an important IT technology innovation especially in Vietnam's context, the using of HRIS in Vietnamese SMEs is expected to increase sustainable business performance;
- Although the majority of HRIS research studies are restricted to the experience of developed countries such as the United States and the United Kingdom, HRIS research studies are at the entrance stage in Vietnam's context;
- This research attempts to articulate the differences in the determinants of the adoption of HRIS (in the proposal for adoption stage of IT innovation adoption process) and arrange factors influencing in feasibility study dimensions.

To achieve the main objectives, this research aims to answer the following questions:

- Research Question 1: What are the effects of internal environment factors such as organizational readiness and technology readiness on the perception of intention to use HRIS?
- Research Question 2: What are the impact of HRIS perceived ease of use and perceived usefulness toward HRIS adoption?
- Research Question 3: What are the impact of top management support and employee experience in computer on the implementation and the use of HRIS?

## **Literature Review and Hypotheses**

HRIS can be considered as an IT innovation technology especially in Vietnam's context. Al-Dmour et al. (2013) stated that most of HRIS adoption studies use factors identified from the organizational innovation adoption. Chakraborty and Mansor (2013) while doing a theoretical analysis based on secondary data suggested that the research of HRIS adoption should be based on organizational, technological, environmental factors that related to innovation adoption theory. Therefore, in research propositions section, we concentrate on the innovation technology adoption theories, IT innovation adoption process, and factors influencing on this process particularly in HRIS research field.

Literature showed that Diffusion of Innovation (DOI) (Rogers, 1983) theory and Technology Organization and Environment (TOE) model (Tornatzky and Fleischer, 1990) were widely used in organizational analysis level while Technology Acceptance Model (TAM) (Davis, 1989), Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991) were utilized mainly for individual analysis level in IT innovation adoption studies (Hameed et al., 2012).

### **1. Technology Acceptance Model**

Technology Acceptance Model (TAM) is used intensively in accessing the acceptance and use of technology. Davis (1989) introduced TAM and many researchers have been using TAM or adapting TAM since then. Venkatesh and Davis (2000) refined the model which is known as TAM2. Venkatesh and Bala (2008) introduced TAM3. Figure 1 illustrated TAM model.

Kundu and Kadian (2012) discussed the relationship of IT related (computer system engineering and computer science) disciplines and social sciences related (psychology, anthropology and sociology) disciplines with information system. Then, they proposed a model of user acceptance of IT in HRIS by applying TAM with thought about acceptance of IT enabled financial IS, acceptance of IT enabled marketing IS and acceptance of IT enabled other IS. Hameed et al. (2012) also suggested TRA, TAM and TPB could be utilized to evaluate user acceptance of IT at the post-adoption stages of adoption process.

## **2. Framework for organizational innovation adoption**

Tornatzky and Fleischer (1990) presented 'TOE framework' for technological innovation decisions with factors from technological, organizational and environmental perspectives. This model becomes a useful approach for researchers and practitioners to attempt to identify various factors as potential determinants of IT adoption. Chakraborty and Mansor (2013) suggested a three-set-of factors Organizational, Technological, Environmental- affect the adoption of HRIS in a theoretical analysis. They reviewed research studies and suggested Organizational factors containing high level of centralization, organization size, skilled workforce, balance between technical and critical information needs, top management support, CEOs attitude and interest towards information and communication technology (ICT), employee engagement, HRIS expertise (employees knowledge and technical competence in HRIS), degree of centralization and training at all user level. Technological factors included IT expertise skills and knowledge, technology infrastructure, technological readiness, organization fit, adoption cost, complexity or user friendliness, and efficiency. Environmental factors contain government policies (by raising awareness, training and support and funding), geographical, competition, technology development, HRM state of art, labor market, societal developments and government regulation, institutional and cultural host-country environment.

## **3. Conceptual model for the process of IT innovation adoption**

Hameed et al. (2012) developed a conceptual model for IT adoption process in organizations with the aim to integrate the innovation adoption theories (DOI, TRA, TAM, TPB) and framework for organizational innovation adoption (TOE) by reviewing 151 relevant published studies on IT adoption. They claimed that the process of adoption of innovation has been categorized as a stage-based process with three stages, which has been widely recognized: initiation or pre-adoption, adoption-decision and implementation or post-adoption in the IS literature. Factors have affected on these stages include innovation, organizational, environmental, chief executive officer (CEO) and user acceptance characteristics. Figure 1 illustrated their conceptual model.

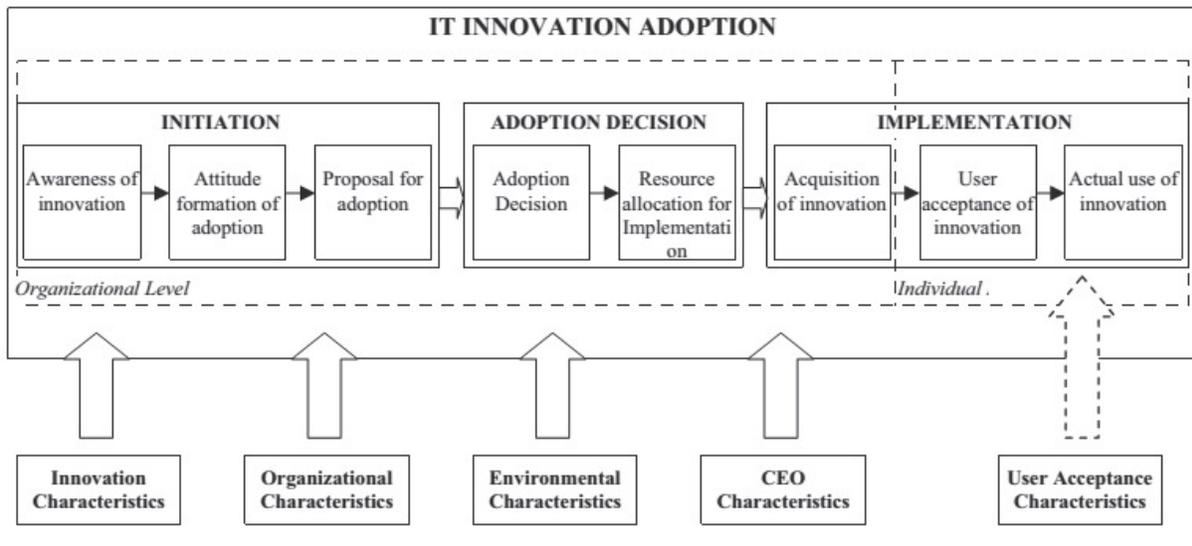


Figure 1: IT Innovation Adoption Process (source: Hameed et al., 2012)

#### 4. HRIS-Trust

Nguyen, Siengthai, and Page (2013) argued that HRIS-Trust is the important pivotal determinants to help managers make decisions to apply HRIS. According to the research, HRIS-suppliers and their customers need to have a clear understanding and definition of appropriate terminology of HRIS-Trust to achieve sustainable HRM performance. Nguyen et al. (2013) defined that HRIS-Trust is the assessment of users (trustors) on HRIS based on user expectation, confidence, predictability, and motivation on the system ability, integrity, benevolence, and reliability. This approach helped to understand the role of Trust in interaction between HRIS-suppliers and HRIS-customers which results suggested to focus on triggers by providing solutions to reduce potential barriers and concerns in HRIS Usage.

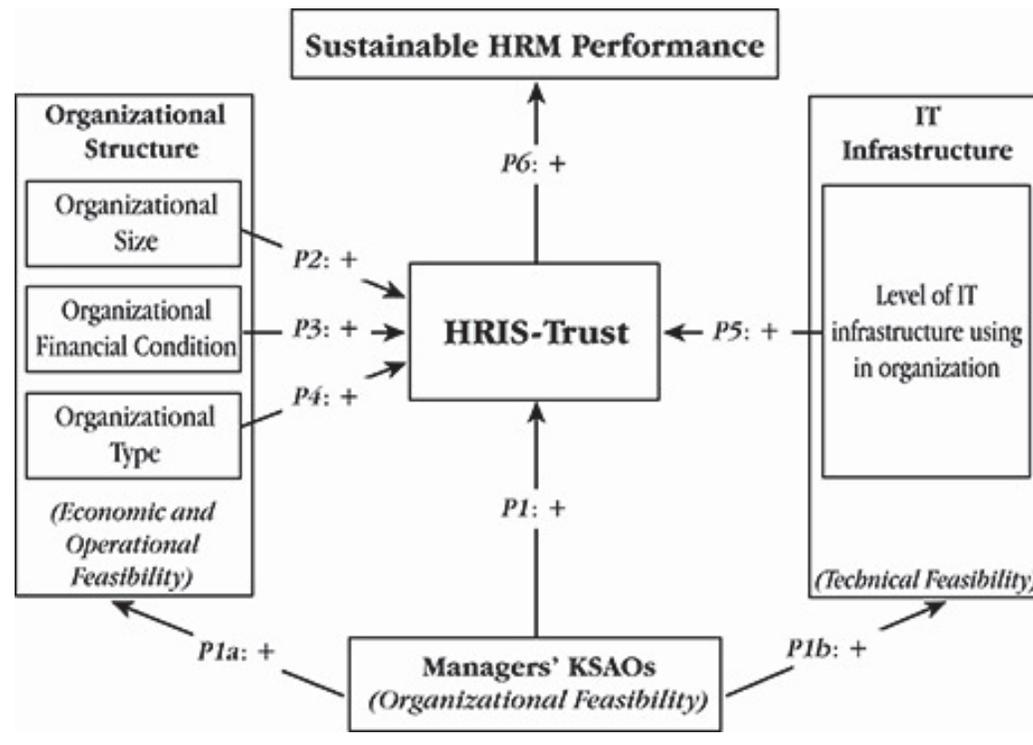


Figure 2: Model of HRIS-Trust (Nguyen, Siengthai, and Page, 2013)

## 5. A practical model of factors influencing the successful adoption of HRIS

Al-Mobaideen, Allahawiah and Basoni (2013) argued that the successful adoption of HRIS is impacted by perceived ease of use, perceived usefulness, top management support, IT infrastructure and individual experience with computer. Their model is based on the concept of Technology Acceptance Model (TAM), which is very popular in research of adopting a new technology into an enterprise (Davis, Bagozzi and Warshaw, 1989).

In this pilot study scope, we construct a model by applying Hameed et al. (2012) conceptual model for the process of IT innovation adoption. We concentrate on the factors influencing the proposal for adoption stage (pre-adoption) and adoption decision stage -which mainly withdraw from the Organizational Characteristics and post-adoption stage - which is mainly withdrawn from the User Acceptance Characteristics. The factors collected from previous studies and organized in feasibility aspects in a proposal for adoption. There are four aspects of a feasibility study in a general System Development Life Cycle (SDLC) that is known in literature: Organizational, Economical, Technological and Operational Feasibility.

The research model will focus on exploring the effect of Operational Feasibility (Organizational Size, Organizational Type) and Economical Feasibility (Organizational Financial Condition), Technological Feasibility (IT Infrastructure), Organizational Feasibility (Top Management Support, Employee Experience with computer) on the using of HRIS. Besides, two factors from TAM model named Perceived Ease of Use and Perceived Usefulness are added to the construction model to measure their impact on the adoption of new technology like HRIS in organizations in Vietnam's context.

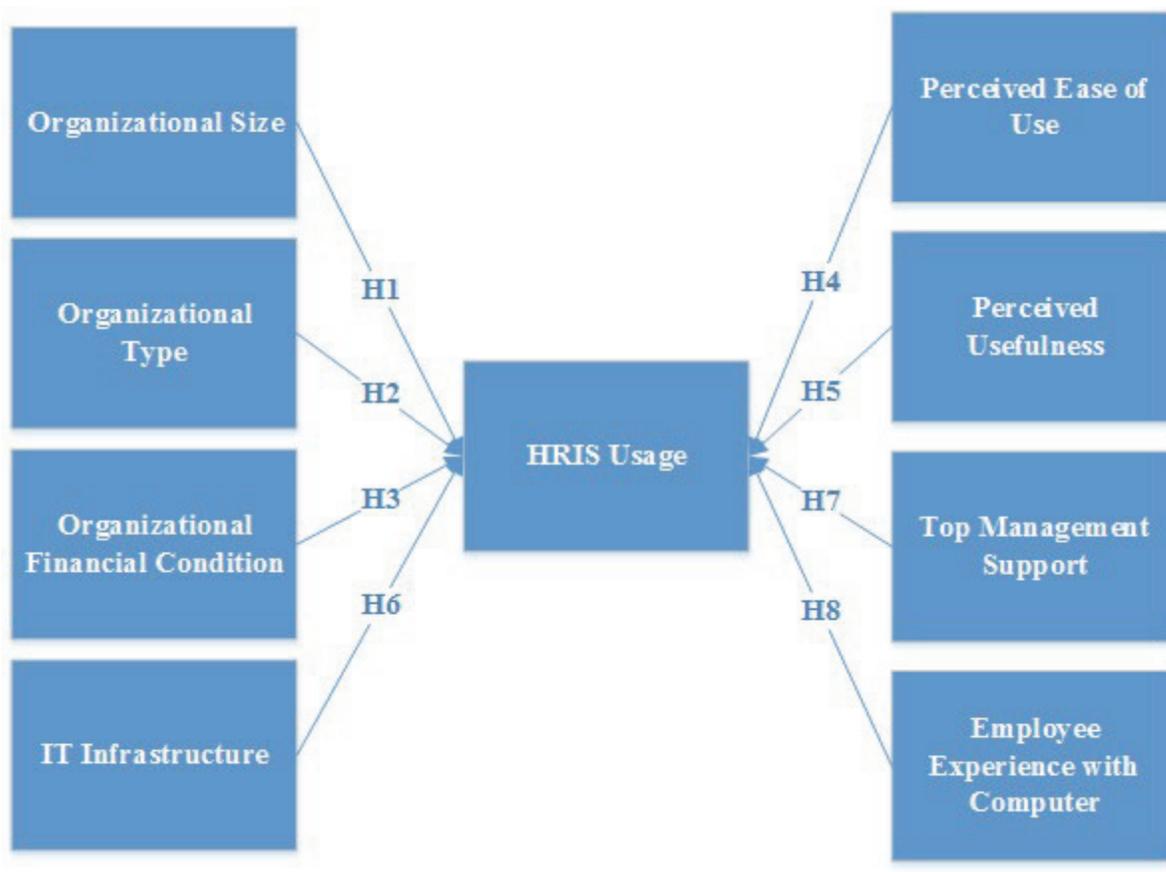


Figure 3: Conceptual Framework of factors influencing the use of HRIS

There are 8 hypotheses will be tested in the research to explore the 4 feasibility factors and TAM model on the using HRIS technology innovation listed below (see Figure 3 for the visualization):

- H1: Organizational size has significant impact on the use of HRIS
- H2: Organizational type has significant impact on the use of HRIS
- H3: Organizational financial condition has significant impact on the use of HRIS
- H4: Perceived ease of use has significant impact on the use of HRIS
- H5: Perceived usefulness has significant impact on the use of HRIS
- H6: IT infrastructure has significant impact on the use of HRIS
- H7: Top management support has significant impact on the successful HRIS adoption
- H8: Employee computer experience has significant impact on the successful HRIS adoption

### Research Methodology

The following list shows the definition of key concepts in the Conceptual Framework using for this research:

- Perceived Ease of Use (PEOU) is defined as "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989);
- Perceived Usefulness (PU) is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989);
- Attitude towards usage (ATU) refers to the degree to which an individual evaluates and associates the target system with his or her job (Davis, 1993);
- Behavioral intention to use (BIU), according to Fishbein and Ajzen (1975), "is driven by one's intention to perform a behavior which is determined by the person's attitude and subjective norms regarding the behavior" (cited in Hameed et al., 2012).

Brooke (1996) introduced the System Usability Scale (SUS) with 10-item- attitude Likert scale which has been widely used for measuring the usability of products and services, including hardware, software, mobile devices, websites and applications (cited in Lewis and Sauro, 2009). In this research, the SUS scale will be used for measuring the Perception of Ease-Of-Use. Sauro (2011) suggested instrument for measuring Perception of Usefulness. Ronnie et al. (2011) suggested user acceptance of IT based on TAM to measure Attitude towards usage (ATU) and Behavioral intention to use (BIU) of the system.

<b>Construct</b>	<b>Author</b>	<b>Measurement</b>
Organizational Size	Teo et al. (2007)	Demographic
Organizational Type	Author's construct	Demographic
Organizational Financial Condition	Nguyen (2013)	Likert scale
Perceived Ease of Use	Brooke (1996), Lewis and Sauro (2009)	Likert scale
Perceived Usefulness	Sauro (2011)	Likert scale
IT Infrastructure	Weill, Subramani and Broadbent (2002)	Likert scale
Top Management Support	Ngai and Wat (2006)	Likert scale
Employee Experience with Computer	Author's construct	Likert scale
HRIS Usage	Ronnie, Christopher and Eugenia (2011)	Likert scale

Table 1: Measurements of the variables and indicators

## **1. Research Population**

There are approximately 400,000 Vietnamese SMEs estimated by Runckel (2011). Although the target population is Vietnamese SMEs, the research is also investigates large-sized and micro-sized organizations in Vietnam. This research is a pilot study to confirm theoretical framework in Vietnam's context, therefore the author put all Vietnam organizational size to consider in comparison and contrast.

## **2. Sample selection and sample size**

Sample selection is using convenient sampling method. The sample size is calculated at confidence level 95% and confidence interval equal 6 is 267.

### **3. Data collection procedures**

At the beginning, the author conducted interviews with 5 enterprises and received not only the required information but also the helpful feedback to change the questionnaire. After that, 80 hard copies of the questionnaire had been delivered to friends and colleagues.

The researcher sent 200 emails directly to the HR department of Vietnamese SMEs. Most of the target companies come from the client list page of HRIS vendors in Vietnam who are providing HRIS, ERP solutions such as AMIS.VN, OOS.GHR, Perfect HRM, Lotus Pro, eHR, HR-ERP, FPT.iHRP, Bizzone, SV.HRIS, MISA HRM.Net, Viettel HRMS, PV-HRM.Net, VnResource HRM Pro, Tinhvan Consulting with HiStaff, Fast HRM, Vsoft HRM.Net, SAP It is noticed that most of the HRIS solutions in Vietnam are categorized as traditional and transactional HRIS type.

### **4. Data cleansing process and data analyzing technique**

The collected data has been recorded in Excel and then imported into SPSS. The next step is data cleansing to assure the data would be consistent, accurate, and to remove typos. SPSS version 20 has been using as a statistical analysis tool. Besides, LaTeX is used for represent bar chart, pie chart and other objects of this thesis.

### **5. Response rate**

It is noticed that the feedback by email channel earned a low response rate with 5 cases received over 200 questionnaires delivered. Conversely, the direct interviews and hard copy through author's friends worked effectively. In the end, the project has collected 73 responses within 2 months at the response rate at 27 percent. It is rather low response rate due to the ineffectiveness of email survey which is known as most common pitfalls when conducting research in Vietnam.

### **6. Research Site**

In most cases, the responses are from Ho Chi Minh City, despite the fact that there are some companies located in other provinces such as: Binh Duong, Da Nang, Long An, Ha Noi, Vung Tau, Dong Nai. It indicated that the project dataset has bias in location, in the other word, it do not ideally represent the whole Vietnam in geographical dimension.

## **Research Findings and Discussions**

### **1. General Information**

The percentage of respondents which are currently using HRIS is approximately 53%, which is quite indistinguishable from the ratio of HRIS Non- User. Furthermore, among those are HRIS Non-User, 23.5 percent envisage to use it within the next two years and nearly double percent aim for it in 2-4 years from this point of time. It could be easily seen that the majority of respondents are in the age range of young (20-30 years old) and mid-aged (31-40 years old) people with total nearly three-quarters of respondents. For the work position, the largest proportion of respondents is recorded in two groups: HR Manager/Officer and Other Manager/Officer with more than one-third each group. Next, two remained groups are CEO/Owner and IT Manager/Officer with the ratio of 13.7% and 12.3%, respectively. For the type of ownership, nearly one-half of enterprises are Limited Company. Secondly, those are indicated as Joint Stocks reaching the proportion approximately 19% whilst, Foreign Invested and Private Enterprise have the similar ratio around

15% over the whole dataset. Regarding to the length of time in operation, three-fourth of enterprises last up to 10 years, including 36 percent operated from 1 to 5 years. Numbers of companies continue working from 10 to 20 years is 14, i.e. approximately 20%. It is also noticed that the average value of operation time is roughly 8 years.

## 2. Reliability Analysis

Cronbachs alpha is a prevalent technique for assessing the internal consistency of an instrument (see Table 2). According to Iacobucci and Duhachek (2003), most of constructs (7 over 9) are generally reported as reliable, which means their Cronbach's Alpha coefficients exceed the value of 0.7. In particular, there are two cases with values greater than 0.9, implying a very high reliability. They are "Perceived Usefulness" and "HRIS Usage", both related to experienced HRIS users, which could be easily explained due to their knowledge about HRIS. On the other hand, some constructs require items deleted to reach the reliable value of Cronbach's coefficient. For instance, eliminating two items not only lets the coefficient of the construct named "Perceived Ease of Use" climb to 0.825 but also maintains the consistency of the scale. This is due to the fact that the degree of freedom of the scale is 4, still lying on the acceptable range. In addition, it is logical when a respondent who agreed that HRIS is easy to use tends to grant the lower value at two deleted items. In the other word, these items play the role as the cross check elements, verifying the seriousness of respondents, in this scale.

<i>Construct</i>	<i>Number of items</i>	<i>Cronbach's Alpha</i>	<i>Level of reliability</i>	<i>Eliminated Items</i>
Organizational Financial Condition	2	0.686	Moderate	
Perceived Ease of Use	6 (4)	0.825	High	-HRIS unnecessarily complex - Need technical support
Perceived Usefulness	6	0.951	Very high	
IT Infrastructure	3	0.816	High	
Top Management Support	4	0.864	High	
Employee Experience with Computer	3 (2)	0.668	Moderate	- IT training/seminar frequency
HRIS Usage	6	0.944	Very high	

Table 2: Reliability analysis of variables

For the construct "Employee Experience with Computer", the possibility of omitting item would be its high missing rate of the respondents. More than 20 applicants neglected the item "IT training/seminar frequency" would lead this value to unreliability. Besides, two constructs with the minimum acceptable number of items (2) are endowed with the asymptotic value to 0.7. This is quite high value in the circumstance and could be rounded up to a reliable value. To summarize, the Cronbach's Alpha coefficients of constructs in this research are reliable and satisfy the standards for academic study. It is noted that from this section, the sample size has been excluded case number 8 and 49 in all statistical tests due to the fact that these cases are outliers as indicated by many techniques such as box plot, standardized residual value.

### 3. Correlation analysis

When exploiting the normality test through the method proposed by Kolmogorov-Smirnov, we have found that HRIS Usage does not possess the normality property. Next, we tried to apply a reflect and square root transformation for its data but it still remained at regime of unsatisfactory result. For this reason, we conduct the method called Spearman rank-order to verify the correlation among groups of variables as in the following table:

	<i>HRIS Usage</i>		
	<i>Spearman's rho</i>	<i>Sig. (2-tailed)</i>	<i>N</i>
Organizational Size	0.481**	0.000	66
Organizational Type	0.403**	0.001	65
Organizational Financial Condition	0.583**	0.000	65
Perceived Ease of Use	0.582**	0.000	66
Perceived Usefulness	0.714**	0.000	64
IT Infrastructure	0.389**	0.001	64
Top Management Support	0.389**	0.000	65
Employee Experience with Computer	0.272*	0.028	65

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Table 3: Spearman's rho correlations

Generally, most of variables tend to positively affect the HRIS Usage. In detail, a half of groups represent strong relationship through their large correlation coefficients (more than 0.5) while 3 over 8 of groups show the medium association. The sole group which reflects the small effect on HRIS Usage is Employee Experience with Computer. In addition, a similar tendency is recorded in the significance level, which stands for the confidence of the result. All the coefficients are at the 0.01 level of sig., implying the more reliable results, except the only one that plays the minor role on HRIS Usage.

### 4. Hypotheses Confirmation

#### Organizational Size

Research question: Is there a different in perception of HRIS Usage among groups of Organizational Size?

	<i>Sum of squares</i>	<i>df</i>	<i>Mean squares</i>	<i>F</i>	<i>Sig.</i>
Between groups	187.745	3	62.582	4.482	0.007
Within groups	865.786	62	13.964		
Total	1053.53	65			

Table 4: ANOVA test for H1

A one-way ANOVA was conducted to determine if the perception of HRIS Usage was different for groups with different organizational size levels. There was a statistically significant difference between means ( $p < 0.05$ ) and, therefore, we can reject the null hypothesis and accept the alternative hypothesis. This suggests a difference towards the perception of HRIS Usage among various types of organizational size, especially between micro-sized and large-sized group. In overall, the larger the company is, the more positive the effect on exploiting an IT innovation is, e.g. HRIS, which is also the research expectation. This result is in agreement with the work of Ball (2001), conducting a survey in 115 Britain companies and finally resulting an explicit determination of OS on HRIS application (cited in Al-Dmour et al., 2013). In theory, there are three reasons for this point: in the bigger firms, the higher merit of new IT technology, the financial support is more accessible, and the last one, many IT innovations are scale-boosting, i.e. the larger enterprises can take the economic advantages of their scale by adopting earlier and more in-depth application. However, this research does not show the statistically different between large-sized and SMEs. In addition, the impact size  $\omega < 0.3$  represents the small effect of OS on HRIS Usage. On the contrary, some studies indicate this non-significant interdependency. This inconsistent finding is probably due to the diverse definitions of OS used by various researchers.

### Organizational Type

Research question: Is there a different in perception of HRIS Usage between small-and-simple and standardization Organizational Type?

	<i>Levene's test for equality of variance</i>		<i>t-test for equality of means</i>		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	3.115	0.082	-3.387	63	0.001
Equal variances not assumed			-3.215	41.011	0.003

Table 5: Independent samples T-test for H2

There was a statistically significant difference between means ( $p < 0.05$ ) and, therefore, we can reject the null hypothesis and accept the alternative hypothesis. Furthermore, the level of influence of OT is described by the high value of Cohen's coefficient d. This satisfies the research expectation. Moreover, this research is lying in the point that standardization, formalization, especially in HR activities, would lead the need for automation that becomes more and more imperative in the enterprise operation. HRIS system could thankfully bring out the automation services to the entire structure and effectively advance the HR activities.

### Organizational Financial Condition

Research question: Is the relationship between OFC and HRIS Usage statistically significant?

	<i>R</i> <sup>2</sup>	<i>F</i> ( <i>Sig</i> )	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
Organizational Financial Condition (H3)	0.295	0.000	0.543	5.138	0.000
Perceived Ease of Use (H4)	0.310	0.000	0.557	5.367	0.000
Perceived Usefulness (H5)	0.536	0.000	0.732	8.454	0.000
Top Management Support (H7)	0.337	0.000	0.614	6.170	0.000
Employee Experience with Computer (H8)	0.090	0.015	0.300	2.497	0.015

Table 6: Single regression results for H3, H4, H5, H7, H8

Through testing H03, the research indicates a statistically significant relationship between OFC and HRIS Usage while H03 was rejected. Financial base reflects the availability to pay for costs with regard to exploiting new IT innovation, e.g. HRIS, updating the system and maintenance as well. Obviously, it is understandable to consider the financial condition as an intrinsic factor in adopting HRIS as well as determining its scale. A relatively high value of  $R^2_{Adjusted}$  at 28.4% expresses the influencing level of OFC.

### Perceived Ease of Use

Research question: Is the relationship between perceived ease of use (PEU) and HRIS Usage statistically significant?

The research rejected H04, and implied a statistically significant relationship between PEOU and HRIS Usage due to the fact that the influencing level  $R^2_{Adjusted}$  was 30%. This comparatively fits the research expectation as well as the other research that used TAM model. Despite this fact, there was an exception when Al-Mobaideen et al. (2013) argued that PEOU does not influence HRIS adoption in ASEZA. In contrast, this research figured out the point that PEOU plays a positive role in HRIS Usage due to the fact that the easy-to-use property of HRIS enables the possibility of influencing on resistant to change in organization in applying a new system and daily operation when considering operational feasibility.

### Perceived Usefulness

Research question: Is the relationship between Perceived Usefulness (PU) and HRIS Usage statistically significant?

The research rejected H05. The research represents a statistically significant relationship between PU and HRIS Usage through an extremely high  $R^2_{Adjusted}$  approximately 52.8%. With this value, PU is the most influencing factor on HRIS adoption in this research. As a rule, this research is based on the fact that HR is the factor recognized as a change agent or strategic partner, which is more likely to have an impact on exploiting HRIS (Ulrich, 1997). For this reason, the result concurs with the presumption of the survey.

### 4.4.6. IT Infrastructure

Research question: Is there a different in perception of HRIS Usage among levels of IT Infrastructure?

	<i>Sum of squares</i>	<i>df</i>	<i>Mean squares</i>	<i>F</i>	<i>Sig.</i>
Between groups	149.775	2	74.887	5.148	0.009
Within groups	901.825	62	14.546		
<b>Total</b>	<b>1051.600</b>	<b>64</b>			

Table 7: ANOVA test for H6

A one-way ANOVA was conducted to determine if the perception of HRIS Usage was different for groups with different IT infrastructure levels. Perception of HRIS usage was statistically significantly different between different IT infrastructure groups,  $F(2,62) = 5.148$ ,  $p = 0.009 < 0.05$ ,  $\omega^2 = 0.11$ . There was a statistically significant difference between means ( $p < .05$ ) and, therefore, we can reject the null hypothesis and accept the alternative hypothesis. This work shows the difference on HRIS Usage amongst enterprises with a variety of IT Infrastructure level. For instance, a significant difference is recorded between public-level group and business-unit-level group. Naturally, IT infrastructure indicates the clue to verify whether a company is ready for HRIS adoption. In general, the result matched the author's expectation, and other authors' findings as well, despite the fact that Omega square ( $\omega^2$ ), which represents the effect size, exhibits its small influence on HRIS Usage.

### **Top Management Support**

Research question: Is the relationship between Top Management Support (TMS) and HRIS Usage statistically significant?

As far as Top Management Support is concerned, the research rejected H07. The result implies a statistically significant relationship between TMS and HRIS Usage. In detail, the impact level is demonstrated by  $R^2_{Adjusted} = 36.7\%$ , a quite high value in the area of social survey. According to Razali and Vrontis (2010), top management involvement and organizational commitment are pointed as two main key factors for the influence on the acceptance level of employees toward the new HRIS implemented in the Malaysian Airlines System. Likewise, Ngai and Wat (2006) claimed that top management support was one of the most crucial stone in exploiting HRIS system in Hong Kong.

### **Employee Experience with Computer**

Research question: Is the relationship between Employee Experience with Computer (EEC) and HRIS Usage statistically significant?

Turning to EEC, the research rejected H08. Although the result also proves the existence of a statistically significant relationship between EEC and HRIS Usage, the impact level through  $R^2_{Adjusted}$  was very low, at around 7.6%. This requires a more extensively research to reach a result with a high reliability. Author strongly believes that user's experience in using new IT/IS system and effectiveness of IT helpdesk services has a strong effect on the overall success of IT in an enterprise (Teo et al., 2007) and eventually influences the future decision of organizations in exploiting new technology (Burgelman and Rosenbloom, 1989).

## **Conclusion and Implications**

### **1. Conclusion**

This research has explored the propositions from previous studies on HRIS adoption and implementation and thus conducted a theoretical model to examine factors influencing the use of HRIS in Vietnam's context. It argues that most previous studies make use of factors identified from the literature on organizational innovation adoption rooted in innovation theory and identify additional factors under the applied specific technology. This research is based on these observations, organizing those factors in all aspects of feasibility studies (include organizational, economical, technical and operational feasibility) phase of system development life cycle (SDLC) which is known for its application when managers want to invest into a new system or upgrade from an existing system.

Regarding Research Question 1: the higher levels of organizational readiness (H1, H2, H3), which could be considered as operational feasibility and financial feasibility- will lead to higher perception in using HRIS. In the same way, the higher levels of technology readiness (H6), the representative of technological feasibility, will result in the higher perception in using HRIS. Next, the answer to Research Question 2 is: the higher perception of HRIS usefulness (H5) and HRIS ease of use (H4) - which can be connected to organizational feasibility and operational feasibility, respectively will lead to higher perception in using HRIS. Finally, the reply to Research Question 3 is: the higher levels of Top Management Support and Employee Experience with Computer - which represent the organizational feasibility and the operational feasibility - will ensure the higher perception in HRIS Usage.

Furthermore, this is a pilot study with limited sample size (N=73) of respondents in organization unit. The findings cannot be generalized of the entire market due to the fact that the research sites are primarily from Ho Chi Minh City with small sample size. Therefore, a larger scale of sample size as well as industry field, a specific study with the stratified sampling is recommended for the future research studies.

### **2. Implications**

- This research has found that the most influencing factor on the perception of HRIS Usage is Perceived Usefulness. According to Duc (2013), there are generally three basic SMEs HRM practices in Vietnam: paper-based system, excel filing and HRIS. To improve the HRIS perceived usefulness of customers, Duc (2013) suggested these following triggers: providing usability and productivity features; merging many activities into one system; allowing secure access and authorization to the system; supporting an easy-to-use data transferring system (if required); operating a reliable system which is free from errors and flexible enough to adapt to such the regularly changing environment in Vietnam. HRIS suppliers need to carefully consider offers for usability, productivity, and added value features in their HRIS solution. Besides, situational requirements and expectations of SMEs should be considered to achieve customer satisfaction.
- It shows that Top Management Support positively influences the perception of HRIS Usage. Surely, top managers, with their broader and deeper outlook, take the advantages of realizing and seizing the business opportunities through technology innovations, e.g. HRIS. Moreover, they also supply the corresponding action and appropriate working plan which enables the successful adoption of new technologies within enterprises. Another possibility would be the message of encouragement to application on daily operation from the leaders of companies once they become aware of the importance of those innovations (Thong, 2001). As a consequence, TMS plays an important role in exploiting and using HRIS system.

- Turning to the next point, the research pointed out that the larger organizations exhibit more intensive attitude on perception of HRIS Usage than the smaller ones. In most cases, the exploiting HRIS process is assigned as a complicated and expensive activity, especially in such a developing country like Vietnam. This is probably due to the lack of telecommunications infrastructure, lack of skilled staff, low Internet penetration, and the hesitant adoption behaviors of developing countries (Al Dmour et al., 2013). On the other the hand, several studies have shown that most SMEs are suffering from lack of IT experts and hiring external consultants. This fact implied that the lack of internal expertise refrained SMEs from adopting HRIS for their operation. Under these circumstances, the suggestion is that SMEs need to build their own IT team, and IT helpdesk services as well, to overcome these technological difficulties. In addition, the effective connection with HR Department and external expertise is crucial for implementing HRIS on SMEs.

### 3. Future Research

- In this research, Organizational Type is classified into only two types: standardization and simple, which is quite simple in comparison with suggestions of other researchers. Typically, OT should be divided into many dimensions: centralization, formalization, specialization, standardization, complexity, institutionalization of HRM, comprehensive-ness of HRM, HR role (AlDmour et al., 2013). Duc (2013) also recommend using Mintzberg (1979) to explore organizational structures. The research of HRIS needs to articulate the differences in the determinants of the adoption and implementation of HRIS and therefore gets the benefits from the experience of findings from other studies.
- Throughout the research, all the factors influencing HRIS are internal factors within organizations. For this reason, it is logical to propose the next step of the research into the regime affected by external environmental factors such as competitive pressure, vendor support, and marketing activities. As organizations move towards a knowledge-based economy, competitive pressures increase, Organizations are thus using HRIS to help make more informed decisions, get the most out of their employees, and better allocate HR resources. Competitive pressure is a powerful driver of IT adoption and diffusion. Research shows that quality assistance from external IT experts, consultants, and vendors is one of the most important aspects of the IT adoption process. Supplier marketing activities (includes vendor efforts to inform, educate, and encourage trial and adoption of the innovation among their target audience) have an important effect on the decision to implement new technology. Besides, Government initiatives and policies have the potential to directly -and/or indirectly - stimulate the development of IT infrastructure and information provision to energize faster technology diffusion. An IT adoption study on companies in China suggests that government policies have an important role in shaping a firms IT infrastructure and management, but do not influence IT usage directly (Cui et al., 2008). Furthermore, previous studies did not give clear evidences on how the interaction of internal and external factors can influence the organizations adoption of HRIS behavior and its implementation level.

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## *An Insightful Understanding of Perception and Trust Towards HRIS: A Case Study from SMEs in Vietnam*

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### **Abstract**

*The study aims to explore Small and Medium Enterprises (SME) perceptions and trust toward HRIS as purchasers of Human Resource Information System (HRIS) suppliers who plan to enter the market of Vietnam by aiming at SMEs as target customers based on the conceptual framework of HRIS-Trust. The respondents in this study came from 10 different SMEs covering two segments of the demographic (Small and Medium Enterprises) and five common industries (Manufacturing, Transportation, Communication, Financial services, and Construction & Real Estate). Therefore, the 10 In-Depth Interviews (IDI) took place at the respondents' convenience and best suited the study of high-profile respondents (e.g. Human resource (HR) or Information Technology (IT) managers and business owners or directors). In addition, the research technique - DeltaQual™, a Nielsen proprietary qualitative product was applied to gain insight into consumer decision making for both strategic decisions and tactical application. According to SME respondents, HRIS is the most valuable and beneficial among all three basic Human Resource Management (HRM) practices. Generally, the respondents trusted the concept of HRIS. Qualitatively, current users had a clear and specific expectation of HRIS, while non-users often expected basic features. However, they considered HRIS the least suitable for investment from business management perspective due to the financial investment constraint. In addition, when monetary investment is considered, most SME respondents have the same level of satisfaction with their currently used HRIS. This was a qualitative pilot research. Therefore, the research results have been based on a limited number of respondents (N=10). The findings are not representative of the entire market in Vietnam, and we do not claim them to be so. This study is intended as entry-level progress for a larger market-research progression at a later date. Thus, other studies would be appropriate for larger scale study findings, e.g. for quantitative studies. HRIS suppliers should approach Vietnamese SME customers with great consideration. The main purpose of HRIS is to offer appropriate usability and added value. Added value, however, does not mean "the more the better". Added value requires features suitable and relevant to SMEs' actual situations and expectations. Any irrelevant features can be perceived as wasted. Among professionally developed HRIS, suppliers may offer different options to their customers: tailored or packaged products. This is one of the first SMEs' HRIS demand qualitative pilot research studies (10IDIs) in Vietnam where data collection and analysis were conducted. In addition, the research results support HRIS suppliers' general understanding about HRIS demand of SMEs in Vietnam.*

**Keywords:** HRIS; HRM; Customer perception; SMEs; Vietnam; Trust; Supplier; HRIS-Trust

## Introduction

Today, Small and Medium Enterprises (SMEs) play an important and pivotal role in all countries in terms of national economic development (Ayyagari, Beck & Demergic-Kunt, 2007). The Organization for Economic Co-operation and Development (OECD) addressed the importance of SMEs in their statement as follows:

*“In all countries including the largest ones, SMEs play a very important role. In particular, it has been recognized for some 15 years that their dynamism, related in part to the technological and economic changes which have occurred over this period, has made an important contribution to the creation of new jobs, the economic revival of certain regions and also to technological progress.”* (OECD, 1993, pp. 7)

The proportion of SMEs in OECD makes up about 95% of all enterprises and 60-70% of employment (OECD, 2011; Levinsohn and Brundin, 2011). Vietnam is a developing country with rapid economic growth in the last 10 years in terms of GDP at current prices (Vietnam Report, 2012; see Table 1.1).

**Table 1.1: Vietnam GDP growth quarterly data (source: General Statistics Office of Vietnam; Vietnam Report, 2012)**

Year	GDP at constant price (1994- VND Billion)	GDP at current price (VND billion)	GDP growth rate
2000	273,666	441,646	6.79
2001	292,535	481,295	6.84
2002	313,247	535,762	7.08
2003	336,242	613,443	7.34
2004	362,435	715,307	7.79
2005	393,031	839,211	8.44
2006	425,373	974,266	8.23
2007	461,443	1,144,015	8.48
2008	490,181	1,478,695	6.18
2009	515,909	1,645,481	5.32
2010	551,609	1,980,914	6.78
2011	584,098	2,536,000	5.89

Vietnam is one of many developing countries, where the number of people with internet access is quite high. According to Cimigo-Netcitizens internet usage and development report in 2012, more than 35% of the Vietnamese population are already using the internet. Additionally, the impact of increased Foreign Direct Investment (FDI) on economic growth in Vietnam has helped to reduce the technology gap between the foreign and local firms (Anwar and Nguyen, 2010). The private sector in Vietnam has been rapidly growing since the mid-1990s with a high majority ratio of SMEs (Nguyen et al., 2006; Nguyen, 2005). With the development of Information and Communication Technology (ICT) in the 21<sup>st</sup> century, computerizing management operations has become more popular and more necessary in the modern business (Hashim and Mokhtar, 2012; Kohli and Grover, 2008; Kulatilaka and Venkatraman, 2001). Therefore, the potential benefits will increase in organizations using IT applications, especially SMEs, which are involved in the internationalization trend of grasping the opportunity for profitable growth (Lin and Chaney, 2007; Fink, 1998) and the demand of applying modern management technology to business operations is really indispensable. To keep up with rapid changes in the digital era, the application of IT to business management is essential (Hashim and Mokhtar, 2012; Kohli and Grover, 2008; Kulatilaka and Venkatraman, 2001). In addition to this, Human Resource Information System is considered an important and

necessary function for deploying such a goal (Kumar, 2012; Poorangi *et al*, 2011; Srivastava, 2010; McCrindle, 2006; Hendrickson, 2003).

Vietnamese enterprises are also following this trend. Accordingly, HRIS, an innovative HRM solution, has been demonstrated as a support system for sustainable HRM performance in several previous studies. See, for example (Duc *et al.*, 2013; Kumar, 2012; Alwis, 2010; Buodreau and Ramstad, 2005; Page, 1996; 2002; Poorangi *et al.*, 2011; Tansley *et al.*, 2001). HRIS has been researched and applied widely in the USA and across Europe (Yusoff and Ramayah, 2011; Strohmeier and Kabst, 2009; Lengnick-Hall and Mortiz, 2003). According to a survey of HR consultants, the number of organizations adopting and implementing HRIS in their businesses is rapidly increasing (Cedar Crestone, 2005). Following the trend of HRIS adoption from developed countries, Vietnamese enterprises should apply HRIS into their operational activities for future competitive advantage (Marler and Fisher, 2013; Wickramasinghe *et al.*, 2005). However, how to encourage SMEs in Vietnam to apply HRIS to their operations and how to manage human resource in the most optimal way (e.g., saving human energy along with high performance and bringing out expected outcomes) by using HRIS are serious concerns of such enterprises.

Hence, enhancing trust of SMEs toward HRIS is necessary for a sustainable HRM performance (Duc, N. N. *et al.*, 2013). From this point of view, our study aims to explore SMEs' perception and trust toward HRIS in Vietnam based on the conceptual Model of HRIS-Trust of Duc *et al.* (2013). This model is included here as Figure 1. Building on the work from our previous paper (Duc *et al.*, 2013) we suggest the primary goals of exploring the customer perceptions and trust, in the category of HRIS, may be broken down into the following areas:

- To explore how SMEs define HRIS products and services (e.g. 'What it is?', 'What it offers', and 'How it would fit in a business management perspective?')
- To explore how SMEs perceive HRIS - including strengths and weaknesses, triggers and barriers to purchase and implementation- compared with other practices of HRM
- To explore customer needs and expectations with using HRIS products and services
- To explore current users' satisfaction with HRIS

The rest of this paper consists of four sections. In section 2, the selected HRIS definition, which is used in this research, is introduced. Section 3 is an explanation of methodology for data collection and analysis (In-depth interview and DeltaQual technique). In section 4, the research findings with the suggested propositions are presented. Conclusions and discussions of the findings in addition to a discussion of the research limitation and suggestion for future research work are included.

## **Human Resource Information System (HRIS)**

Among many HRIS definitions, we selected and used the following relevant HRIS definition based on a previous research on HRIS-Trust (Duc *et al.*, 2013). In this paper HRIS is defined as:

*"A contemporary HRIS is a dynamic database of demographic and performance information about each employee (Stone *et al.*, 2012; Hilkka Poutanen, 2010; Lippert and Swiercz, 2005). This HRIS database contains information on recruitment, applicant qualifications, job specifications, hiring procedures, organizational structures, professional development, training costs, performance evaluation, workforce diversity, and employee attrition (Harris and DeSimone, 1995; Miller and Cardy, 2000). This source of data may also be considered as a competitive information resource for four management functions: Planning, Organizing, Leading and Controlling (Hubbard, Forcht, and Thomas, 1998). It comprises software, hardware, and systematic procedures used to acquire, store, manipulate, analyse, retrieve, and distribute pertinent information about an*

organization's human resources (Kovach and Cathcart, 1999). A HRIS may also be considered a strategic planning tool in finding labour force needs such as: supply and demand, requirements, and forecasts (Harris and DeSimone, 1995; McConville, 2006; McConville and Holden, 1999)". (Duc et al., 2013, pp. 107)

## Research methodology

### 1. Mapping a conceptual model of HRIS-Trust to practical model

To clarify the relationships among factors influencing HRIS-Trust by using the proposed conceptual model of HRIS-Trust presented in Figure 3.1, case study approach was applied to map such a model using samples of SMEs in Vietnam from *concept-based* to *practice-based* model. In addition, the factors influence HRIS-Trust in the conceptual model of HRIS-Trust are not easy to measure in the real-world situation; therefore, it was mapped out as a practical model for carrying out case study form SMEs in Vietnam. Hence, the practical model for empirical research has been built in Figure 3.2.

HRIS is considered a product meant for organizations in this case. In the organization, there are two distinct profiles of potential users (customers): Individual and Corporate (see Figure 3.2). **Individual profile** represents the person involved, and how involvement influences the decision making process. Whereas **corporate profile** indicates the organization itself with its own details and characteristics in the decision making process.

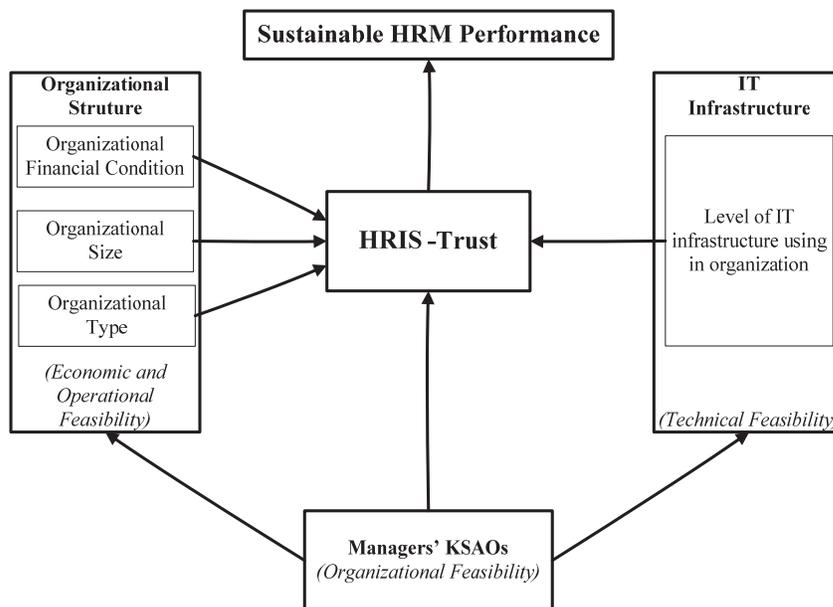
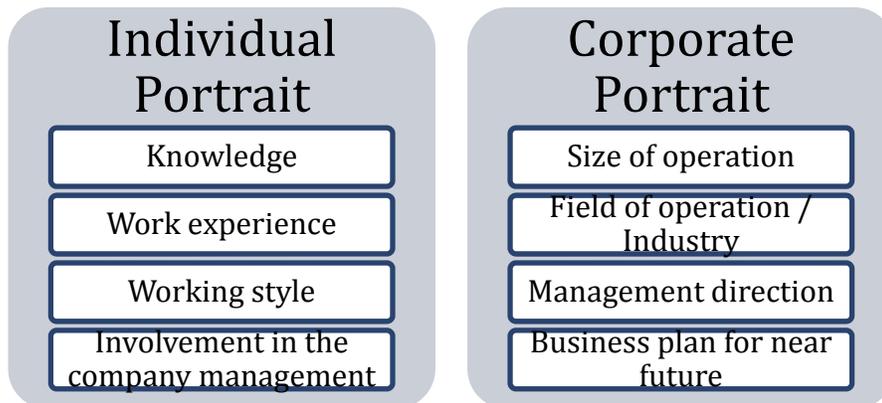


Figure 3.1: Model of Factors Influencing on HRIS-Trust (Duc et al., 2013)



**Figure 3.2:** The two elements of Customer Profiles: Individual and Corporate

## 2.The In-Depth Interview

The In-Depth Interviews (IDIs) are simply one-to-one, face-to-face interviews that take place at the respondents' convenience (McCormack, 2004; Neuman, 1997). This method places interviews in the most comfortable setting for respondents (Boyce and Neale, 2006; Ritchie and Lewis 2003). Therefore, this method best suits the study of high-profile respondents (e.g. HR or IT managers and business owners or directors).

In one-to-one discussion, respondents are encouraged to freely share their valuable information without worrying over alternative opinions. In our work, due to the study's objectives, the discussion sometimes turned to exclusive company information, where respondents did not feel comfortable in open discussion before interested outsiders - especially other SME respondents. One-to-one conversation ensured for confidentiality in the matters discussed, and thus assuaged some of these fears. Moreover, these high-profile respondents often have tight working schedules. Convenience lets them choose the interview timing and venue, thus facilitating the need to give more chances when making appointments. Additionally, the respondents (mostly business owners or directors), spend most working hours outside of meeting rooms. In fact, this study held most interviews in cafes, while the rest took place at the respondents' company office buildings.

Other common qualitative research methodologies are Focus Group Discussions (FGD), In-Home Visits (IHV), and Ethnography. However, these alternative methods were rejected for this study. In short, IHV and Ethnography would enable the researchers to deeply understand respondents in their living environment and explore their routine habits (Creswell, 2007; Madison, 2005; Spindler and Spindler, 1987), but these traits do not fit particularly well with this main research objective - to explore customers' perceptions and trust toward HRIS. Moreover, the individual living environment or daily routine would not benefit the exploration of each SME respondent's profile, or their perceptions and trust of HRIS.

While serving almost the same research purpose as IDI, FGD requires between four and six respondents to join for one session (Merton, R. *et al.*, 1956; Merriam, 2009). The tight working schedules of these high-profile respondents would not have allowed this to happen. Additionally, discussion in a group may prevent or inhibit respondents from revealing sensitive corporate-type-information which was needed for the researchers to understand the respondents' perceptions and attitudes to HRIS.

Thus, the chosen method was the ten IDIs conducted, in Ho Chi Minh City, Vietnam (see *Appendix II for Discussion Guidelines*).

**Research Technique: DeltaQual™**  
*Introduction to DeltaQual™*

Based on “*Internal Qualitative HRIS-Trust Project Report*” (Duc, N. N. and Nielsen Qualitative Experts, 2012), the following is a brief explanation of DeltaQual technique.

DeltaQual™ is a Nielsen proprietary qualitative product, which provides insight into consumer decision making for both strategic decisions and tactical application. The essence of DeltaQual™ resides in its basis - actual behavior, not perception. It utilizes cognitive interviews to get to the truth by minimizing rationalization and interprets consumers’ brand choice behaviors by uncovering Ω Omega Rules and Δ Delta Moments. Many previous studies had used this method in the past (e.g.: Matopoulos and Bourlakis, 2010; Bogomolova and Grudinina, 2011).

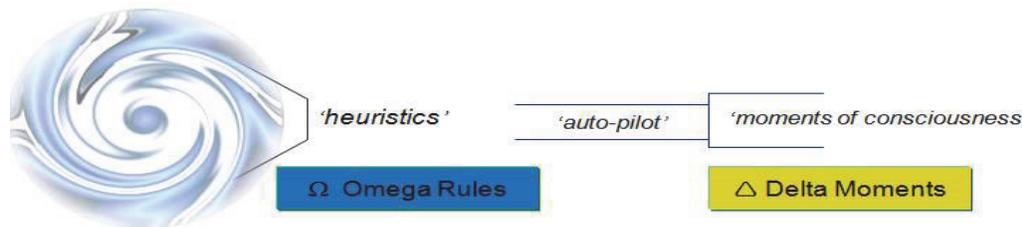
**1. The Foundation of DeltaQual™**

Recent advances in cognitive psychology have revealed that much of human behaviour is automatic and ‘unthinking’, or in other words on “auto-pilot”.

It is impossible for people’s brains to analyze every decision carefully. Unfortunately, given the large amount of information that the brain needs to cope with, people don’t have the mental resources to evaluate options anew every time. It is simpler to do what has worked before than to spend time and effort evaluating new choices. Therefore, people have an inherent need to simplify choices. People typically make choices based on a few simple rules of thumb, which are “heuristics” (or in DeltaQual™ language: ‘Ω Omega Rules’). In effect, this is decision-making without thinking too much about the issues, e.g. buy what mom recommends, avoid local brands, prefer banks with ATM near the office, etc. In addition, once rules are developed, people can go into “auto-pilot”. This is when relationships become “habits”, where the initial choice holds as reason, and when the decision-making rules themselves exist as a blind enactment.

The question is whether this autopilot mechanism can be broken. “Yes” is the answer! Eventually rules can be broken, challenged, or worn out within a dynamic market and an array of influences. All these kinds of events (in DeltaQual™ language, “Δ Delta Moments”) make people re-examine decision rules to either reaffirm older habits or change decisions.

It is true of life in general and of brand choices in particular. This is how DeltaQual™ was born. The process is illustrated in Figure 3.3 below:



**Figure 3.3:** Omega Rules and Delta Moments in DeltaQual™

## 2. Added Value with DeltaQual™

DeltaQual™ is a Nielsen response to large gaps in current research between consumer feelings, preferences, brand impressions, and shop-floor behaviour. It also simplifies the complex consumer and marketing dynamics from a plethora of marketing activities, brands, choices, influences, and joint or co-shopping issues to address anything more than a simple singular purchasing decision.

DeltaQual™ aims for a decision-making reconstruction rather than a breakdown of brand choices and relationships. It helps to focus marketing effort for maximum impact (What stages of decision-making are most open to influence? Where should companies focus their efforts? What do companies need to communicate at each stage?). Besides, it can align tactical activities with product category rules (What are the tangible indicators of category rules, and how can companies build them into their mix?). Finally yet importantly, it helps to leverage the hot buttons that can wean buyers away from competition (What causes a re-evaluation of default choices?).

The key to these great benefits of DeltaQual™ is its ability to find “Ω Omega Rules” and “Δ Delta Moments”. DeltaQual™ aims to explain the development of consumer habits by identifying Ω Omega Rules that underlie these habits and the sources of rules. DeltaQual™ also explains the Δ Delta moments or moments that challenge and change habits. The value will be how analysis finds the “Ω Omega Rules” and “Δ Delta Moments” with DeltaQual™.

## 3. DeltaQual™ Interview Techniques

DeltaQual™ utilizes a cognitive interviewing technique, a technique widely used in social and commercial research, aimed at getting to the truth by minimizing rationalization. Tests have shown that consumers do not feel as comfortable when suddenly forced into a Q&A session. It is an unintentionally open forum. In addition, discomfort arises when rationalizing answers under the probing pressures of “why”. Therefore, by getting back to a more natural “narrative” approach, cognitive interviews are excellent in understanding a consumers’ decision-making process in a close-to-life manner.

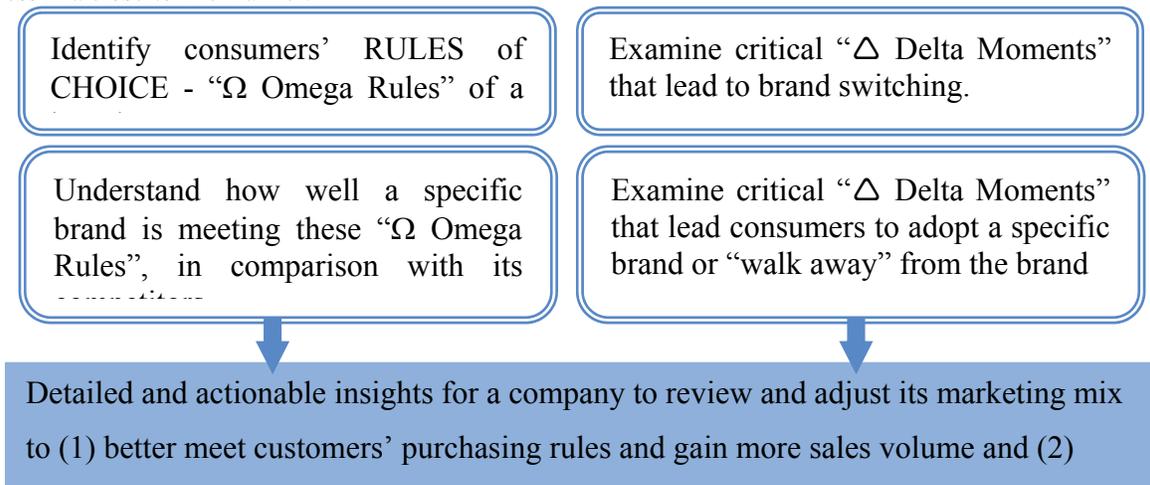


Figure 3.4: DeltaQual™ Flowchart

DeltaQual™ adopts this major interviewing technique to put respondents in a natural situation in order to aid recall of details. This is a technique to recall the last interaction with a brand (in a category), and to recreate one-

on-one history narration. Thus, allowing each respondent to recall his or her brand trial and brand switching history (to get down to individual brand usage history). This is the method to find “Ω Omega Rules” and “Δ Delta Moments” with DeltaQual™. A summary of the output of DeltaQual™ is in the Figure 3. 4.

### Recruitment criteria

The first criterion was to select respondents according to their typical business and individual working background. Therefore, the prioritized criterion regards work more than age or gender. The following is the detail of criteria:

- *Age*: (28 – 50) as mentioned, the age range is not a prioritized criterion thus it was decided to cover only common working ages. Furthermore, respondents should not be too old (more than 50) for the study, to ensure that they are commonly able to utilize recent HRIS market’s updates.
- *Gender*: - male or female - there is no requirement for respondents’ gender specificity; their own experiences and knowledge satisfy this criteria.
- *Work position*: respondents can be HR managers, IT managers, business owners, or business directors as long as they are the decision makers or significant contributors to the decision making process regarding HRIS implementation.
- *Target industries*: manufacturing, transportation, communication, finance, construction & real estate. The ten interviews should not cover more than five industries to ensure for the quality of the findings. The hypothesis was that companies in different industries might alternatively consider their needs and expectations, and therefore utilize products from a variety of perspectives. With this in mind, the five selections were from the most common industries.
- *Types of organization*: the study covered different types of organizations including state enterprises, non-state enterprises, and foreign investment organizations to explore whether ultimate ownership influences customer perception, attitude, and usage of HRIS – including evaluation of the introductory concept product.
- *HRIS usage*: this includes all HRIS users and non-users. Both segment characters of the demographic (current users and non-users) are covered in the study to serve as comparisons. The study identified current HRIS users as SMEs that have been implementing HRIS. Meanwhile, non-users are SMEs that currently consider or have intention to implement HRIS in the near future (less than one year). The purpose of this requirement is to avoid the SME respondents who do not have need of HRIS. Without need, customer awareness regarding HRIS may be low and, as a result, their perception and attitude are not relevant to the study.
- *Target companies*: SMEs (defined by the government of Vietnam, 56/2009/NĐ-CP issued on 30/6/2009) (see Table 3.1).

Small and Medium Enterprises (SMEs) were taken as the main targets for this research based on the hypothesis that most micro-enterprises would not have any need of HRIS. As mentioned above, SMEs creates about 95% of all enterprises and represents about 60-70% of employment which stimulates the economic growth in terms of creating jobs, stimulating business potential, economic stability and social development (OECD, 2011; Levinsohn and Brundin, 2011; Danaiaata and Hurbean, 2010). In contrast, large enterprises may have implemented Enterprise Resources Planning (ERP) tools which include HRIS (Soni *et al.*, 2003). Hence, this research conducted “*A quick consideration of the application of HRIS in large companies*” survey (2012) in Vietnam to have an initial assessment of the application of HRIS in large companies (see *Appendix I*). The results in Table 3.2 from 20 large companies’ respondents show that their companies applied ERP or system similar to ERP including a sub-function for HRIS (see *Appendix I*).

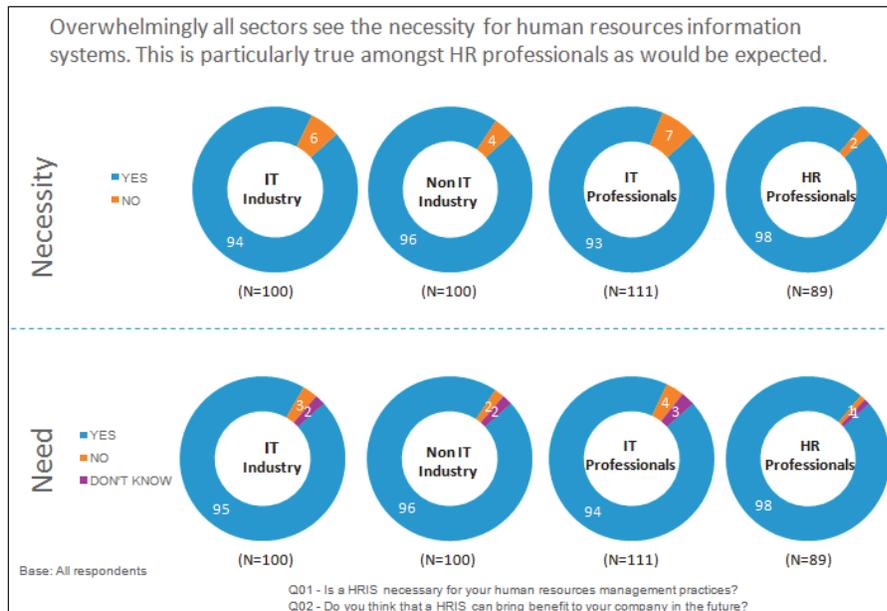
**Table 3.1:** Vietnam Government definition of different Enterprise types  
(Source: Vietnam Government Decree 56/2009/NĐ-CP issued on 30/6/2009)

Micro	Small	Medium	Large
<10 employees	10-200 employees - Capital: <20 billion VND	200-300employees - Capital: 20-100 billion VND	>300 employees - Capital: > 100billionVND

**Table 3.2: The Application of HRIS in Large Companies**

Q03. Currently applied ERP or System similar to ERP		
Base: 20 larger companies		
	Total	IT Manager
	20	20
Yes	20	20
No	0	0
D/K	0	0
Total count	20	20
Q04. Currently applied HRIS		
Base: 20 larger companies		
	Total	IT Manager
	20	20
Yes	20	20
No	0	0
D/K	0	0
Total count	20	20

Therefore, the priority of this study is not to introduce HRIS to either micro or large enterprises. In addition, this research also conducted “*A quick capture of the necessity and need toward HRIS*” survey (2012) of about 200 sample companies in Vietnam to get the general consideration of the necessity and need for HRIS (see in Appendix I for more details). As seen in Figure 3.5, the level of necessity and perceived need for HRIS is very high across a range of subgroups, exceeding 95% in most cases. This is particularly true amongst HR professionals who are likely to be one of the key driving factors and/or decision makers in the purchase and ongoing maintenance of a HRIS system.



**Figure 3.5: Necessity and Need of HRIS**

**Table 3.3: The Application of HIS in SMEs**

Q04. Currently applied HRIS		
Base: 180 SMEs		
	Total	HR Manager
	180	180
Yes	5	5
No	175	175
D/K	0	0
Total count	180	180

However, the application of HRIS in SMEs currently is very low. The results in Table 3.3 show that more than 97% of SMEs have not applied HRIS in their HRM activities yet. *This would indicate that barriers for the implementation of HRIS not only include necessity or perceived need, but also may be focused on other business implication, such as: Trust in HRIS.* Accordingly, to have an insightful understanding about Trust in HRIS of SMEs, the in-depth interview is a must to research. Thus, interviews with SMEs are critical and significant for this study.

### SMEs Respondents participating in the study

As mentioned, the respondents in this study come from 10 different SMEs covering two segments of the demographic (Small and Medium Enterprises) and five common industries (Manufacturing, Transportation, Communication, Financial services, and Construction & Real Estate). The intention was for the study to cover the five industries equally (e.g. two IDIs per industry). However, due to the study's constraints and priorities within each criterion, the study ended up with SMEs responding according to the structure shown in Table 3.4:

**Table 3.4:** SME respondents' participation in this study

	<i>Manufacturing</i>	<i>Transportation</i>	<i>Communication</i>	<i>Financial intermediation</i>	<i>Construction/Real Estate</i>	<i>Total</i>
<b>Total</b>	<b>3 SMEs</b>	<b>2 SMEs</b>	<b>1 SME</b>	<b>1 SME</b>	<b>3 SMEs</b>	<b>10</b>
<b>Small Enterprises</b> 10-200 employees		2	1		3	6
<b>Medium Enterprises</b> 200-300 employees	3			1		4

To classify, based on current practices of HRM, the SME respondents participating in this study fit into two groups:

- **HRIS current users** are those companies using HRIS, any types for all or some HRM activities.
- **Non-users** are companies that do not implement HRIS in HRM activities. The perceived definition of HRIS here is according to respondents, and they themselves stated whether they were current users or non-users. Consequently, some SME respondents may be listed as non-users here although they currently use one of the different types of HRIS.

Next, Table 3.5 and Table 3.6 indicate how HRIS users and non-users break down across industries and size of SMEs. This is only a quick recap on the SMEs respondents who participated in this study. The breakdown does not represent the general market of HRIS usage, and we do not claim this to be the case.

**Table 3.5:** HRIS Usage among SME Respondents across Industries

	<i>Manufacturing</i>	<i>Transportation</i>	<i>Communication</i>	<i>Financial intermediation</i>	<i>Construction/Real Estate</i>	<i>Total</i>
<b>Total</b>	<b>3 SMEs</b>	<b>2 SMEs</b>	<b>1 SME</b>	<b>1 SME</b>	<b>3 SMEs</b>	<b>10</b>
HRIS users				1	1	2
Non-users	3	2	1		2	8

**Table 3.6:** HRIS Usage among SME Respondents across Company Size

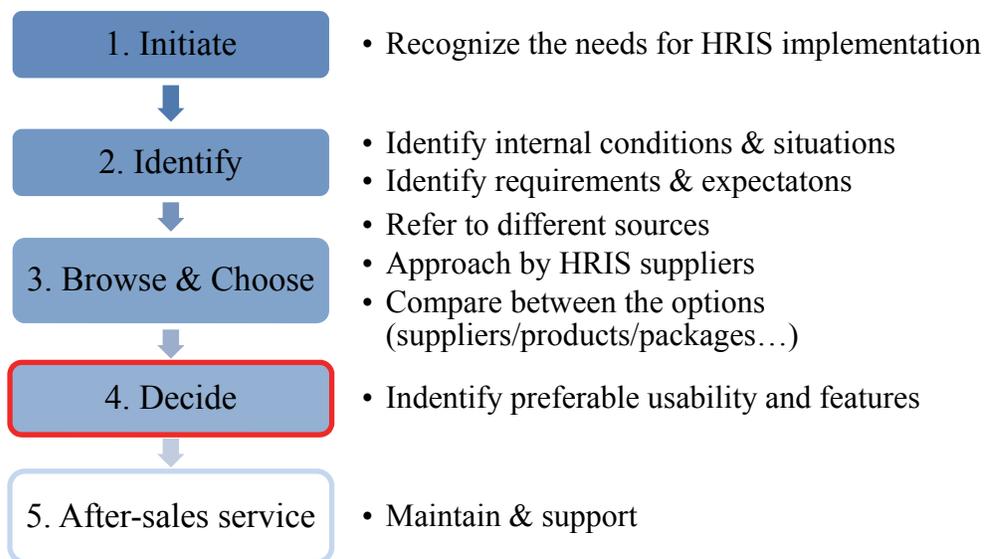
	<i>CURRENT COMPANY SIZE</i>		<i>Total</i>
	<i>10-200 employees</i>	<i>200-300 employees</i>	
<b>Total</b>	<b>6 SMEs</b>	<b>4 SMEs</b>	<b>10</b>
HRIS users	1	1	2
Non-users	5	3	8

### Findings: research propositions

Regarding HRIS and based on the field in-depth interviews, the decision making process for sample users often consists of four basic steps from **Initiate** to **Identify**, then from **Browse & Choose** to **Decide** (as shown in Figure 4.1). The fifth step, **After-sales service**, is not really a core step in the decision making process. However, it is included in the consideration during the third step, "Browse & Choose". The decision making process reflects/suggests the trust level which the person has on the object (HRIS) before making decision to adopt or not to adopt the system. In this case, the research described the steps each individual go through before decision is made.

**Initiate** should occur when the need for HRIS implementation is recognized. This need can arise from either dissatisfaction with the current HRM practice or expectations for the preparation of plans and changes. Once the need is recognized, examine the internal situation to find the requirements and expectations for HRIS products in the second step: **Identify**. During the third step, **Browse & Choose**, sample SME respondents often search for referrals from different sources including the Internet, news, articles, and word-of-mouth. They can also approach suppliers to explore available products further. In some cases, representatives of HRIS suppliers approach SME respondents. They most likely felt more than happy to have the chance to delve into this category, given that respondents are involved in the decision-making process regarding HRIS. After that, the fourth step, **Decide**, takes place when selecting the best and most suitable HRIS and supplier. This step will identify the expected usability and desired features. It is ordered once a customer and supplier reach an agreement on the key attributes of the product.

As we are talking about decision-making here, then we need to introduce this as a concept in the literature review – currently this is not adequately covered



**Figure 4.1: Basic Steps of Decision Making Process**

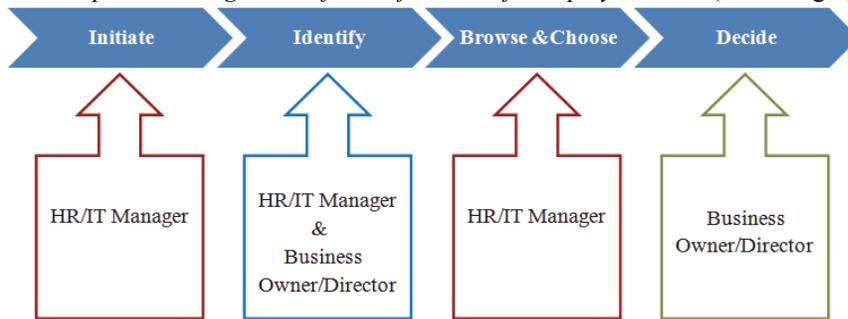
As mentioned previously, **After-sales service** is often included as a product feature in the decision making process and thus contributes to the final decision. As risk of failures is one of the main concerns for HRIS, SME respondents do consider how after-sales service takes place during the decision making process. Thereby, the service can cover both maintenance and support.

In relation to the parties involved in the process, there are three typical parties involved in the decision-making process regarding HRIS selection and implementation. They are the representatives of the IT Department (often Head of IT or IT managers), the representatives of the HR Department (often Head of HR or HR managers), and last but not least the business directors or owners. Typically, the three parties contribute in the decision making process according to two basic scenarios.

➤ **Scenario 1: Process Initiated by IT or HR Representatives**

In this case, the IT or HR manager or both initiate the whole process, for instance by pointing out the need for implementing HRIS. The decision-making process initiates if business owners or directors approve initiation (see Figure 4.2). As one of the sample SME respondents said that:

*“...My Company is a state-own enterprise. From management viewpoint, the director just bases his decisions on reports submitted to him by department managers and will get secured to sign any reports with signatures for confirmation for deployment...”* (IT Manager, HRIS Non-user; IDI 2)



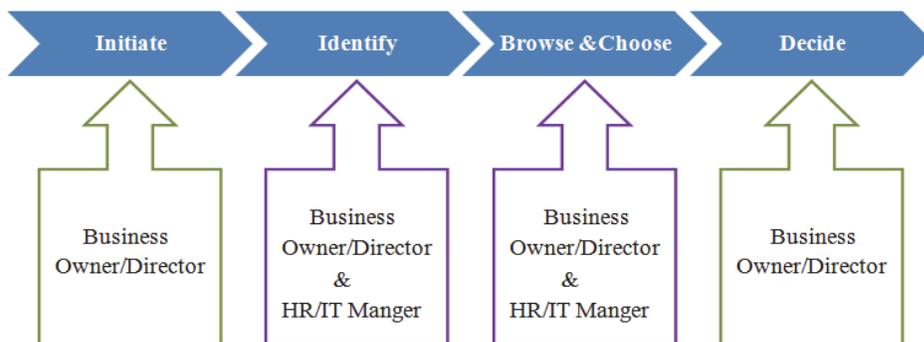
**Figure 4.2: Decision Making Process initiated by IT / HR Managers**

To summarize, although business owners or directors make final decision, the whole decision making process is mostly impacted by HR and IT Manager in this scenario.

➤ *Scenario 2: Process Initiated by Business Owners or Directors*

There are cases where business owners or directors can recognize the need to implement HRIS. In other words, they initiate the whole decision making process. Hence, the second and third step: Identify and Browse & Choose, will often be conducted by the business owners or directors with or without the contribution of HR or IT Managers. The business owners or directors are typically then also making final decisions (see Figure 4.3). As one of the sample SME respondents revealed that:

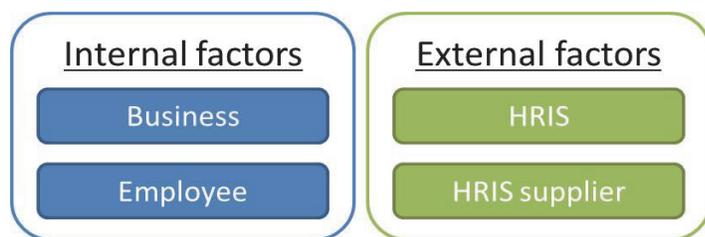
*“...I am decision make; therefore, I use all trials, without referring or comparing, just using it. If it makes me feel interesting, simple and meets my requirements, then I will choose it...”* (Director, HRIS User; IDI 5)



**Figure 4.3: Decision making process initiated by Business Owner / Director**

Generally, business owners or directors impact the decision making process whereas the roles of HR or IT manager are blurred in this scenario.

With respect to factors impacting on the Decision Making Process - Triggers and Barriers, there are different groups for factors impacting the decision-making process regarding HRIS implementation. Qualitatively, based on the in-depth interviews, these are divided into four (4) main groups of factors: business, employee, HRIS itself, and HRIS supplier. As shown in Figure 4.4, the two areas: business and employee belong to the internal group of factors whilst HRIS itself and HRIS supplier belong to the external one.



**Figure 4.4: Factors influencing the Decision Making Process**

Qualitatively, based on the in-depth interviews, the HRIS current users have clearer and more specific expectations for HRIS than their counterparts. This is based on their experience, knowledge, and understanding with the system. These users have built expectations based on their situation and needs combined with experiences and knowledge regarding HRIS. Therefore, they are very clear on details regarding requirements and expectations. In contrast, the HRIS non-users lack a clear understanding of what a HRIS offers. They, therefore, tend to have general expectations such as “*improve HRM activities*”, “*save time*”, or “*save effort*”. It is qualitatively seen that non-users fail in identifying the details for usability or productivity features as expected. HRIS suppliers in this case are required to guide the SME customers in exploring expectations.

Additionally, current users were expecting more from the HRIS compared to their counterparts. Thus, product offerings result in triggering them to switch from current HRIS to a new one if they expect it to be superior. Whereas, non-users believe any type of HRIS will have more strengths than weaknesses when compared to current HRM practices, such as: Excel filing and paper-based documentation systems. From the above analysis, we accordingly propose that:

**Proposition 1:** *The higher level of KSAOs of management will lead to an increase in HRIS-Trust*

**Proposition 1a:** *The higher level of KSAOs of management is associated with the higher level of maturity (standardization) of organizational structure*

**Proposition 1b:** *The higher level of KSAOs of management will lead to an increase in the level of IT infrastructure*

### **Customer Usage & Perception of HRIS**

Regarding the role of HRIS from a management perspective, SMEs do not seem to have a great appreciation for HRIS usability in HRM - especially the smaller enterprises. Qualitatively, based on the field in-depth interviews, most SME respondents considered HRM as less important compared to other perspectives of

business management such as production, sales, marketing, and finance.

For most, the perceived money-making areas for the business are production, sales, and marketing. Thus, those three should become the priorities of both management and investment. Particularly, finance departments are often required to perform complicated tasks. These tasks include calculating employee payrolls, bonuses, commissions, supplier payments, client charges, and reporting. Therefore, priority is also on finance in a ranking for investment. As a result, HRIS is considered as one of the least important areas as seen from a qualitative understanding of SME business management perspectives.

HRIS brings assurance to business owners, directors, and HR or IT Managers. Because of the software and online solutions, HRM activities become less time and effort consuming while productivity is often greater than other practices (Ruël et al., 2007). However, as earlier discussed, the software's suitability from monetary, usability, and flexibility perspectives is a barrier for many SMEs wanting to implement the products.

As the most popular practice, Excel filing is able to satisfy basic needs of many SMEs in most HRM activities. Moreover, the option is free and quite easy to implement. Differences in usability and features are something that can make HRIS superior to Excel filing.

From the above analysis, we propose that:

**Proposition 2:** *The higher level of IT infrastructure lead to an increase in HRIS-Trust (especially among users with higher KSAOs)*

## **1. Different Types of Current HRIS Usage**

According to the sample respondents' perception in this research, there are different classification methods for their current usage of HRIS. The first is based on the nature of the software (professionally developed or tailored), and the second is based on how the software is developed (packaged or tailored).

Based on in-depth interviews' synthesis and analysis, the currently used HRIS, among all SMEs respondents, is divided into three sub-groups: professionally developed HRIS, tailored HRIS, and User Interfaces. Within the three, professionally developed HRIS has the best impression and thus provides the greatest strengths and benefits to customers. While tailored HRIS have so many limitations and constraints that their users need to make compromises. The latter of the two is considered as the least favourable because its limitation is perceived as even worse than the previous one.

**Professionally developed HRIS** made by professional suppliers, either international or domestic. This group includes both HRIS as its basic definition and any software that respondents perceive as HRIS.

**Tailored HRIS**, which is separate software, is written by individuals who are programmers or IT professionals. Tailored HRIS can be coded either by in-house or outsourced developers. However, the general perception is that tailored HRIS coded by individuals is always cheaper than products developed and sold by companies and organizations. Respondents used the term "*self-written software*" to call this group.

Otherwise, companies do implement another type of "Human Resources software" for HRM practices – **a tailored user interface** that is cheaper to develop around the Access or Excel environment. Either professional programmers or amateurs can create it. Developers are often one or a few of the current employees, and consequently they are often free of further purchasing costs in organizational use. Respondents used the term "small applications" to label this group.

Generally, the sample SME respondents do not consider user interfaces as HRIS packages. However, it does provide an alternative for companies that want to implement HRIS features, even though limited, at an affordable price.

In comparison, professionally developed HRIS is more expensive, provides more usability and assurance, but has less flexibility. Whereas tailoring comes at a reduced price, offers greater flexibility but is limited in features and suffers from a greater risk of errors. Whether professionally developed or tailored HRIS, each has its own strengths and weaknesses that companies need to compromise with in the decision-making process and ongoing usage.

However, there is still a perception among SME respondents that tailored HRIS can be more expensive than packaged HRIS, because it requires greater customization. This perception is mostly linked with products from domestic suppliers. These considered products are only offering the basic features; therefore, it would cost more if SMEs want to have additional needs fulfilled. Packaged options are cheaper than tailoring options in this case.

Few sample SME respondents were able to mention HRIS suppliers as examples— either international or domestic. A few could not recall any product names. The generic label of “Human Resources software” applies for most. This means the brand name does not have an impact on customer perception with any real strength, yet. However, SME respondents can differentiate the products based on origin - either made by international or domestic suppliers.

Generally, respondents consider international suppliers as being more professional, with products offering full delivery of usability and features as required. Respondents perceive the quality of HRIS developed by international suppliers as enabling with new uses and features for HRM. The argument follows that:

*“They are larger and more professional organizations. They have been developing the HRIS for so many customers, including multinational companies. Therefore, their product must be good, because they have experience.”* (Director, HRIS user; IDI 5)

In summary, SME respondents think the larger international suppliers will provide packaged HRIS, while the small domestic ones will offer tailored products.

Qualitatively, based on the field in-depth interviews, while those using professionally developed HRIS are quite happy with its usability, the customers of both tailored HRIS and user interfaces have to compromise with their weaknesses and limitations. These SME respondents keep saying *“It is tailored; therefore, we cannot expect it to be the same as professionally developed programs”* (one of typical examples in IDI6).

Detailed customer satisfaction with currently used HRIS without price consideration is demonstrated in Table 4.1 below:

**Table 4.1: Customer Satisfaction with HRIS, Professionally Developed vs. Tailored**

<i>Customer satisfaction level</i>	<i>Type of HRIS</i>	<i>Reasons for the satisfaction level</i>
High	Professionally developed HRIS	Once SMEs can afford the investment required, they are often satisfied with usability and productivity features and other traits and features of professionally developed HRIS. On the other hand, tailored User Interfaces received less satisfaction due to many limitations in usability and other aspects. Self-made HRIS is ranked in the middle regarding satisfaction level.
Medium	Tailored HRIS	
Low	Tailored user interfaces	

When monetary investment is the key factor, most SME respondents have approximately the same level of satisfaction with their currently used HRIS regardless of its type: professionally developed or tailored, HRIS or user interfaces.

When comparing packaged and tailored HRIS, the latter one often received greater customer satisfaction. This is mostly thanks to flexibility and ability for customization to suit a customers' actual situation, requirements, needs, and expectations. Meanwhile, a packaged HRIS is believed to only get high satisfaction from SMEs that do not have any special requirements in any aspect involved with other business perspectives. These findings are without regard to price consideration. Product consideration alters typically according to the offered price from each supplier. Since customer satisfaction changes when the price is included in the consideration, it suggests that SMEs are willing to compromise between product offerings and price. Hence, we propose that:

**Proposition 3:** *The better organizational financial condition will lead to an increase in HRIS Trust (especially among users with higher KSAOs)*

## **Customer Expectations & Concerns with HRIS**

### **1. Customer Expectations for HRIS**

SME respondents generally expect and desire to have the ideal. The expectation however may vary slightly according to customer features such as own experience and knowledge, field and size of operation and finally, yet importantly, needs and plans regarding employee management.

#### **❖ Different Fields and Size of Operation**

The field and size of operation contributes greatly to HRIS implementation. In short, this feature of SMEs directly affects the needs and expectations for any employee management plans or activities. This in turn influences the expectations of HRIS. Detailed expectations of HRIS across fields of operation are found to include, but are not limited to, the following:

##### **➤ Manufacturing**

- Main characters: two types of employees (office employees and production workers).
- Employee management needs: each type has relevant programmes and policies for employee management.

- Office employees: have benefits programmes and management directives as in any type of operation. For instance, a monthly salary, which eliminates the need to track and calculate work hours. Bonuses and rewards calculate in reflection of salary. Commissions based on contracts or projects. Performance review analysis is based on its history of workloads, projects, and considers current position.
- Production workers: Indications of workload are through attendance and thus wages are on record according to the details of working hours. Rewards and bonuses calculate according to productivity or increased time. Performance analysis is based on work history in consideration of productivity.

**For example:** One respondent (manufacturing) commented that:

*“...The issue of administrative and human resources is to gathers workers daily, how many workers and the related problems, recruitment and notifications, rules, and regulations...”* (Business Owner, HRIS Non-user; IDI 1)

➤ **Transportation**

- Added value expectations

However, drivers, and assistants are more difficult for a HRIS to manage effectively. Drivers are not based at specific working locations. Their performance and thus productivity closely links to their traveling. As a result, for transportation SMEs, any HRIS would have added value if it were capable of utilizing a **vehicle’s data tracking as a feature**. The feature readily derives it development from the Global Positioning System (GPS), which enables its users to access and track vehicles’ data. Tracking data includes locations, speeds, travelling routes as either current or logged data.

**For example:** One of respondents (Transportation) said that:

*“...The management software is enclosed with GPS. My company is a transportation one and I know when using it. I can know where vehicles are although I am sitting at the company. I will know how much of petrol a vehicle is using, at which level Air Condition is by calling drivers. I will have to spend money on phone calls. There are dozens of vehicles; therefore, if calling drivers of all those vehicles, it will cost me much money. Hence, if using the software, I just need to use a computer to follow up the work.... At present, I have GPS tool only but have not used the HR management software yet because it is currently not necessary. In the future, when my company becomes larger and has up to 500 or 1,000 vehicles, it will save money if HRM software is integrated with my GPS software....”* (Director, HRIS Non-user; IDI 9)

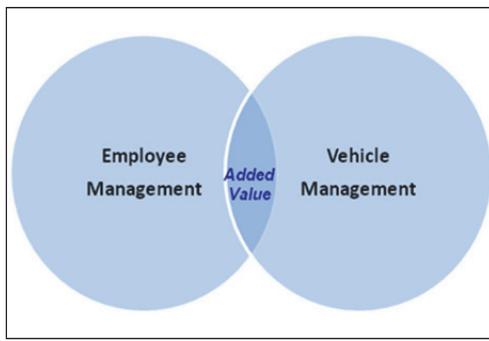
Because Vietnam’s regulations require Transportation enterprises to fit vehicle fleets with GPS logging devices, the SME respondents are more willing to implement HRIS if it is developed under this system, or can link to the currently implemented GPS.

The forwarding enterprise participating in this study currently implements a solution that merges both the GPS vehicle management system and a HRIS. The mentioned benefits of this combination included the following:

- Able to track vehicle logs for employee driving hours. This is significantly critical when Vietnam’s regulations limit the total hours that a driver can drive without breaks. This is also helpful when calculating rewards and bonus for drivers and assistants, mentioned by both current user and non-user.

- Able to identify vehicle location at any time. More control over route plans and decisions with immediate alterations. For example, vehicles arrive at specific locations to pick up goods. If the goods are not ready then a system solution is for vehicles to travel to the closest location that has goods, saving fuel and labour costs.
- As a result, being able to schedule routes, vehicles, and drivers effectively and efficiently. For forwarding enterprises any operational down time means that vehicles are not earning on the streets. The goal is thus to put vehicles on the move and reduce operational down time.

In short, Transportation SMEs appreciate a system that can do more than simply track vehicle information such as GPS or manages employee information like HRIS. They value the combination of GPS and HRIS, meaning the ability to manage both people and vehicles together in a single system as shown in Figure 4.5.



**Figure 4.5: Preferable Added Value for Transportation SMEs**

➤ **Communication**

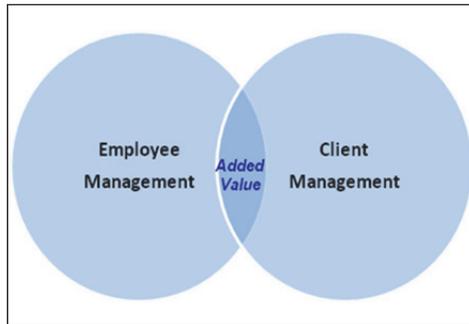
- Added value expectation:

Communication SMEs highly appreciate the HRIS that can combine client management as an extra function.

**For example:** One of respondents (Communication) said that:

*“...The software should manage the total working hours even with working with customers outside the company. Staff only logs in the system with the code then reports who they are working with, where it is and when the meeting is occurring. As soon as I open and check the system, I am certain for when they start, how long they work without asking individually....”* (Director, HRIS Non-user; IDI 6)

The ideal is that each client service employee has management with the links to his or her clients (see Figure 4.6), not only the clients’ basic information but also interaction between employee or SMEs and their clients.



**Figure 4.6: Preferable added value for Communication SMEs**

Examples include history of projects done, summary of contacts, and responses for current projects, description of clients, and suggested working style and attitude and so on. Moreover, the system can also offer the ability to track a detailed working schedule of each client service employee, for instance to track work even outside of the office.

Expected usability of the above module includes:

- Ensures tracking and security of data in a proper way.
- Provides a better indicator for client service's employee performance, based on actual performance in working with clients.
- Lessen the risk of losing client data even when employee resigns or moves to another position because the greater amount of data storage is in an authorized system area.
- Easier to allow data handovers between authorized parties, because the data is tracked and stored systematically.
- Only specific people can access and retrieve some client data to secure confidentiality of valuable intellectual property and client data.

➤ **Finance**

- Main characters:
  - Financial SMEs typically have two types of employees: office employees and salespeople.
  - Client management is highly valued.
- Employee management needs:
  - Office employees will have management equal to those of other SMEs.
  - Salespeople will have management equal to client service employees of Communication SMEs.
- Added value expectation: similar to that of Communication SMEs – combining employee, management, and client management into one system. There is the potential to track detailed working schedules of the employees even outside of the office.

**For example:** One respondent (Finance) commented that:

*“...In addition to information on HR and salaries, I expect that it can provide enough reports on tax, insurance, balance-sheets, and incomes, such internal reports as those on high achievements, seniority and so forth. All What I need is the information of paying salaries of employees...”* (HR Manager, HRIS User; IDI 7)

➤ **Construction**

- Main characters: the two types of employees are the office employees and construction workers.
- Employee management needs: each type has relevant programmes and policies for employee management.
  - Office employees will have management equal to those of other SMEs.
  - Construction workers will have management equal to production workers of Manufacturing SMEs.

**For example:** One respondent (Construction) commented that:

*“...Cost management and labor management, attendance record. Our labors vary depend on each construction work. Paying also vary for bricklayers and builders based on particular project. This is very important...”* (Business Owner, HRIS Non-user; IDI 4)

➤ **Real Estate**

- Main characters: the two types of employees are office employees and salespeople
- Employee management needs: each type has relevant programs and policies for employee management
  - Office employees will have management equal to those of other SMEs.
  - Salespeople will have management equal to client service employees of Communication SMEs.

**For example:** Two respondents (Real Estate) commented that:

*“...Yeah, but now I care more because I have lost a lot of my assets and customers when my staffs and managers quit the job. They bring with them good customers list. I need software that both manage customers and human resources... It must meet the demands I said to you. I need to manage number of customers which is the main business, including company human resources as well...”* (Business Owner, HRIS Non-user; IDI 3)

In term of added value expectation, similar to that of Communication SMEs, is the benefits from combining employee management and client management into one system, with the potential to track detailed work schedules of the employees even outside of the office. From the above analysis and discussion, it is proposed that:

**Proposition 4:** *The larger the organizational size leads to an increase in HRIS-Trust (especially among users with higher KSAOs)*

**Proposition 5:** *The higher level of organizational type will lead to an increase in HRIS-Trust (especially among users with higher KSAOs)*

#### 4 Customer Trust with HRIS

Qualitatively, based on the field in-depth interviews, according to both users and non-users, HRIS is often associated with significant importance and greater effectiveness in business management. In other words, customers trust HRIS products for its effectiveness and impact on business management performance. However, the trust of the product believer varies greatly according to the business situation and the relevant SME perception and attitudes in business management.

*“...You must foresee the company’s development scale. My Company strives for equitization so it is different with others. In the future, if it gets development into a Group based on the equitization, it will be completely different. Now, it is so good if the software can meet our needs. It will be better if it is adjusted a bit based on the basic foundation. It will be easy if it is developed from the foundation. In addition, it depends much on the future, HR policies, and whether there will be any request of improvements from new management team...”* (Director, HRIS Non-user; IDI 2)

Examples include smaller enterprises who consider themselves below the needs for HRIS. They believe smaller enterprises with limited numbers of employees, simple employee management needs and no expansion for the near future do not value HRIS and its strengths in HRM activities. The trust in this case is limited.

Another example is with business owners or directors who have ambitious but detailed plans for business development and expansion. Together with business development, the needs for employee management become more urgent and require a better and more effective solution for HRM practice. HRIS, together with its strengths, is a helpful tool for business management in this case. The trust therefore is relatively high.

The most common indicators for trust are divided into four sets: individual, corporate, HRIS itself, and its suppliers:

- Traits of Individuals closely link with Individual Profile. In short, the most important attributes for this set of traits consist of the following: *knowledge, work experiences, working styles, involvement in the company management.*
- Traits of Corporate connects to Corporate Profile. This set also closely links with the Employee and Business group of factors impacting the decision making process mentioned in. The main features include: *size of operation, employee number, field of operation/industry, management direction, employee management needs, business plan for near future.*
- HRIS itself represents how customers perceive the strengths and weaknesses of a specific product. The consideration is based on a combination of triggers and barriers against product purchase and implementation included: *usability and features provided, minimal errors and system corruptions, ability to customize and update, monetary and other investments required, and other strengths & weaknesses.*
- The HRIS suppliers also factor into customer perceptions and consider the following combination of strengths & weaknesses included: *brand credibility & image, after-sales services.*

Hence, from above analysis, it is proposed that:

**Proposition 6:** *The higher HRIS-Trust will increase the sustainability of HRM-Performance*

### **Conceptual Model of HRIS-Trust with Propositions**

From above case studies of SMEs in Vietnam, a conceptual model of HRIS-Trust (Figure 3.1, Duc *et al*, 2013) is reinforced with Propositions and re-arranged in a 90-degree rotation as follows:

**Proposition 1:** *The higher level of KSAOs of management will lead to an increase in HRIS-Trust – link this to previous theory from the literature review. Do this for EACH of the 6 propositions here.*

**Proposition 1a:** *The higher level of KSAOs of management is associated with the higher level of maturity (standardization) of organizational structure*

**Proposition 1b:** *The higher level of KSAOs of management will lead to an increase in the level of IT infrastructure*

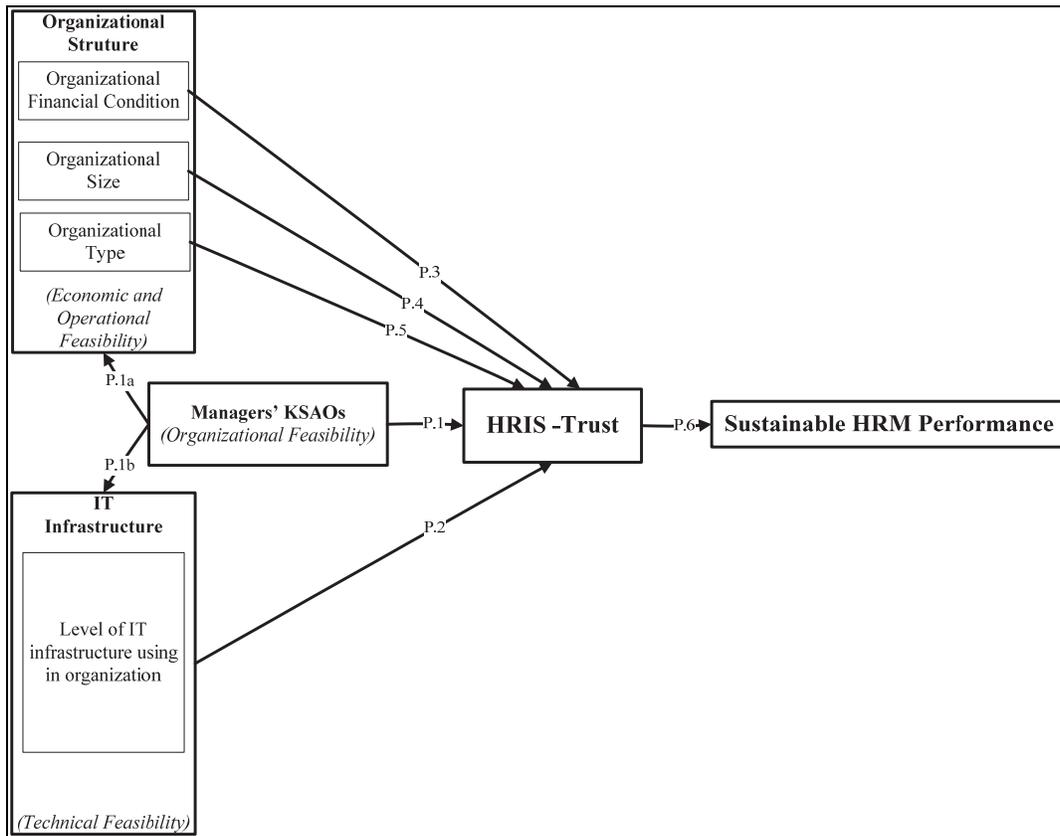
**Proposition 2:** *The higher level of IT infrastructure lead to an increase in HRIS-Trust (especially among users with higher KSAOs)*

**Proposition 3:** *The better an organizational financial condition will lead to an increase in HRIS-Trust (especially among users with higher KSAOs)*

**Proposition 4:** *The larger the organizational size leads to an increase in HRIS-Trust (especially among users with higher KSAOs)*

**Proposition 5:** *The higher level of organizational type will lead to an increase in HRIS-Trust (especially among users with higher KSAOs)*

**Proposition 6:** *The higher HRIS-Trust will increase the sustainability of HRM-Performance*



**Figure 4.7: Conceptual Model of HRIS-Trust with Propositions**

## Conclusions

The results of this study show that most SME respondents considered HRIS as less important compared to other perspectives of business management such as production, sales, marketing, and finance. As a result, HRIS is, qualitatively, often considered as one of the least important areas to invest in from a business management perspective by many SMEs, especially the smaller enterprises. Among the three basic HRM practices, HRIS is the most valuable and beneficial while Excel filing is the next most valuable and the most popular among SMEs, and paper-based is the least favoured. Many SMEs currently implement either HRIS or Excel filing practices together with paper-based simply because it is required by government regulations. The second most valuable in customer preference, Excel filing can satisfy most HRM activities at no price; in other words, free of charge. Considered as the most beneficial option among the three, HRIS is valued as time and effort saving, while increasing productivity and quality consistency.

The most mentioned strengths of HRIS deal with how the system centralizes HRM tasks. Additionally, it ensures greater productivity, quality consistency, and allows employees secure and authorized access to the system. However, customers do have some concerns with the expensive investment required, and the risk of failures. Furthermore, the suitability of the HRIS to actual SMEs situations, expectations, usability, and flexibility is a cause for customer concern.

The current users qualitatively have clearer and more specific expectations for HRIS than their

counterparts, partly based on their actual experience, knowledge, and understanding regarding the system. Additionally, current users are considered as expecting more from the HRIS compared to their counterparts. These expectations could result in triggering them to switch from the current HRIS to a new one, which they expect to be superior.

In addition, field and size of operation would contribute a big part in HRIS implementation. In short, this feature of SMEs directly affects the needs, expectations for employee management plans, and activities that in turn impact the SMEs' expectations of the HRIS.

As mentioned above, the study's results have been based on a limited number of respondents (N=10 IDIs). The findings are not representative of the entire market. This study is entry-level progress for a larger market-research progression. Thus, other studies would be appropriate for larger scale study findings – for instance quantitative studies. A larger scale study would better represent HRIS in Vietnam's market for Vietnamese SMEs.

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## *CSR Strategies To Improve Competitiveness Development: Manufacturing Industry In Mexico*

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### **Abstract**

*Corporate Social Responsibility (CSR) involves proactive strategies and business practices adopted voluntarily by companies that go beyond regulatory requirements for managing its social responsibility, and thereby contribute broadly and positively to society, and the commitment of citizens, institutions, public and private, and social organizations, in general, to contribute to the increased welfare of local or global society. The study analyzes the impact of CSR in the Competitiveness in the SMEs Manufacturing Industry, using EQS software to detect the correlation and confirmatory analysis in this research.*

**Keywords:** Corporate Social Responsibility, Competitiveness and SMEs Manufacturing Industry

### **Introduction**

The phenomenon as globalization has had an impact on the performance of companies in our society (Siegele and Ward, 2007) imposing restrictions and demands on development-oriented activities of humanitarian work and if possible, get a financial reward (Pirson and Lawrence, 2010). It has been shown that the Government itself is not only competent enough to meet the basic needs of most people and consequently must be various options to increase the quality of life of the population (Griesse, 2007).

Sajardo Moreno and Serra Yoldi, (2009) perceive three types of CSR:

a) financial responsibility, b) social responsibility, and c) environmental responsibility.

The fundamental principles of CSR refers to: accountability; transparency, ethical behavior, respect for the interests of the parties concerned; respect for the rule of law; respect for international standards of behavior and respect for human rights.

### **Theoretical framework**

By mid-1970 on the implementation analysis it focused on the model that was carried out CSR. Sethi (1975), proposed a three-stage scheme based on the obligations and responsibilities that the company has and is integrated into its operation, as: 1. Stage socially responsible policy Stage 2. and 3. Stage mandatory. Carroll (1979) created a model centered on the performance of socially responsible companies, in which four interrelated categories are defined: a. Economic, b. Legal, c. Ethics and d. Discretionary.

Drucker (1984), proposes that to achieve the implementation of CSR is necessary that businesses convert their social responsibilities, business opportunities, to thereby generate skills, competencies, better paid jobs and

opportunities for access health services for society. So, the relationship between corporate social performance and financial performance is one of the most studied topics (Chand and Fraser, 2006; McWilliams and Siegel, 2001).

Corporate Social Responsibility in the model that implemented Cochran, Wartick and Wood(1984), who defined it as a set of principles of social responsibility, processes of social responsiveness, and policies, programs and observable results of a business organization, and how they relate relations with the social type of the company.

López Salazar, (2013) adds that the growing interest in the concept of social responsibility is founded on the interest there is in society that companies operate in a socially responsible manner, this represents a challenge for corporations as raises the standard to reach, also, Rosas, (2010) adds that social responsibility has gained ground in the agendas of governments, executives, business managers and somewhat more in the university sector, few companies recognize social responsibility as a way to evade tax or as a marketing strategy.

Salazar, Soto and Sanchez (2011), comment that CSR use Instrumental means to achieve organizational or as threats to its stakeholders objectives, this approach sees the need to respect the interests of all participating groups achieving a balance in the results, meanwhile, Valenzuela, Jara, and Villegas (2015) argue that the business sector is essential to have information on the subject Social Responsibility, because in this way can adopt certain practices that suit their interests, involving the various stakeholders, and even providing benefits for each.

In other ideas, Mazzoti-Pabello and Solís-Pérez (2014) comment that according with 26000:2010 the essential characteristic of CSR is the willingness of the organizations incorporate social and environmental considerations into their decision-making and accountability for the impacts of its decisions and activities on society and the environment.

Giacomozzi, and González (2014) consider the importance to have an intangible asset according to different relationships, such organization and stakeholders related with economic, legal, ethical and discretionary dimension, and the generation of social capital is the result of hard work and continued in the four dimensions, which does not leave out any of them creating value for each of the stakeholders and the ability to produce capital as a central element of CSR.

Some critics say that CSR is expensive and that the positive effects can often occur only in the distant future, if they come at all. Supporters of CSR argue that the cost of a responsible social and environmental behavior back to the company over time (Porter and Kramer, 2006). Especially the positive relationship can be found in the context of environmental performance and economic performance (Russo and Fouts, 1997). So, according to the authors CSR for companies if they can have high costs, and it is important to emphasize that implemented CSR in a company is really expensive, but your benefits will be long-term and short by little in the future. Keinert (2008) establish that CSR has been seen as a resource for the development of competitive advantages. Companies can be differentiated through their corporate image and reputation achieved by social responsibility, which ultimately would impact positively on the financial performance of the company (Bear, Rahman and Post, 2010; Fernández and Luna, 2007; Lai, 2010; Flatt and Kowalczy, 2006; Orlitzky, Schmidt and Rynes, 2003) also being able to generate sustainable profits over time and contributing to form an identity for the company (Bendix and Abratt, 2007).

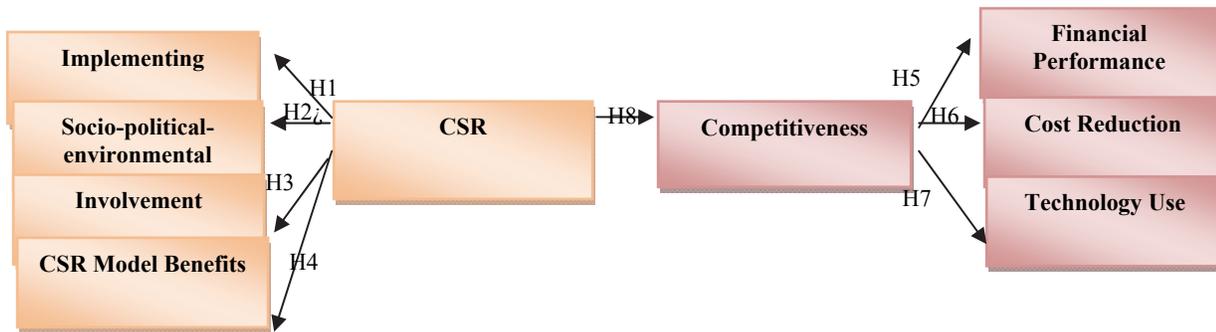
And this CSR strategy is carried through implementation, involvement, benefits and socio-politic-environmental based on competitiveness in their financial, technological performance and cost aspect.

## **Methodology**

The surveys were applied in 400 SMEs manufacturing industry in Guadalajara, Mexico, during September to December 2015, the pilot questionnaire was applied to 20 SMEs, and the suggestions to improve the collect information were included in the final questionnaire, applying 434 surveys, rejecting 34 due incomplete information.

The study is correlational and descriptive; include enterprises from 11 to 250 workers, the universe of the study is 1285 plastic and metalworking SMEs located in Guadalajara, Mexico. In the figure 1 shown the theoretical model considering the independent variable CSR and Competitiveness as dependent variable.

**Figure 1. Theoretical model of the relation between CSR and competitiveness**



Source: own

Also, there are eight hypotheses that will contribute to this research:

- H1:** Most implementation, better is CSR.
- H2:** Most socio-political-environmental support, better is CSR.
- H3:** Most Involvement, better CSR.
- H4:** Most CSR Model benefits, better CSR.
- H5:** Better financial performance, better Competitiveness.
- H6:** Better cost reduction, better Competitiveness.
- H7:** Better technology use, better Competitiveness.
- H8:** Better CSR, better Competitiveness.

With regard to the development of the measures, the Social Responsibility was average with a scale of 4 items adapted from Giacomozzi, and González (2014), Mazzoti-Pabello and Solís-Pérez (2014), Sethi (1975), Valenzuela, Jara, and Villegas (2015), Carroll (1979), Drucker (1984), Cochran and Wood (1984), Porter and Kramer (2006), Keinert (2008), Azcarate, Carrasco and Fernandez (2011), Salazar, Soto and Sanchez (2011).

Competitiveness was measured by 6 times and was adapted from Friedman (1970), Barney (1991), Freeman (1994), Russo and Fouts (1997), Miles and Covin (2000), McWilliams and Siegel (2001), Chand and Fraser (2006), Van Beurden, and Gößling (2008). All items used were measured with a Likert scale of 5 positions with 1 = strongly disagree to 5 = strongly agree.

Assessing the reliability and validity of measuring scales of the CSR and competitiveness, a Confirmatory Factorial analysis (CFA) with the method of maximum likelihood and EQS 6.2 software (Bentler, 2005; Brown, 2006; Byrne, 2006).

Rates of statistical adjustment that were considered were the NFI, NNFI, CFI and RMSEA (Bentler, and Bonnet, 1980; Bentler, 1990; Hair et al., 1995; Chau, 1997; Heck, 1998).

**Table 1. Technical Information for the Study**

<b>Study Characteristics</b>	<b>Description</b>
Universe <sup>1</sup>	1285 Plastic and Metalworking SMEs
Fieldwork	Guadalajara, Mexico
Sampling	SMEs from 11 to 250 workers
Information collect method	Personnel survey
Type of sampling	Simple random
Size of sampling	400 SMEs
Sampling error margin	± 5% to a global level, to a confidence level of 95% (p=q= 0.5)
Date of fieldwork	September to December 2015

Source: Own based in study information

### **Analysis and Discussion**

The results of the Confirmatory Factorial Analysis (CFA) are presented in table 1 and shown that the model presents a good of data analysis ( $S-BX^2= 971.3254$ ;  $df= 329$ ; ( $p < 0.0000$ );  $NFI = .903$ ;  $NNFI = .923$ ;  $CFI = .935$ ;  $RMSEA = .030$ ). Also, Cronbach's alpha is higher to 0.800, and Loading Factorial Index (LFI) exceeds the value 0.70 recommended (Nunnally and Bersntein, 1994; Kline, 2011; Albright y Winston, 2015).

Moreover regarding evidence of discriminant validity, measurement is provided in two forms that can be seen in Table 2. Since, with a confidence interval of 90% confidentiality, none of the individual elements of the factors latent correlation matrix contains the 1.0 (Anderson and Gerbing, 1988). Another point to note is extracted variance between the pair of constructs is higher than its corresponding EVI (Fornell and Larcker, 1981). And based on these criteria it is concluded that the different measurements to the model shown sufficient evidence of reliability and convergent and discriminant validity.

**Table 2. Internal consistency and convergent validity of the theoretical model**

Variable	Indicator	Factor Loading	Robust T-Value	Cronbach's alpha	LFI	EVI
Implementation	RSG2	0.904***	1.000*	0.913	<b>0.915</b>	<b>0.781</b>
	RSG3	0.911***	25.099			
	RSG4	0.835***	20.016			
Socio-political-environmental	RSP5	0.796***	1.000*	0.825	<b>0.824</b>	<b>0.611</b>
	RSP6	0.722***	19.017			
	RSP7	0.823***	20.615			
Involvement	RSI1	0.842***	1.000*	0.894	<b>0.896</b>	<b>0.683</b>
	RSI2	0.846***	13.152			
	RSI3	0.752***	17.656			
	RSI4	0.862***	21.043			
CSR Model Benefits	RSB2	0.884***	1.000*	0.848	<b>0.849</b>	<b>0.739</b>
	RSB4	0.834***	12.093			
Financial Performance	FP1	0.722***	1.000*	0.955	<b>0.956</b>	<b>0.783</b>
	FP2	0.849***	26.117			
	FP3	0.938***	24.000			
	FP4	0.940***	23.495			
	FP5	0.953***	23.683			
	FP6	0.886***	21.655			
Costs Reduction	PC3	0.923***	1.000*	0.935	<b>0.936</b>	<b>0.785</b>
	PC4	0.967***	42.573			
	PC5	0.869***	26.718			
	PC6	0.774***	18.997			
Technology Use	TE1	0.855***	1.000*	0.929	<b>0.930</b>	<b>0.691</b>
	TE2	0.863***	54.830			
	TE3	0.892***	37.353			
	TE4	0.859***	33.587			
	TE5	0.701***	22.963			
	TE6	0.802***	30.406			
S-BX <sup>2</sup> (df = 329) = 971.3254 (p < 0.000); NFI = .903; NNFI = .923; CFI = .935; RMSEA = .070						

\* = Constrained parameter values in the identification process

Source: Own

**Chart 2. Discriminant Validity of the theoretical model measurement**

Variables	Implementation	Socio-political-environmental	Involvement	CSR Model Benefits	Financial Performance	Costs Reduction	Technology Use
<b>Implementation</b>	<b>0.</b>	0.295	0.206	0.381	0.852	0.486	0.09
<b>Socio-political-environmental</b>	0.145, 0.445	<b>0.611</b>	0.983	0.660	0.02	-0.142	0.497
<b>Involvement</b>	0.068, 0.344	0.225, 0.537	<b>0.683</b>	0.441	-0.014	-0.216	0.355
<b>CSR Model Benefits</b>	0.626, 0.078	0.324, 0.648	-0.064, 0.244	<b>0.739</b>	0.006	-0.062	0.288
<b>Financial Performance</b>	0.799, 0.167	0.494, 0.826	-0.168, .208	-0.280, '-0.004	<b>0.783</b>	0.510	-0.152
<b>Costs Reduction</b>	0.339, 0.655	0.299, .583	-0.190, 0.162	-0.348, '-0.084	0.213, 0.497	<b>0.785</b>	-0.202
<b>Technology Use</b>	-0.188, 0.200	-0.202, .078	0.136, 0.440	0.416, 0.604	-0.354, 0.050	-0.350,-0.054	<b>0.691</b>

The diagonal represents the extracted variance index (EVI), while above the diagonal part of variance (squared correlation) is presented. Below the diagonal, the estimate of the correlation factor with a confidence interval of 90% is presented.

Source: Own

The hypotheses were tested in the theoretical model of corporate social responsibility and competitiveness through structural equation modeling (SEM) using software EQS 6.2 (Bentler, 2005; Byrne, 2006; Brown, 2006). The nomological validity of the theoretical model was tested through the realization of the chi-square, in which the theoretical model with the measurement model was compared with no significant differences (Anderson and Gerbing, 1988; Hatcher, 1994). The results of this analysis are presented in Table 3.

**Table 3. Results of the SEM Theoretical model**

Hypothesis	Structural Relationship	Standardized Coefficient	Robust T-Value	
<b>H1:</b> Most implementation, better is CSR.	Implementation → CSR	0.245	15.038	<i>S-BX</i> <sup>2</sup> <sub>(329)</sub> = 971.3254 p = 0.001 NFI = 905 NNFI = 923 CFI = .935 RMSEA = 0.070
<b>H2:</b> Most socio-political-environmental support, better is CSR.	Socio-political-environmental → CST	0.218	13.21	
<b>H3:</b> Most Involvement, better CSR.	Involvement → CSR	0.213	15.317	
<b>H4:</b> Most CSR Model benefits, better CSR.	CSR Model Benefits → CSR	0.227	12.093	
<b>H5:</b> Better financial performance, better Competitiveness	Financial Performance → Competitiveness	0.321	21.840	
<b>H6:</b> Better cost reduction, better Competitiveness	Cost Reduction → Competitiveness	0.237	22.072	
<b>H7:</b> Better technology use, better Competitiveness	Technology Use → Competitiveness	0.250	29.856	
<b>H8:</b> Better CSR, better competitiveness	CSR → Competitiveness	0.244	18.489	

\*\*\* = p < 0.001

Source: Own

Chart 3 showed the results obtained from the Structural Equations Model, regards to the **H1** the results obtained,  $\beta = 0.245$ ,  $p < 0.001$ , indicates that CSR implementation process has important impact in the CSR of manufacturing firms. Also for hypothesis **H2**, the correlation obtained,  $\beta = 0.218$ ,  $p < 0.001$ , suggest that socio-political-environmental issues has significant effects in CSR. In **H3**,  $\beta = 0.213$ ,  $p < 0.001$ , suggest that people involvement also has effects in CSR manufacturing firms. **H4**,  $\beta = 0.227$ ,  $p < 0.001$ , the CSR Model Benefits affect significantly the CSR in plastic and metalworking SMEs.

Related with hypothesis **H5** the results obtained,  $\beta = 0.321$ ,  $p < 0.001$ , indicate that financial performance has good impact in the competitiveness level. In **H6**  $\beta = 0.237$   $p < 0.001$ ), show that cost reduction also has significant effects on business competitiveness. The results obtained in hypothesis **H7**,  $\beta = 0.250$ ,  $p < 0.001$ , present the technology use has important impact on business competitiveness. Finally, the results obtained on hypothesis **H8**,  $\beta = 0.244$ ,  $p < 0.001$ , presents that CSR affects significantly on SMEs business competitiveness

## Limitations

The first limitation is that the sample considered companies from 11 to 250 employees, excluding companies from 1 to 10 workers, and more than 250 employees, with the presentation of a significant amount of manufacturing SMEs that future studies should be important to consider these companies to analyze the effects of CSR in competitiveness, and the effects of different enterprises size.

The questionnaire was applied to directors or managers high level, and the results may differ from the functional managers or middle managers.

The present study consider just the plastic and metalworking SMEs, could analyze the impact in other manufacturing enterprises.

In future studies, it could be important to consider the views of customers and suppliers to analyze the results, comparing the opinions in and out of SMEs.

Finally, it could be interesting analyses and discuss some questions:

According to the results that would be in the manufacturing SMEs if a more sophisticated CSR measuring model, impact in competitiveness of SMEs? What elements are most important in the implementation, socio-cultural-environmental, involvement, and model benefits impacting in CSR? What specific activities of financial performance, reducing costs and technology use are most affecting business competitiveness? What are the practical considerations in SMEs to apply CSR and affect competitiveness in Service SMEs? These and more questions could be answered in future studies.

## Conclusions

This research has shown that plastic and metalworking SMEs in Guadalajara, Mexico has a good correlation between the variable competitiveness dependent with the independent variable CSR, and results expressed in this study appear to be consistent with the relationship of the factors use of technology, costs and financial results with the variable competitiveness, and implementation factors, socio-political-environmental, involvement and model benefits that are related to corporate social responsibility.

The SMEs analyses are in a process of transformation of administrative systems, conscious that they need to change and apply an integral CSR model to create added value in the society, being aware to get new challenges responding the implications of this CSR strategy, where the team must involvement in the change, from planning to implementing the process, getting benefits in all the organization.

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## ***Challenges Faced by Entrepreneurs: An Empirical Study of India***

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### **Abstract**

*The government of India considers its policy of financial inclusion a compulsion and not a choice. Its sole purpose is to achieve inclusive growth thus ensuring equality of economic opportunities. Entrepreneurs in the Micro, Small and Medium-sized Enterprises (MSMEs) have been identified as potential target for promoting financial inclusion. The need for assisting MSMEs is seen in them engaged in the formation of MNCs of tomorrow. Despite an overwhelming institutional response, India recognizes the need for bringing unregistered entrepreneurs under a supporting microfinance environment. This paper attempts to identify challenges faced by small firms and entrepreneurs, governmental response and possible solutions to their problems through an empirical study of the success factors for entrepreneurs.*

**Keywords:** Entrepreneurship, Financial Inclusion, SMEs, Globalization, Microcredit

### **Introduction**

Globalization has paved the way for family-owned conglomerates such as the Tata Group become multinational corporations (MNCs) and technology-oriented entrepreneurial start-up firms such as Infosys become global provider of tailor-made business solutions. While technology wave has been responsible for growth, the challenges faced by entrepreneurs remain yet to be fully addressed. This paper attempts to identify challenges faced by small firms and entrepreneurs, governmental response and possible solutions to their problems.

The government of India considers its policy of financial inclusion a compulsion and not a choice. Its sole purpose is to achieve inclusive growth thus ensuring equality of economic opportunities. Entrepreneurs in the Micro, Small and Medium-sized Enterprises (MSMEs)<sup>1</sup> have been identified as potential target for promoting financial inclusion. The government has also set up a policy making body known as the National Commission on Enterprises in the Unorganized Sector (NCEUS). Its role is to suggest policies and programmers to address the wide range of issues affecting the productive potential of the large segment of the unorganized micro and small productive units.

The need for assisting MSMEs is seen in them engaged in the formation of MNCs of tomorrow [Chakrabarty, 2011]. Policymakers see Microenterprise development projects to serve four major objectives: poverty reduction; the empowerment of women; employment generation, and enterprise development as an end in itself. Policymakers of the Reserve Bank of India warn entrepreneurs to beware of four pitfalls. First, products may serve better in a different role from what it was designed for. Secondly, entrepreneurs need to understand the importance of cash flows without focusing on profits. Thirdly, exponential growth raises stress and so, requires keen attention. Lastly, the entrepreneur learns to concentrate when the business brings success.

### **MSMEs In India: Role, Size, and Credit Facilities**

Table 1 presents the important role played by MSMEs in India and their growing importance in the country's progress. Estimates suggest that there are more than 26 million working enterprises in the country employing nearly 60 million laborers. Yet, only 1.5 million units are registered leaving data pertaining to about 24.5 million units out of enumeration. Unregistered MSMEs are not desirous of cooperating with data collection as they

fear that information might be leaked to the regulators and bureaucrats<sup>2</sup>. They have thus voluntarily chosen to be operating in a world of financial exclusion denying themselves privileges of credit, export & import license,

**TABLE 1: ROLE OF MSMEs IN INDIA**

Year ending March 31	Production (millions of units)	Value of Production (\$, millions)	Employment (millions)	Value of Exports by Small Scale Industries (\$, millions)	Percentage of Value of Exports to Total Production
1974	0.42	\$9,000.00	3.97	\$500	5.56%
1975	0.50	\$12,475.20	4.04	\$678	5.43%
1976	0.55	\$13,530.00	4.59	\$615	4.55%
1977	0.59	\$13,283.50	4.98	\$857	6.45%
1978	0.67	\$17,642.63	5.40	\$987	5.59%
1979	0.73	\$18,715.82	6.38	\$1,303	6.96%
1980	0.81	\$27,324.00	6.70	\$1,518	5.56%
1981	0.87	\$36,494.88	7.10	\$2,078	5.69%
1982	0.96	\$35,844.48	7.50	\$2,309	6.44%
1983	1.06	\$37,030.00	7.90	\$2,116	5.71%
1984	1.16	\$39,576.73	8.42	\$2,093	5.29%
1985	1.24	\$43,167.40	9.00	\$2,137	4.95%
1986	1.35	\$49,462.71	9.60	\$2,263	4.58%
1987	1.46	\$57,257.58	10.14	\$2,851	4.98%
1988	1.58	\$66,903.55	10.70	\$3,372	5.04%
1989	1.71	\$73,319.27	11.30	\$3,790	5.17%
1990	1.82	\$79,710.75	11.96	\$4,579	5.74%
1991	6.79	\$43,918.42	15.83	\$5,386	12.26%
1992	7.06	\$32,703.57	16.60	\$5,632	17.22%
1993	7.35	\$29,143.94	17.48	\$6,140	21.07%
1994	7.65	\$31,496.67	18.26	\$8,068	25.62%
1995	7.96	\$38,905.39	19.14	\$9,258	23.80%
1996	8.28	\$44,159.69	19.79	\$10,903	24.69%
1997	8.62	\$47,269.98	20.59	\$11,056	23.39%
1998	8.97	\$50,374.44	21.32	\$11,958	23.74%
1999	9.34	\$50,023.59	22.06	\$11,642	23.27%
2000	9.72	\$53,945.94	22.91	\$12,508	23.19%
2001	10.11	\$57,195.80	24.09	\$15,278	26.71%
2002	10.52	\$59,184.62	24.93	\$14,938	25.24%
2003	10.95	\$65,057.95	26.02	\$17,773	27.32%
2004	11.40	\$79,331.65	27.14	\$21,249	26.79%
2005	11.86	\$95,654.54	28.26	\$27,690	28.95%
2006	12.34	\$112,447.04	29.49	\$33,935	30.18%
2007	26.10	\$156,652.99	59.46	\$40,309	25.73%
2008	27.28	\$196,506.65	62.63	\$50,202	25.55%
2009	28.52		65.94		
2010	29.81		69.54		

Source: Ministry of Micro, Small & Medium Enterprises, Government of India

Table 35 – Performance of SSI Sector, Reserve Bank of India, September 2011

marketing support, financial literacy tools, and a nurturing ecology. MSMEs contribute to national income, provide employment opportunities especially to the village artisans and rural people, and prevent economic concentration in the hands of a few. The labor intensity in the MSME sector is higher than in the MNCs. So, the government agencies at the federal and state levels treat this sector as a priority. Entrepreneurship thrives with access to credit which paves way for empowerment. India’s overwhelming response in favor of institutionalized lending to SMEs is a focused effort [Venkataramany & Fox, 2009].

A wide range of financial institutions exist in the country to provide credit to various sectors of the economy. These include (not counting the branches or affiliates) 183 commercial banks, 133 regional rural banks (RRBs), 13,014 non-banking financial companies, and 1,853 urban cooperative banks. In addition to these sources of credit, short-term rural credit at the grass root level is emphasized through 31 state co-operative banks, 367 district central co-operative banks (DCCBs), 108,779 primary agricultural cooperatives. State cooperative and agricultural rural development banks (20) and primary cooperative and agricultural rural development banks (727) serve long term credit needs in rural India. Table 2 shows the volume and share of credit extended by scheduled commercial banks to MSMEs.

**TABLE 2: CREDIT ASSISTANCE BY COMMERCIAL BANKs to MSMEs**

Year	Number of Accounts (millions)	Outstanding Credit	Ratio of Credit to SMEs to Total Credit
2010	8.5	\$ 80,509.11	13.40%
2011	9.3	\$107,660.67	9.90%

Source: The Reserve Bank of India Annual Report, August 25, 2011  
Chapter IV, Credit Delivery and Financial Inclusion

Security based credit has proved to be a major constraint since the late 1960s as it relies upon collateral and guarantees. The current shift in the paradigm to resource-based credit (evaluation of cash flows discounted at the cost of credit) is dynamic and focused on the entrepreneur. Besides, the infrastructure needs improvement in the areas of lending by financial institutions, technical skills development programmes, assistance with technological up-gradation, marketing, consulting and capacity building. Only 5% of the MSMEs seek credit from commercial banks thus, leaving the remaining 95% reliant on self-finance. While major players have joined the network of multinational corporations, the small units tend to be either self-employed or part-timers or those catering to ancillary business units. Little development has taken place in decades in the adoption of technology due to lack of financial resources, skill and awareness.<sup>3</sup> Liberal credit guarantee facilities are also made available by the government to facilitate smooth credit assistance to entrepreneurs. For instance, 85% of credit in default of a total bank loan of \$10,000 to an SME and 80% of credit in default of a total loan of \$100,000 accorded to women entrepreneurs are unprecedented.

### Challenges Faced by the MSMEs

While the government fulfills its responsibility in terms of ecology by providing a congenial climate for growth, the entrepreneurs need to start accessing all the available channels for development. Registration of business enterprises may add to the tax burden leading to an increase in prices and eventual losses, the entrepreneurs have to assert their right to be taxed only to qualify for numerous privileges, promotional programmes and incentives. The

benefits obviously exceed the costs. In the end, these entrepreneurs do not need to operate in a world of informal economy any more. Small firms can manage their operations during growth but, are forced to access bank credit during lower business activity [Manna, 2009].

The MSMEs' primary problem lies in their production and marketing of their products. They have limited scope in advertising and marketing research. They lack the necessary financial resources to face competition from large firms, both domestic and foreign. Inadequate infrastructure, inability to secure long-term funding for the purchase of plant, machinery, and equipment pose a huge threat against survival during a growth stage. Shortage of working capital leads to paucity of raw materials and value adding components. They do not have the ability to adopt modern methods of organization, recruit experts, and competitive managers. Technology obsolescence, managerial inadequacies, delayed payments, poor quality, incidence of sickness, lack of appropriate infrastructure, marketing network, raw materials, credit, technology human resource, infrastructure, managing exports, and increasing competition are identified by the government as common challenges for MSMEs.

### **Government's Response**

Entrepreneurship Development Programmed (EDPs) set up by the government aim to assist new entrepreneurs in setting up micro and small enterprises. Skill development programmers (SDPs) and entrepreneurship-cum-skill development programmers (ESDPs) are also being organized by various public and private training institutions. The Ministry of Micro, Small and Medium Enterprises regularly collects data on MSMEs engaged in manufacturing and services. The data is analyzed to understand the constraints and challenges faced by the MSMEs amidst opportunities available to them. The results are used for policy research and designing appropriate strategies and measures of intervention by the Government. Micro, Small and Medium Enterprises Development Act, 2006 has been enacted to facilitate the promotion and development of MSMEs. It provides the first-ever legal framework for recognition of the concept of 'enterprise' which comprises both manufacturing and service. De-reservation of products in the MSMEs is aimed at providing opportunities for technological upgradation, promotion of exports and economies of scale, with a view to encourage modernization in the sector. The total number of items reserved for exclusive manufacture in the micro and small scale sector is at present 35. The National Manufacturing Competitiveness Programme (NMCP) has been launched to provide support to the manufacturing sector. Credit Linked Capital Subsidy Scheme (CLCSS) was launched to facilitate technology upgradation by upfront capital subsidy to small, micro and medium enterprises.

### **Methodology**

India is still a factor-driven economy in Asia along with Iran, Philippines, and Vietnam while China, Indonesia, Malaysia, Thailand, and Turkey have transformed themselves into efficiency-driven economies. Global Entrepreneurship Monitor considers the following twelve factors for entrepreneurial success: the availability of financial resources, public policies supporting entrepreneurship, taxes or regulations encouraging SMEs, programs assisting SMEs, training in creating or managing SMEs, programs incorporated within the higher education system, national research and development that lead to new commercial opportunities for SMEs, property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs, levels of change in markets from year to year, freedom to enter markets, ease of access to physical resources, social and cultural norms that encourage increase of personal wealth. Table 3 displays the pattern of growing success factors for entrepreneurs in India.

Data for the aforesaid twelve factors for 62 countries for the period between 2007 and 2015 is analyzed to understand the path to success for entrepreneurs. Our hypotheses are presented below:

Hypothesis 1 (overall):

Financing =  $\alpha$  (constant) +  $\beta_1$  (governmental support) +  $\beta_2$  (taxes) +  $\beta_3$  (government programs) +  $\beta_4$  (entrepreneurial education) +  $\beta_5$  (post-school training) +  $\beta_6$  (R&D transfer) +  $\beta_7$  (commercial infrastructure) +  $\beta_8$  (market dynamics) +  $\beta_9$  (market openness) +  $\beta_{10}$  (physical infrastructure) +  $\beta_{11}$  (cultural and social norms)

Hypothesis 2: (India)

Financing =  $\alpha$  (constant) +  $\beta_1$  (governmental support) +  $\beta_2$  (taxes) +  $\beta_3$  (government programs) +  $\beta_4$  (entrepreneurial education) +  $\beta_5$  (post-school training) +  $\beta_6$  (R&D transfer) +  $\beta_7$  (commercial infrastructure) +  $\beta_8$  (market dynamics) +  $\beta_9$  (market openness) +  $\beta_{10}$  (physical infrastructure) +  $\beta_{11}$  (cultural and social norms) +  $\beta_{12}$  (dummy variable for India)

Hypothesis 3 (other countries):

Financing =  $\alpha$  (constant) +  $\beta_1$  (governmental support) +  $\beta_2$  (taxes) +  $\beta_3$  (government programs) +  $\beta_4$  (entrepreneurial education) +  $\beta_5$  (post-school training) +  $\beta_6$  (R&D transfer) +  $\beta_7$  (commercial infrastructure) +  $\beta_8$  (market dynamics) +  $\beta_9$  (market openness) +  $\beta_{10}$  (physical infrastructure) +  $\beta_{11}$  (cultural and social norms) +  $\beta_{12}$  (dummy variable for other countries)

**TABLE 3: TWELVE FACTORS OF ENTREPRENEURIAL SUCCESS IN INDIA**

<b>Year</b>	<b>2007</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Financing for entrepreneurs	3.37	3.09	2.82	3.11	5.74
Governmental support and policies	2.73	2.92	1.89	3.00	5.50
Taxes and bureaucracy	2.31	2.18	1.84	2.43	3.94
Governmental programs	2.42	2.79	2.05	2.94	4.52
Basic-school Entrepreneurial Education and training	2.12	1.92	1.50	2.33	4.11
Post-school entrepreneurial education and training	2.91	2.73	2.42	3.09	5.09
R&D Transfer	2.89	2.54	1.94	2.86	4.29
Commercial and professional infrastructure	3.99	3.10	2.95	3.40	4.96
Internal market dynamics	3.02	3.13	3.51	3.45	5.72
Internal market openness	3.12	2.85	2.49	2.87	4.75
Physical and services infrastructure	4.07	3.71	3.68	3.96	6.15
Cultural and social norms	3.41	3.20	2.69	3.43	5.45

Source: Global Entrepreneurship Monitor

Financing is the key ingredient for success of entrepreneurs and how it is being impacted by the other eleven factors is the methodology of our analysis. Table 4 includes the correlation matrix among these twelve variables.

**TABLE 4: Correlation Matrix for Factors for Consideration for Financing To Entrepreneurs**

	Financing	Govt Support	Taxes	Govt Programs	Education & Training	Post-school Training	R&D Transfer	Commercial Infrastructure	Market Dynamics	Market Openness	Physical Infrastructure	Cultural-Social Norms
Financing	1.000											
Govt Support	0.793	1.000										
Taxes	0.705	0.773	1.000									
Govt Programs	0.792	0.846	0.809	1.000								
Education & Training	0.721	0.645	0.646	0.672	1.000							
Post-school Training	0.740	0.715	0.649	0.772	0.752	1.000						
R&D Transfer	0.853	0.791	0.757	0.880	0.745	0.803	1.000					
Commercial Infrastructure	0.836	0.710	0.701	0.791	0.717	0.820	0.821	1.000				
Market Dynamics	0.647	0.614	0.453	0.502	0.494	0.572	0.581	0.558	1.000			
Market Openness	0.837	0.776	0.777	0.837	0.749	0.813	0.857	0.870	0.577	1.000		
Physical Infrastructure	0.775	0.723	0.730	0.787	0.578	0.758	0.799	0.832	0.641	0.812	1.000	
Cultural-Social Norms	0.758	0.691	0.680	0.702	0.715	0.799	0.738	0.746	0.615	0.774	0.715	1.000

Table 5 presents the results of the regression analysis of the data for our hypotheses.

### Discussion Of Results

Our analysis indicates that financing for entrepreneurs is significantly dependent upon government support for entrepreneurs, favorable policies of taxes and regulations, education, training programs beyond formal education, intellectual property rights, presence of commercial infrastructure, market dynamics, market openness, and norms based upon cultural and social values. The negative sign for the highly significant variable of the availability of post-school training programs for entrepreneurs emphasizes the need for entrepreneurial education in the first place. The variable for the availability of government sponsored programs turned out to be insignificant thereby explaining the wasteful resources of the government, the lack of knowledge of entrepreneurs in accessing and utilizing such programs, and the inability of the government to propagate the information. The analysis produced similar results in our separate analyses in the context of India and in that of the other countries.

### Conclusion

Corporate entrepreneurship is shown as the prescriptive method to increase competitiveness in large organizations in the era of globalization [Bhardwaj, Sushil & Momaya, 200t]. The challenges are similar for both real production and service sectors. Suitable policies will help India’s service sector shape the nation into a knowledge based economy [Jauhari, 2007]. The protective environment that shielded India’s MSMEs is now withdrawn in the era of liberalization and they are exposed to cross-border competition [Kulkarni, 2008] and so policy changes are necessary. A strong commitment to internationalization and the ability to leverage human capital influence the international success of Indian SMEs [Javalgi & Todd, 2011]. Imparting fundamental skills is a critical factor in mentoring entrepreneurs [Manimala, 2006]. India stands out as an example in policy-making decisions for several emerging economies, particularly in Southeast Asia [Venkataramany & Bhasin 2010]. The lack of confidence in Indian entrepreneurs in countering foreign competition stems from a lack of flexibility and bureaucratic obstacles [Rajan, 2009]. Once these shortcomings are addressed, India will become and remain a global hub.

**TABLE 5 Regression Results for Financing To Entrepreneurs (2007-2015)**

Dependent Variable:	Model 1	Model 2	Model 3
Financing	(overall)	(India)	(Other Countries)

Constant	-0.153 (-2.295)*	-0.149 (-2.247)*	0.266 (1.752)*
Government Support	0.219 (5.619)***	0.210 (5.414)***	0.210 (5.414)***
Taxes	-0.071 (-2.085)*	-0.061 (-1.809)*	-0.061 (-1.809)*
Government Programs	-0.023 (-0.455)	-0.013 (-0.267)	-0.013 (-0.267)
Education and Training	0.096 (2.308)*	0.100 (2.408)*	0.100 (2.408)*
Post-school Training	-0.230 (-5.264)***	-0.221 (-5.079)***	-0.221 (-5.079)***
R&D Transfer	0.366 (6.813)***	0.358 (6.715)***	0.358 (6.715)***
Commercial Infrastructure	0.328 (7.495)***	0.325 (7.483)***	0.325 (7.483)***
Market Dynamics	0.093 (3.964)***	0.094 (4.036)***	0.094 (4.036)***
Market Openness	0.118 (2.167)*	0.106 (1.963)*	0.106 (1.963)*
Physical Services Infrastructure	0.002 (0.070)	0.005 (0.161)	0.005 (0.161)
Cultural and Social Norms	0.119 (3.764)***	0.113 (3.571)***	0.113 (3.571)***
India Dummy		0.415 (3.072)**	
Other Countries Dummy			-0.415 (-3.072)**
Adjusted R <sup>2</sup>	0.835	0.838	0.838
Number of observations	471	471	471

t-statistics appear in parentheses for each variable;

\* = significant at 90% confidence level

\*\* = significant at 95% confidence level

\*\*\* = significant at 99% confidence level

<sup>1</sup> The MSMEs' original investment in plant, machinery and equipment ranges between \$20,000 and \$2,000,000 to fit into this classification.

<sup>2</sup> Goel, Deepak, "MSMEs not co-operating with us during data collection for 4th MSME Census":

<http://www.smetimes.in/smetimes/face-to-face/2008/May/27/msmes-not-co-operating-with-us-deepak-goel.html>

<sup>3</sup> <http://www.smetimes.in/smetimes/editorial/2012/Jan/31/technology-adoption-an-achilles-heel-indian-smes80001.html>

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**Track: Information Technology and Operation Management**

## *Access To Cloud Distribution Platforms And Software Safety*

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### **Abstract:**

*The increasing importance of cloud services over the last years within the current socio-economic scenery and the peculiar competitiveness, which is becoming more and more clear in it, inspired this analysis, with the purpose of identifying the legal tools to boost its development. Getting interoperability through standardization leads to identifying a technological basis from where to develop the market, allowing the operators to invest in research and development in a more focused way. In this perspective, the paper shows that the use of open source licenses for the computing codes used to access the distribution platforms appears to be the most suitable solution to safeguard the author's creative work and, all the while, to support the increase of an offer for contents accessible through cloud platforms.*

**Summary:** 1. Cloud computing services. - 2. Getting access to cloud platforms through standardization. - 3. Fair, reasonable and non-discriminatory licensing. - 4. Pro-concurrent profiles of open source licenses for computers access codes. - 5. Conclusions.

### **Cloud computing services.**

Cloud computing services represent the last most recent frontier of computerized information systems through delocalized computing systems. By «Cloud computing services» - or simply by «cloud services», or «cloud» [1] - we refer to the reallocated and on-demand access to a shared computing system (e.g. networks, server, storage memories so called storage, applications and services) through which is possible to rapidly share data and functions (National Institute of Standard and Technology, 2011). There are different kinds of cloud services, as this expression refers in general to getting access to computing infrastructure – so called Infrastructure as a Service (IaaS) [2] -, to the platform – so called Platform as a Service (PaaS) [3] - and, finally, to application services or software – so called Software as a Service (SaaS) [4] -.

The above mentioned services can be offered jointly by the same provider or, as it usually happens, by different providers. The contractual network of relationships involved is referred to by using the expression «contractual chains of cloud providers» (Hon W. K., Millard C., Walden I., 2012). Often the cloud providers do not only offer to end users software applications or, more generally, contents – e.g. music, videos or books – produced or sold by the same ones, but also make their platform available for other providers to sell their services on it (Mula, 2015).

It is therefore quite clear how the possibility to have access to cloud distribution platforms represents a pivotal tool to help spread and share original works. This requires providers to adapt to computing language, e.g. to standards, determined by the owners of cloud distribution platforms.

The programming computing codes used by the contents provider and by the PaaS service provider have to be interoperable. This exposes the former to quite a considerable risk. Being the access to distribution platforms and essential prerequisite to operate on the market, the PaaS service provider might be willing to confine or even to deny the access to them.

The PaaS provider might, for example, agree with one or more SaaS operators on direct and intentional exclusion for a specific competitor, but might as well, autonomously and independently, impose high access

standards or particularly expensive royalties only to certain contents providers and not to the others; such methods might therefore result in restricting free competition in the reference markets.

In other words, having a high number of SaaS applications providers on one side, corresponding to a low number of PaaS providers on the other, is a scenario where the owners of the distribution platforms have a strong contractual power, while the service providers have not, and are therefore forced to get the distributors' support, in order to have their services offered to end customers.

The above mentioned scenarios, where high standard access criteria or very expensive royalties are imposed to certain providers only, or where PaaS and SaaS providers agree on certain criteria to the detriment of other parties, represent a restriction to free competition, and they are therefore significant to the purposes of antitrust laws.

Imposing high access criteria or particularly expensive royalties to certain content providers only, or applying different conditions to different providers, or even refusing to allow access to the distribution platform to certain service providers, not providing the necessary code for the software interoperability, represent hypothetical scenarios of illicit abuse of the dominant role of PaaS providers and, as such, they are forbidden in compliance with art. 102 of TFEU.

Nonetheless, distribution platforms undoubtedly represent an essential infrastructure in the reference market and they are therefore subject to the application of the essential facilities doctrine.

Even though the right of each provider to choose their contractors is recognized, in the hypothetical scenario of a company playing a leading role, that right is not respected every time the decision not to provide a service to a certain subject is aimed, more or less explicitly, at excluding that subject from the market in order to strengthen somebody's position.

These scenarios might be particularly significant, given the subsequent damage to the service provider to whom the access to market would be denied or made particularly complicated, but as well given the detriment that such processes would cause to end users/consumers, who, as a result, would be offered a significantly reduced range of cloud services.

### **Getting access to cloud platforms through standardization**

The previous scenario being taken into account, and given the increasing importance of cloud services on the market, it is absolutely clear that in a pro-competitive perspective the access profile to distribution platforms would need to be standardized.

The standardization of computing codes used by elaborating programs would therefore be thought of not as a tool for eliminating the imbalances represented by the reference market, but as a tool to avoid the creation of technological barriers which would limit the access to distribution platforms, a tool that would have positive effects on the market of cloud services.

Technical standardization in the ICT sector is mainly centred on sharing the computing programs, which are used to provide services to the end customers. Using shared computing languages is indeed the essential prerequisite to having success on the market, irrespective of whether we are talking of web pages or use of intellectual properties distributed through the internet.

Studies demonstrate how today's knowledge society determined the economic baricentre being shifted from physical goods to intangible goods (Meo A.R., Berra M., 2001) and how that led to the informatization of the creative process – including both intellectual properties as well as services and products – given that, the nature of the product itself or the intellectual property creation are not as much important aspects in determining the success of the same ones, as their capacity of being accessed through information technology.

The standardization of the new technological scenario only comes through the process of sharing the computing code, e.g. of the software, which is an intangible asset subject to double protection and which gives the author/inventor of the code itself the right to prevent third parties from accessing the same.

Currently the acknowledgement of an authorial protection [5] or a patent protection (Schiuma, 2007; Capo, 2011; Falce, 2012) [6] to the computing program has been replaced by the further stage of recognizing both the authorial and the patent protection to the computing program, being them applied subject to different protection requirements: being original and being new for the authorial protection, while being new, representing an inventive step and having industrial use for the patent protection (Vanzetti, Di Cataldo, 2009; Arezzo, 2009). They also have different fields of application: the first refers to the draft form which is the result of the programmer's creativity, while the second one covers all the draft forms which in a software apply the same solution to a technical problem (Galli, 2004).

Nonetheless, within the doctrine some exponents share the idea that the two forms of protection are applicable alternatively (Florida, 1986; Bastianelli, 1988), while others support the idea that they can be combined (Ghidini, 1987; Dragotti, 1994; Guglielmetti, 1997; Guglielmetti, 2002). Defining computing programs protection is an essential premise to understand and define how to allow the diffusion process of the computing code adopted as a standard.

Within authorial discipline the possibility to use interoperability, intended as the capacity of two or more computing system to exchange pieces of information in order to use them reciprocally [7], is granted legitimating, pursuant to art. 6 of the 2009/24/EC directive, the necessary decompiling process aimed at obtaining a software autonomously developed starting from other programs.

Limiting the decompiling activity to the parts of the original program which are necessary for interoperability may lead to facing some issues: first of all because it might not be that easy, for the authorized user, to locate the so called "attack vectors" within the program, given that some mistakes (Guglielmetti, 1994) have to be taken into account in this regard. Besides, the programming string used to interface with a second software might be using a longer code portion or one which is different from the one initially recognized by our programmer (Hart, 1991; Ohly, 2008). As a result, that string may not allow a full interoperability between the computing languages.

As a result, every time the decompiling process exceeds the set limits, it violates copyright, and the creation of a software through this kind of activity leads to some sort of counterfeiting. The information resulting from the decompiling process cannot be used to other purposes than the interoperability of the program created autonomously, which means the development, the production and the commercialization of a computing program similar in its descriptive form, or in every other activity that might violate the copyright.

The above mentioned restrictions related to the subjects' right to pursue the interoperability of their software with the one of a competitor, highlights how the standardization process cannot be left to the individual, who might meet with fines for an excessive - though necessary- level in decompiling, or, who might - despite himself [8] (Geiger, 2006; Senftleben, 2007; Arezzo, 2011) - decide not to opt for interoperability. The described scenarios lead to negative consequences for the reference market development and to limitations to access.

It is not our intention to analyze patent requirements for computing programs [9] in further detail with this paper. However, it might be useful to notice how, when obtaining interoperability through software standardization is concerned, getting a patent for computing programs is not such a simple stage to get to, especially considering that the software [10] patent itself is excluded. Besides, even obtaining it would actually not lead to the tangible advantages connected with its handling or diffusion (Guglielmetti, 1994; Ammendola, 1981).

The above underlined aspects are further supported by the fact that patents regulatory discipline requires acting in compliance with statutory decisions, while confers a high market value which is only mitigated when it comes to compulsory licensing [11].

The institute for compulsory licensing operates a selection merely on the base of the finances of the subjects, since license is always assigned against royalties being paid to those who assigned the patent (Romano, 2009; Ghidini, 2001). The already mentioned importance of the budget is even more emphasized when it comes to software and, a fortiori, to the cloud services market. This happens because big software houses always own such a broad range of patents that they can easily pay the price for the compulsory license with the concession for other licenses, exchanging licenses with other giants of the field and signing the so called licensing agreements and cross-licensing agreements. This way they help reducing the level of competition among big companies, but prevent new and small enterprises from entering the market (Ghidini, Arezzo, De Rasis, Errico, 2005).

It is also necessary to consider how getting a software patent does not imply spreading the source code, which would allow a higher circulation of information. It only implies spreading the principle at the base of the program, for the very reason that the patent protection is not aimed at protecting the computing program, which means the source code, but at protecting its technical applications.

Moreover, taking into account that getting access to the source code means to an expert being able to understand the program logical structure and therefore being able to modify, integrate and personalize it, it is then clear how keeping the source code secret gives an important advantage to the company that adopts this solution (Caterino, 2004).

With software, the authority who assigns the license blocks the following innovation more radically than the author. This is because the authority, getting a corner not only on the descriptive form, but as well on the ideas, is able to stop all the innovations which are not derived through the art of counterfeiting. Regarding the ones that are derived, the compulsory license is not an obstacle for the one who assigns the license having a monopoly when it comes to setting the price (Schiuma, 2007). The author in particular notices how «On one hand, it would not be the copyright monopoly to be emphasized by the lack of provision for a compulsory license for derivative works, but it would be the patent monopoly to be mitigated by the compulsory license, given his being a much more pervasive lack, since it can also cover ideas».

In other words, within the current patent legal framework, seeking a form of defense for the software standard to be developed in the area of cloud services would only generate the exclusion from potential innovation market, not for those less capable of innovation, but for those who do not have enough money to pay royalties to develop derived programming.

It is therefore quite clear how traditional software defense forms cannot be considered as a standard for shared access to distribution platforms for cloud services.

#### **Fair, reasonable and non-discriminatory licensing.**

In the described environment we have to observe that often the institute for compulsory licensing finds a limit in the contract conditions to which the license is offered.

Some authors argue, indeed, that the *ex ante* negotiation of license conditions could promote collusive action by standard-essential patent (SEP) holders, which could use their market power to fix royalties at a level lower than what can be considered reasonable (Sidak, 2009).

The risk of patent hold up is not eliminated even by the practice adopted by SSOs to require participants in the standardization process of licensing on reasonable and non-discriminatory (Layne-Farrar A., Padilla A., Schmalensee R., 2007; Swanson D., Baumol W., 2005), or subscribe to specific conditions for the license before selecting a particular technology as part of a standard (fixation of maximum royalty and other more restrictive conditions that individual participants may impose for their essential patents once the standard has been developed). In this sense Court of the Western District of Washington in case *Microsoft v. Motorola* ruled that a company's agreement with a SSO to provide RAND terms of licensing to all other parties constitutes a contract that is enforceable by third parties [12].

Anyway, in this regard it is sufficient to point out that a commitment to grant licenses on FRAND terms is not the same as a license on FRAND terms; nor does it give any indication of the FRAND terms which must, in principle, be agreed by the parties concerned.

If FRAND licensing terms are a matter entirely for the discretion of the parties and, where appropriate, the civil courts or arbitration tribunals, it seems clear that the risk of the parties concerned being unwilling to negotiate or of the negotiations breaking down could, at least in part, be avoided or mitigated if standardization bodies were to establish minimum conditions or a framework of 'rules of good conduct' for the negotiation of FRAND licensing terms. Without these, not only actions for a prohibitory injunction but also the rules on abuse of a dominant position, which should be employed only as solutions of last resort, are being used as a negotiating tool or a means of leverage by the SEP holder or the undertaking which implements the standard and uses the teaching protected by that SEP [13].

Practice demonstrates there are wide variations in how parties perceive what FRAND means in a particular setting, because of the lack of explicit principles in the IPR policies and in the licensing commitment made by SEP owners (which are made on the basis of these policies). One of the most visible demonstrations of such varying views is the law case between Motorola (and later Google) and Microsoft, where the FRAND rates defended by the two parties differed by as much as a factor 2000 [14].

In the same vein, European Commission, in its Guidelines on horizontal cooperation agreements, wrote that "in case of a dispute, the assessment of whether fees charged for access to IPR in the standard-setting context are unfair or unreasonable should be based on whether the fees bear a reasonable relationship to the economic value of the IPR. [A possible method would be to] compare the licensing fees charged by the company in question for the relevant patents in a competitive environment before the industry has been locked into the standard (*ex ante*) with those charged after the industry has been locked in (*ex post*)" (European Commission, 2011, see paragraph 289 in specific). It might be argued, however, that there is no such thing as an 'ex ante value' without the context of a product or product category in which the patented technology is going to be used and that the appropriate value could differ as a function of the devices in which a technology is being incorporated (and that neither a unit price or a percentage would be appropriate).

Must furthermore be observed as a contractual obligation to sell to third parties patents on FRAND terms is subject to the limit of the transfer of the patent. In fact, in case of transfer of patents essential to a standard the problem arises that the purchaser is not subject to the contract signed by the previous owner of the patent. The FTC has argued, on the contrary, that the purchaser of a patent is bound to respect the agreements signed by the previous owner.

During the development of the standard at the Institute of Electrical and Electronics Engineers (IEEE), the company National Semiconductor had committed publicly to license their patents included in the standard royalty with a unique and valid for ever \$ 1000. Years later the patents in question were acquired by other companies, which, after detecting as many as 64 companies, while using these patents to implement the Ethernet standard, had

not yet signed an agreement license or royalty paid, they decided to give them the license on the basis of different conditions, refusing to accept the flat royalty of \$ 1,000.

According to the FTC's commitment towards the IEEE National Semiconductor was related to patents and not to the company who performed the offer, so that had to be considered binding for Vertical before and after N-Data, both aware prior the achievement of patents, supply conditions promises from National: renegotiate the terms of the licenses would have been an improper business conduct under Section 5 of the FTC Act [15].

As well, European Commission, in its Guidelines on horizontal cooperation agreements, specify that, in order to ensure the effectiveness of the FRAND commitment, there needs to be a requirement on all participating IPR holders who provide such a commitment to ensure that any company to which they transfer their IPR is also bound by this commitment (European Commission, 2011, see paragraph 5.6 in specific).

The above-mentioned issues of the definition of FRAND licensing terms and the ability to bind also subsequent patent holders to comply with the agreements are two of the key issues of the consultation launched in October 2014 by the European Commission on Patents and Standards "A modern framework for standardization involving intellectual property rights".

In particular, is observed that "Many standard setting organizations require that patents on technologies included in their standards are licensed on "fair", "reasonable" and "non-discriminatory" (FRAND) terms, without however defining these concepts in detail.". In the same vein in order to the issue of technology transfer is noted that "Patents on technologies that are comprised in a standard are sometimes transferred to new owners" and so is asked to explain what can be done to prevent that transfers undermine the effectiveness of the rules and practices that govern standardization involving patents.

All the evidence uncovered show that the use of proprietary licenses do not eliminate the risk that access to cloud distribution platforms could be restricted.

### **Pro-concurrent profiles of open source licenses for computers access codes.**

Alongside the above software defense disciplines, it is good to mention the growing importance of cultural movements aimed at spreading computing system to be shared by any user, even though always respecting the moral rights of the authors.

The importance of the acknowledgement of moral rights is validated by the fact that the «social esteem» (Caterino, 2004) deriving from being recognized intellectual property rights for the work and therefore a moral right as well, is one of the most important forms of remuneration sought by researchers and developers. From this new perspective, «social esteem» is considered as a potential source of income which might come from offering accessory services for the software development, such as, for example, personalization services for a given program. This led to «social esteem» being more and more pursued even by creators of closed source software. An influential doctrine states how, for *software*, moral law never gets those «heroic» traits that dignify mankind, as «capable of living also and especially on *self esteem*» (Spada P., 2012, p. 34), giving up success or living in poor economic conditions, just to express one's world vision, even when this is not consistent with the current market trends.

This scenario also presents several advantages to be taken into account by an entrepreneurial point of view, both in a sales in an industrial perspective, such as the commercialization of complementary goods, the demand for hardware systems [16] or the reduction of the costs related to complementary software, collateral to the ones offered as a license bundled with the computer hardware (Ghidini, Falce, 2004, p. 7). The authors note in particular how these interests manifest themselves more strongly within small and medium-sized enterprises which "would not be able to establish itself in the individual market, offering systems of alternative products than the de facto standard in the market and could not take advantage of the benefits that individually arise from participating in a collective

project aimed at creating a system of products and applications that in terms of extension and diffusion may be a viable alternative on the market».

This different approach to software defense is driven by the importance given to the possibility of sharing knowledge, instead of protecting it. Indeed, deciding not to make innovation available for the community often results in having to cover the so called synchronization costs, which are sometimes quite high ones, and which come from having to adapt the program to the changes that might derive from using other programs (Olivieri, Marcheggiani, 2004).

The perfectibility made possible by the sum of the different kinds of knowledge might in fact result to be more rewarding than economic return coming from software exploitation, whereas the economic return is expected to come from those activities related to the program development, and not from the development of the software itself (Schiuma, 2007, p. 690).

An essential prerequisite for the affirmation of the mentioned theory is the affirmation of the so called open source software, which gives users the possibility to reproduce, copy, distribute, translate, modify and compile, in order to improve it, the software which is the object of this new license form [17]. According to the main idea at the base of it, the access to the source code and the possibility to compile the program represent essential prerequisites to allow the community to benefit from the free circulation of new works.

This different approach, as already noticed, is not in opposition with the copyright principles, as it appeals to the so called mechanism of copyleft, which is meant as giving up the copyrights in the name of a major interest in sharing knowledge and in supporting cooperation among the authors. The term "copyleft", introduced by Richard Stallman (2002, p. 91), takes on different meanings depending on the meanings given to the word left: an idea of overturning the stereotypes of traditional copyright, if you mean left (left) as opposed to right (right); but also and above an idea of 'freedom of action', since left is the past participle of leave, ie leave, allow. On the contrary, it emphasizes the inspiring ratio of those principles and represents a tangible mean to share resources (Olivieri, Marcheggiani, 2004; Aliprandi, 2005, p. 5).

The most known open source license format is the so called General Public License, which from now on, for practical reasons, we will refer to as GPL, which defines a voluntary model of license and sub-license for the use of the rights ascribed by the authorial legislation on a computing program, ensuring the direct accessibility of the source code which allows free software modifiability provided according to that model (Dussolier, 2003; Nadan, 2002).

By opting for this kind of license the author of the computing program gives up his right to use the advantages for the software authorial defense deriving from the sole creative act, this way nurturing the interest of the other operators to avail themselves of the knowledge and, at the same time, of the products developed on the base of the first one [18].

It is indeed possible to learn the program structure from the source code, as well as the logic structure at the base of it and it is possible to modify it in any way, even in order to reach interoperability or integration with other programs.

Moreover, open source licenses do not only allow access to the whole source code of the computing program, which is to say to that part which makes it interoperable with another software, but also allow the author who uses them to share as well the preparatory material, so to allow not only the software development, but as well a quicker processing of its following extensions or developmental versions. It's been noted, in particular according to the authorial discipline, how the decompilation to obtain interoperability comes from the object code (machine language) and through the translation of this into the source code (human language) a whole range of information

gets lost, information which enables a better functioning of the program, but also and above all a less noticeable circulation of the information (Ghidini, Falce, 2004).

For the above reasons, in the traditional versions of software license agreements, the user is not allowed to get the source code [19] (Costanzo, 2010).

In order to safeguard the authorship of the original version, the open source license agreement is applied as well to the further program developers without sub-licenses being necessary. This restriction for the users of the original program sensibly broadens the application field of the license, extending its effects to all the parties who will use the program provided with the original license (Stallman, 2002, p. 121).

Central to this focus is underlining how license migration represents plays a key role in the open source model, as also demonstrated by several regulations aimed at safeguarding free access to the source code [20] (Von Willebrand, 2009; Ryan, 2009) or authorship assignment to software developers [21] (Lawrence, 2009).

The open source model has also been considered as a potential cause of negative effects, or a least of not desirable ones on the market, as the success of it is linked to the adhesion of many subjects to the development project of a certain software and to the financing resources allocated for the research. The above mentioned factors are not certain when a program developer opts for the GPL license, which comes with the risk that from sharing the source code might derive the potential discovery of trade secrets and that sub-licensees might steal the previous creative work adopting close source license systems (Ghidini, Falce, 2004, p. 9).

Even being undeniable that the adoption of an open source model does not ensure the already described advantages for all software types, it is nonetheless equally undeniable that the adoption of such a model within a precise program in the framework of a standardization process offers better guarantees to get them.

This, it goes without saying, as long as the standardization tends to be shared and to exclude the software use for economic reasons, and to allow all the parties of the cloud market to independently develop their own services investing exclusively in effectiveness and not in interoperability, being the latter already guaranteed by the software source code.

As a consequence of the last highlighted aspects of open source licenses, it is clear how, in order to guarantee the broadest access to cloud computing distribution platforms, the software used by the platforms owners should be an open source one.

## **Conclusion**

The increasing importance of cloud services over the last years within the current socio-economic scenery and the peculiar competitiveness which is becoming more and more clear in it, inspired this analysis, with the purpose of identifying the legal tools to boost its development.

The strategic importance of cloud computing as an instrument to develop an inclusive, innovative and safe society, has been emphasized more than once by the European institutions, as well as by the Italian Legislator. The recent legislative interventions in BRICS countries, similarly, aim to define a regulatory framework suitable for the new technological scenario (Mantelero, 2011).

Getting interoperability through standardization leads to identifying a technological basis from where to develop the market, allowing the operators to invest in research and development in a more focused way.

When it comes to cloud services, the value of a certain service is strictly related to the number of people who use the same service or a compatible one (Cellini, 2013; Comino, 2011). From this market trait originate direct benefits (which means determined by the added value which derives from the service being accessed by several users) as

well as indirect benefits, (represented by the growing demand for products and complementary services that grow as the net grows) [22] (Anton, Yao, 1995; Franceschelli, 2012; Dini, 2011).

Within such an economic framework, a very common strategy is represented by cooperating over a standard definition and then competing in order to acquire increasing market shares of the users' network which derives from it this trade policy is commonly referred to as cooptation [23]. The term race describes the nature of the interdependencies between firms with both competitive and cooperative coexisting problems. It is a synthesis of two opposing paradigms: the competitive paradigm, which is based on the assumption that companies interact on the basis of completely divergent interests, and the cooperative paradigm which, on the contrary, is based on the idea that companies interact on the basis of fully converging interests (Castaldo, Dagnino, Le Roy, Yami, 2010). The approach which derives from the cooptation is based, therefore, on the idea that all the management activities should aim at creating mutually beneficial partnerships with other actors in the system, including competitors (Zineldin, 1998).

When talking about economic and trade choices aimed at cooptation, deciding to use sharing procedures of a certain technology leads to a value increase for consumers, through the development of a network of users as well as through an increase of network externalities [24].

In this perspective, the already discussed and suggested use of open source licenses for the computing codes used to access the distribution platforms appears to be the most suitable solution to safeguard the author's creative work and, all the while, to support the increase of an offer for contents accessible through cloud platforms.

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#### End Notes

- [1] The term *cloud*, is related to the symbol of the cloud, generally used in technical diagrams to graphically represent the online connections between different computers.
- [2] The expression refers to the *provider* offering the user only the infrastructure, i.e. the *hardware* structure composed by *server*, connecting points and so on.
- [3] The service includes providing an access to a platform where the *software* is installed, in accordance with the programming specific restrictions set by the *provider*.
- [4] With this service the *provider*, who offers the user some applications, guarantees the online processing of the same through a *hardware* infrastructure and a *software* platform set *ad hoc*.
- [5] The legislative choice was made for the safeguard of the computing programs through the copyright discipline, on a first phase with directive 1991/250/EEC, now replaced by directive 2009/24/EC, recognized in Italy with legislative decree n. 518/1992.
- [6] According to the *contribution approach* theory, developed by the European Patent Office of Munich (from now on also referred to as EPO), the existence of that technical nature can be implicitly assumed anytime the *software* does not have the potential to cause the so called «further technical effect within a sector not traditionally excluded from patentability». Where, by «further» they usually mean the technical effect caused by the program has got the potential to go beyond the inherent technical interactions between *hardware* and *software*, while the expression «within a sector not traditionally excluded from patentability» excludes merely abstract contributions.
- [7] Within this context the meaning to be assigned to the expression «interoperability» is to be linked to Point 10 of Directive 2009/24/EC which states: *The function of a computer program is to communicate and work together with other components of a computer system and with users and, for this purpose, a logical and, where appropriate, physical interconnection and interaction is required to permit all elements of software and hardware to work with other software and hardware and with users in all the ways in which they are intended to function. The parts of the program which provide for such interconnection and interaction between elements of software and hardware are generally known as ‘interfaces’. This functional interconnection and interaction is generally known as ‘interoperability’; such interoperability can be defined as the ability to exchange information and to mutually use the information which has been exchanged.*
- [8] Part of the doctrine has emphasized how art. 64-*quater*, c. 4, LDA brought to our set of rules, in order to reduce the uncertainty on the extension of the compiling right of the legitimized user, the so called *three step test* which begins with art. 9, c. 2, of Berne convention for the protection of literary and artistic works, with relation to exclusive right to reproduce. However, the codification of a law, which was originally meant as a closing element within the exceptions system (and, in particular, of exceptions to the reproduction rights), only had the

effect to distort the prescriptive value of it, transforming it from a preceptual law for national legislators to general law object of judges interpretation. In the absence of law clarifications in this regard, the only remaining option is trying to interpret it with the aid of common sense, supposing that, for example, behaviors aimed at decompiling the whole program step by step cannot be allowed, unlike stated by art. 64 *quater*, c. 1, lett. c), which means those behaviors which use the pieces of information obtained through decompiling in order to develop a second program, whereas this does not look like similar to the decompiled one in its expressive form.

[9] *Software* patent defense does not correspond to a positive law solution at a European level, but it only corresponds to some administrative and law procedures of some of them, which are compatible with authorial defense explicitly conferred. This is related to patentability exclusion for programs for computers «as such», contained in art. 52, n. 2 of Munich European Patent Convention from 5<sup>th</sup> October 1973, transposed in our judicial system with art. 45, c. 3, of Legislative Decree 10<sup>th</sup> February 2005, n. 30 which includes the Code on industrial authorship and previously with art. 12, c. 3, of r.d. 29<sup>th</sup> June 1939, n. 1127. The TRIPs Agreements and the Strasbourg Convention, on the contrary, do not include any clear prohibition and this, even though not directly affecting the applicability of art. 52, c. 2, EPC, gains in importance with relation to its interpretation. This was also the idea behind the bill related to the patentability of ideas realized through the use of computers in 2002. That bill, rejected by the European Parliament on the 6<sup>th</sup> of July 2005, never got to become positive law.

On *software* patentability the major doctrine's orientation is in disagreement with *software* patentability exclusion according to EPC on the ground of a supposed lack of – according to the legislator - «technical nature» or «industrial application», of the computing programs; it is rather true that the common point which connects – licensing wise – all the different bodies to which the exclusion stated at art. 52, n. 2, EPC is referred, is the cultural value, and, therefore, not appropriable of those bodies.

[10] Granted the rejection of all the patent requests related to programs as such, the EPO does on the contrary usually approve requests related to *software* which bring a technical contribution to a field not excluded from patentability according to art. 52 EPC, contribution which might all the same be recognized in the means employed, in the technical nature of the problem solved by the program or in the produced technical effect. See on this: *Guidelines for Examination*, from European Patent Office, where it is clearly stated that «*A computer program claimed by itself is not excluded from patentability if it is capable of bringing about, when running on or loaded into a computer, a further technical effect going beyond the "normal" physical interactions between the program (software) and the computer (hardware) on which it is run (T 1173/97 and G 3/08). The normal physical effects of the execution of a program, e.g. electrical currents, are not in themselves sufficient to lend a computer program technical character, and a further technical effect is needed. The further technical effect may be known in the prior art*» (part G, chap. II-3), ed. September 2013, available at the address: <http://www.epo.org/law-practice/legal-texts/html/guidelines/e/index.htm> .

[11] See also IPC, art. 71 – Dependent patent: *1. A compulsory license may be granted if the invention protected by the patent cannot be used without infringing the rights to a patent granted on the basis of a previous request. In this case, the license may be granted to the holder of the patent back to the extent necessary to exploit the invention, as long as this represents, compared with the first invention, a significant technical advancement of considerable economic significance. 2. The license thus obtained is not transferable unless alongside the patent on the dependent invention. The holder of the patent for the main invention has the right, in their turn, to be granted a compulsory license on reasonable terms on the dependent invention's patent.*

[12] *Microsoft Corp. v. Motorola Inc.*, 696 F.3d 872 (9th Cir. 2012). Judge Robart's April 25 opinion is important to the standards world primarily because it sets out, for the first time, a logical and consistent methodology for computing a RAND royalty. This methodology is based on a conventional Georgia-Pacific patent royalty analysis, as modified to give substantial weight to royalty stacking, relative value and public interest considerations. The opinion will thus be useful not only to other courts considering RAND issues, but also, and perhaps more importantly, to arbitrators, mediators and private parties seeking to adjudicate RAND disputes before litigation commences. Given the likely increase in arbitration of standards-essential patent disputes, such guidance can only be helpful for the industry.

- [13] In this sense: case C-170/13, Huawei Technologies Co. Ltd v. ZTE Corp. and ZTE Deutschland GmbH, Opinion of Advocate General Wathelet, delivered on 20 November 2014.
- [14] In this case, Motorola/Google's licensing demand to Microsoft was USD 4 billion annually for using patents on the (ITU) H.264 video coding standard and the IEEE 802.11 'Wi-Fi' standard', while Microsoft claimed that a FRAND fee would be much, much lower. Eventually the judge ruled that Motorola/Google was not entitled to ask more than 1.8 million annually for these patents.
- [15] In the Matter of Negotiated Data Solutions LLC, n. 051 0094 (FTC 2008), <http://www.ftc.gov/os/caselist/0510094/index.shtm> .
- [16] See for example how successful was the Samsung initiative of mounting the *open source* Android operative system on their *tablets* and *smartphones*, which allowed the manufacturer to reduce prices of the devices introduced in the market thanks to lower costs for operative systems licenses or for the development of closed source *software*.
- [17] Particularly important was the impetus given to those movements by Richard Stallman, who in the early eighties launched the "GNU Project" whose purpose was the creation of a new operating system, Windows alternative, to be offered for free use to any user. In order to handle the resources implemented by the GNU project, Stallman founded in 1985 the non-profit organization Free Software Foundation (FSF).
- [18] GPL licenses impose to the author of the software two obligations: 1. Share the source code along with all the information you need to decompile, such as dependencies, libraries, makefiles, etc .; 2 Agree with the free exploitation, defined as the use, copying, distribution, examination, modification and improvement, both of the *software* version he developed and of the subsequent extensions and amendments on the same terms as the original license.
- [19] In this regards see the Constitutional Court, sentence from 22<sup>nd</sup> March 2010 no. 122.
- [20] See in this respect the decision of the Court of Appeal of Paris who condemned the software house EDU4 to release the source code of the program developed and customized for the Association française pour la Formation Professionnelle des Adultes (AFPA), which was based on the program Virtual Network Computing (VNC) licensed by his creator with a GPL license. See also: Cour d'Appel de Paris, Pôle 5, Chambre 10, no: 294, issued on 16 September 2009, available at the address: <http://fsffrance.org/news/arret-ca-paris-16.09.2009.pdf>.
- [21] In the case of Jacobsen v. Katzer, decided by the Court of Appeals for the Federal Circuit in 2008, the subject of the dispute was the absence of any indication by Katzer on the authorship of much of the source code used in their software. The actor Robert Jacobsen, manager of a group of open source software called Java Model Railroad Interface (JMRI) and author of the program DecoderPro made available under the open license *Artistic*, had agreed on Matthew Katzer being guilty of having copied and used significant portions of DecoderPro in their software called Decoder Commander, marketed under a proprietary license, without complying with the requirements of the Artistic License. The Court thus decided for the defense of Jacobsen, highlighting how the choice of charging a fee in the form of compliance with the open source requirements of disclosure and explanation of changes made by the sub-licensees should enjoy the same legal protection secured to the choice of having a money payment: "*The choice to exact consideration in the form of compliance with the open source requirements of disclosure and explanation of changes, rather than as a dollar-denominated fee, is entitled to no less legal recognition*". See also: Court of Appeals for the Federal Circuit ruled in *Jacobsen v. Katzer*, 535 F.3d 1373 (Fed. Cir. 2008).
- [22] An example of the positive effects of the market is represented by a network of ICT software whose producers have an incentive to develop applications that are compatible with an operating system that is a standard, rather than a system that has smaller market shares. In this way, end users are given the possibility to choose among a larger number of products, often in competition with each other.
- [23] This term was used for the first time in 1913 (cfr. Cherington P. T., *Advertising as a Business Force: A Compilation of Experience Records*, New York, Doubleday, 1913, p. 144) and was revived only in the early nineties: the rediscovery is attributed by many to the CEO of Novell, Ray Noorda, who defined in this way, the business strategy adopted by his company. On this theme, see: Di Guardo C., Galvagno M., *The Dynamic Capabilities View of Competition: The Case of Intel, Apple and Microsoft*, 2007, available at the SSRN link:

<http://ssrn.com/abstract=1013561>.

- [24] Externalities may be positive, when the value of a technology increases alongside the rising of people who adopt the same technology or the rising of complementary products or services. For instance, the utility of a given software grows with the increase of the program penetration among the population. Externalities are, however, negative when the utility of a technology decreases as the use of it increases, for example due to congestion processes.

## ***Solar Based Technology: A Case Study of Challenges in a Developing Economy***

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### **Abstract**

*Though India's renewable energy has grown from 3.9 GW in 2002-03 to about 33.8 GW in December 2014, the share of solar power is just 3.06 GW (9.06%) in 2014. India's power sector has been characterised by chronic power shortage, lesser supply compared to its demand. Loss of production due to power shortage is estimated to be around 2% of India's national income. Solar photovoltaic technology is one of the special-purpose decentralized form of power-generating units that the Ministry for New Energy Sources is promoting to alleviate the power problem in the country. An examination of the literature reveals that there are different barriers that hinder the adoption of renewable energy technologies. This study is an empirical examination of the challenges faced in the adoption of photovoltaic technology, a case of India.*

### **Introduction**

According to the Ministry of Non-Conventional Energy Sources, Government of India (2016) the creation of the Ministry for non-conventional energy specific purpose is slowly moving this slumbering giant forward. Though India has seen economic reforms since the early 1990s, yet it faces large shortfalls of electric-power generation, shortages of usable indigenous fuels, and transportation bottlenecks for those fuels and other challenges. These problems are compounded by pressing environmental concerns it is confronting with in recent years. India, the world's largest and most complex democracy has been long on promise, but short on progress in the energy sectors.

Energy is one of the most important inputs for the economic development of a country. Energy availability improves the standard of living. There is a direct correlation between economic growth, per capita income and per capita consumption of energy. The per capita energy consumption in India is 235 Kgoe as compared to 3743 Kgoe in the UK, 3586 Kgoe in Japan and 7615 Kgoe in the USA. It is also very low as compared to the world average of 1471 Kgoe (Hossain 2000; Planning Commission 2003). Historical trends suggest that increased annual energy use per capita is a good surrogate for the standard of living factors (Sheffield 1997; Islam & Huda 1999). Thus to achieve an acceptable and sustainable standard of living a certain level of energy availability is necessary.

### **India's Chronic Power Shortage**

India's power sector has been characterised by shortage of supply vis-à-vis demand. Datt and Sundharam (1995) have pointed out the main reasons for this as follows:

- Growing demand for electric power at all levels.
- Power generation and distribution has not kept up with the rising demand.
- The variations in the generation of hydroelectric power due to its dependence on the vagaries and failure of monsoons.
- Failure of new capacity additions to meet targeted levels.
- Below par performance of a number of thermal units.
- High transmission and distribution (T&D) losses; against the international average T&D losses of 9%, the figures for India is close to 22%.

Jagdeesh (2000) has pointed out that some of the critical issues, which India is currently facing include the crippling effects of power shortage, the staggering increase in oil import burden and deterioration in environmental quality. Given such an energy environment, renewable sources of energy appear to have an important role to play in providing much needed power in the Indian context, amidst growing global concern about sustainable energy supplies and protecting the environment from the adverse effects of fossil fuel utilization.

According to Gulyani (1999) industrial firms have to contend not only with an insufficient electric power supply, but also with poor quality of supply. The shortage of power supply has led to frequent blackouts and brownouts (Teisch & Stoeber 1999). Companies face frequent scheduled and unscheduled power cuts. This is compounded by the quality problem; inconsistent quality results in fluctuations in voltage and frequency of power supplied that cause difficulties such as machine damage, production losses and variations in product quality. The loss of production stemming from India's energy shortage is estimated to be around 2% of its national income (Gupta 1997).

The Government of India has introduced reforms in the power sector and has introduced new strategies in the scale of operation, ownership patterns and distribution network. The government is seeking to promote small and medium scale power generation and is encouraging large-scale generation by private sector and joint sector participation. Undoubtedly, there is a shift towards decentralized power generation and private entrepreneurship in power generation.

It is estimated that fossil fuel accounts for about 80% of the world's annual energy use, whereas renewable energy accounts for 13% of the energy use. Sheffield (1997), however, has anticipated that these roles will change as energy demand rises and fossil fuel resources become more depleted. In the course of this century there is likely to be a shift away from over-reliance on traditional hydrocarbon resources towards a more sustainable energy system in all regions of the world economy.

Solar photovoltaic energy is one of the special-purpose decentralized form of power-generating units that the Ministry for New Energy Sources is trying to promote to try and alleviate the power problem in the country. The availability of a new technology does not guarantee adoption of the same. It is therefore necessary to identify and examine the barriers that hinder the commercialisation of Photovoltaic (PV) based power supply systems in the Indian business environment.

### **Literature Review**

A review of extant literature points to three broad areas under which these barriers can be grouped and they are *Financial Barriers, Lack of awareness and Technical barriers*.

#### **Financial Barriers — Higher Initial Costs, Lack of Finance & Inadequate Tax Incentives**

The initial costs of PV systems are high (Bugaje 1999) and, hence, the acceptance of PV systems will depend on the financial viability of investments in PV systems (Rubab & Kandpal 1996). The high outlay required of these systems is a major barrier for a broader market penetration of this technology (Hass et al. 1999). It is widely

accepted that PV systems are characterised by high initial capital requirements. The capital needs are high when investing in renewable energy technologies such as PV systems. Therefore, well-adapted financial schemes and financial support are essential for the dissemination of these technologies (Langniss 1996). Lack of long-term capital is a key barrier (Martinot 1999).

Financial institutions are not always interested in giving or opening lines of credit for private PV investors (Muntasser et al. 2000). Hence, there is a need for some sort of financing mechanism along the lines of traditional banking channels. According to Adurodija (1998) the government could establish a financing system, which favours PV diffusion, and also provide financing and access to affordable credit line plans in order to convert potential users into actual users. In India, the government recognized the limitations of conventional banks and set up the Indian Renewable Energy Development Agency (IREDA) in 1987 to finance new and renewable energy technologies (Rubab & Kandpal 1996). According to Nayar (1997), “IREDA was established with the main objective of operating a revolving fund for development, promotion and commercialisation of renewable energy technologies by providing soft-term finance”.

The government could promote the development of the local PV market by encouraging local manufacturing of PV components and the removal of constraints on the market growth. This can be achieved by providing temporary tax exemptions for the purchase of PV equipment. Additionally allowing duty free imports of solar equipment, components and appliances would help in lowering the initial costs of PV systems. It is widely regarded that the high initial costs of PV systems often slow down the growth of the PV market. Hence any measure taken by the government to lower the initial cost of PV systems is a step in the right direction.

Technologies such as grid power and diesel generators have enjoyed a series of subsidies such as tariff support, tax holidays in both developed and less-developed economies (Muntasser et al. 2000). It has been argued that incentives, which include tax concessions such as accelerated depreciation, tax holidays, customs and excise duty reliefs, soft loans and liberalized foreign investment procedures, will foster the diffusion of PV technology (Rubab & Kandpal 1996). Likewise, Muntasser *et al* (2000) believed that governments should consider subsidies for PV technologies in order to stimulate the PV market.

### **Awareness and Inadequate Promotion Support**

Often, the majority of the people constituting the potential market are unaware of the existence and systems' capabilities of PV technologies (Muntasser et al. 2000). The lack of information about renewable energy benefits, economic and financial costs is a major barrier to adoption (Martinot 1998).

The government should assume the responsibility for creating awareness among the industry and public about the benefits of PV systems. It could disseminate information pertaining to the environmental and other benefits of PV with a view to educating the public (Cesta & Decker 1978). This can be achieved through a variety of ways including advertising campaigns, PV documentation programs that reach the people through radio, television, newspapers, highway billboards and setting up demonstration sites (Adurodija, Asia & Chendo 1998). It is reported that the publicity and awareness campaign undertaken in Zimbabwe generated an awareness and demand for solar systems in the country (Marawanyika 1997).

Demonstration projects have an important role to play in educating users and the general public about the benefits of PV systems. Demonstration plants are being set up in developing countries as they serve to create awareness. However, their numbers are limited in many of these countries primarily due to lack of awareness about its potential and the current national economic trends. More demonstration sites are needed in different parts of these nations in order for them to significantly raise the level of awareness of PV systems (Adurodija, Asia & Chendo 1998).

## Technical Barriers — Reliability of Technology, Performance and Standards

Despite the work done by the Ministry of Non-Conventional Energy Sources over the years, PV technology is still new to India. There is a greater thrust that is required to promote the use of PV systems as an alternate source of power supply. The industry is relatively new and therefore the existing market infrastructure which includes marketing networks, and support systems needed to provide the required after sales service and ongoing maintenance needs to be strengthened (World Bank 1992; p. 3 cited in Miller & Hope 2000, p. 92).

There is a need to develop system standards for all the main system components. Standards are required to be established for certification or qualification for designers and installers. Establishing performance standards for PVs, establishing independent testing centres and government endorsing of solar systems are measures that will serve to boost the confidence level of PV users (Cesta & Decker 1978). Standards are necessary to guarantee the satisfactory performance of solar systems and to ensure the high quality of installations. The standards are set with the assistance of industry and the Standards Association of the respective country. These standards, then, are used while inspecting the systems that have been installed (Marawanyika 1997). In addition to specific PV standards, each country has regulations governing the connection of independent generators to the utility grids. These regulations are often inappropriate for PVs and, therefore, have to be revised.

Photovoltaics (PVs) have attracted increased attention in the recent years. Since 1954 photovoltaic technology has progressed in leaps and bounds. Improvements in efficiency, progressive reductions in cost and increasingly high reliability have contributed to the expansion of PV technology globally (Sayigh 1999). PVs are commonly cited as one of the 'bright lights' for future electricity generation and they have many advantages over other energy technologies (Kaplan 1999b); e.g.,

- PV systems are dependable, reliable and they have a long life often with a lifespan of about 20 years. Many of them have a guarantee of at least 10 years (Hill 1994; Bugaje 1999; Caldwell 1994).
- They are simple to install and easy to maintain. Since PV systems are modular, they facilitate easy installation at a site where power is needed (Adurodija, Asia & Chendo 1998; Hill 1994).
- Construction of PV systems can be very quick. Hence there are almost no interest payments during construction or extended start up period for a purchaser (Caldwell 1994).
- PV systems can be designed to fit specific needs and because of the proximity between supply and demand, distribution losses are minimal. Since PVs are a modular technology, arrays can be built to suit any application (Oliver & Jackson 1999; Adurodija, Asia & Chendo 1998).
- PV systems have low operation and maintenance costs. Even large sites are unmanned and there are no consumables (Caldwell 1994; Hill 1994; Bugaje 1999).
- PV systems have diverse uses and are able to provide economical power to applications as diverse as calculators, wristwatches, telecommunications, satellites, remote industrial applications and remote communities. They are capable of providing power from less than 1 watt to many megawatts (Oliver & Jackson 1999; Adurodija, Asia & Chendo 1998).
- PVs are cost-effective for numerous applications in remote locations (Bugaje 1999) and peakpower generation where demand matches solar insolation extremes (Kaplan 1999a). PV systems in remote areas compare favourably in cost with diesel generators and with national grid extensions (Adurodija, Asia & Chendo 1998). The world's largest solar powered microwave systems through the northwest of Western Australia are now into their third set of batteries and have out-performed their diesel counterparts in cost, maintenance and reliability (Harrison, Ho & Mathew 1996).
- PV systems are flexible. They can be used to meet the immediate demands as well as being modified for unusual surges in the demand. By comparison a conventional grid is not very efficient in handling demand fluctuations. They can be applied with a power inverter to nearly any end-use. Coupled with a battery back up, they are capable of providing power on a continuous and indefinite basis.

- PV systems emit no pollution. They do not emit any fumes and they do not contribute towards acid rain or the greenhouse effect. PVs are a clean energy provider (Kaplan 1999a; Hill 1994; Bugaje 1999).
- PVs have no moving parts, need no fuel transport and no ill-health effects result from their use. No other electricity-generating technology has lower risk in terms of accidents, pollution or ill effects to humans or the ecosystem (Kaplan 1999b; Hill 1994).
- PV systems have shown good performance reliability (Adurodija, Asia & Chendo 1998; Hill 1994; Caldwell 1994).
- The voltage produced by PV modules is quite constant and there is little variation with changing solar radiation intensity; therefore PV systems are suitable for storage using batteries. The stored energy, then, can be used at night (Bugaje 1999).

### Questionnaire Design

Single-item measures are generally deficient both with respect to validity and reliability (Pedhazur & Schmelkin 1991). Hence multi-item scales were resorted to and the development of multi-item scales starts with an understanding of the underlying theory of the construct being measured. The superiority of multi-item scales to measure a construct rests in its ability to decrease measurement error and increases reliability/internal consistency.

Higher order scales such as interval scales are more powerful than nominal scales. They are more useful since they allow stronger comparison and stronger conclusions to be made. Hence Likert scales (1 = Strongly Disagree to 7 = Strongly Agree) were used to enable respondents to indicate their degree of agreement or disagreement with a series of statements that measured the barriers to the commercialization of PV systems. Extant literature is helpful not only for constructing the scale but also for interpreting the results. The item pool was generated from a list of items that relate to the construct and is drawn from the literature (Churchill 2001).

Eleven items (BC1 to BC11) were identified, to be the biggest obstacles to the commercialisation of PV systems in India. They are as follows:

- High initial capital costs (Cesta & Decker 1978);(Hass et al. 1999).
- Lack of finance (Martinot 1999).
- Inadequate tax incentives (Cesta & Decker 1978);(Oliver & Jackson 1999; Adurodija, Asia & Chendo 1998).
- Reliability of PV systems (Cesta & Decker 1978).
- Cost per unit (kilowatt-hour) of power (Koner & Dutta 1998; Bugaje 1999; Hill 1994).
- Maintenance costs of PV systems (Koner & Dutta 1998; Bugaje 1999; Hill 1994).
- Inadequate promotion support for solar systems (Cesta & Decker 1978).
- Efficiency of PV cell (Nair 2001).
- Lack of awareness about PV systems (Cesta & Decker 1978).
- Inadequate warranties for PV systems (Labay & Kinnear 1981).
- Lack of performance standards for PV systems (Cesta & Decker 1978).

After the questionnaire was developed it was pre-tested as recommended by Zikmund (2000) with a small sample of 15 hotels in India. Respondents drawn from a cross-section of hotels in a major city in India were selected for pre-testing the questionnaire. Personal interviews were conducted to administer this pretest as it provided opportunities for verbal feedback regarding potential lack of clarity with the instructions or difficulties encountered with specific questions or scale items. Further, respondents were also invited to offer suggestions on how to improve the questionnaire. Adjustments to the questionnaire content, format, wording and response alternatives were made based on the results of the pretest. Every effort that was necessary to make the questionnaire more respondent friendly was undertaken and the final questionnaire was developed.

## Sampling and Data Collection

The Directory of Hotels and Resorts in India was used as the sampling frame as it provided a comprehensive listing of the target population. The hotels were categorized according to their star ratings and adequate care was taken to ensure a representative sample. The sample size is 205. Sampling error and non-sampling errors are two key factors, which affect the overall quality of data (Malhotra 1999). Sampling error is the difference between the result of a sample and the result of a census conducted using identical procedures. It is a statistical fluctuation that occurs because of chance variations in the elements selected for a sample. Sampling errors arise from errors in constructing a sampling frame and selecting a sample. Adequate steps were taken to minimise potential sources of error during the process of data collection.

The target population consists of 769 hotels and as in the case of many industrial products a census approach was feasible since the target population was not very large. The questionnaires were initially administered to the population through mail surveys. The mail survey was administered across all the elements of the target population. In order to establish a higher credibility for the study and to facilitate return of the completed questionnaires to a local address in India, it was decided to enlist the help of a local academic in India who agreed to help the researcher in this regard. The respondents were requested to mail the completed questionnaires back to the local academic's contact address via the mail-back envelopes that were provided. However, low response rates (3%) necessitated a change to the adoption of administering the questionnaires through trained interviewers.

Stratified random sampling was used to ensure that the sample adequately represented the population. More particularly, the proportional stratified random sample was used to ensure that the number of sampling units drawn from each stratum was in proportion to the relative population size of that stratum. The target population comprises of 769 hotels of different star ratings and these are spread across the country. The distribution of these hotels across the four different regions and across the different star ratings are given in Table 1.

**Table 1: Population of Hotels**

	North	South	East	West	All India
Total number of 4, 5 star hotels	77	45	17	70	209
Total number of 3 star hotels	91	74	32	62	259
Total number of 1, 2 star hotels and Govt. Approved Hotels	90	82	20	109	301
<b>Total</b>	<b>258</b>	<b>201</b>	<b>69</b>	<b>241</b>	<b>769</b>

*Source:* Compiled from the Directory of Hotels and Resorts

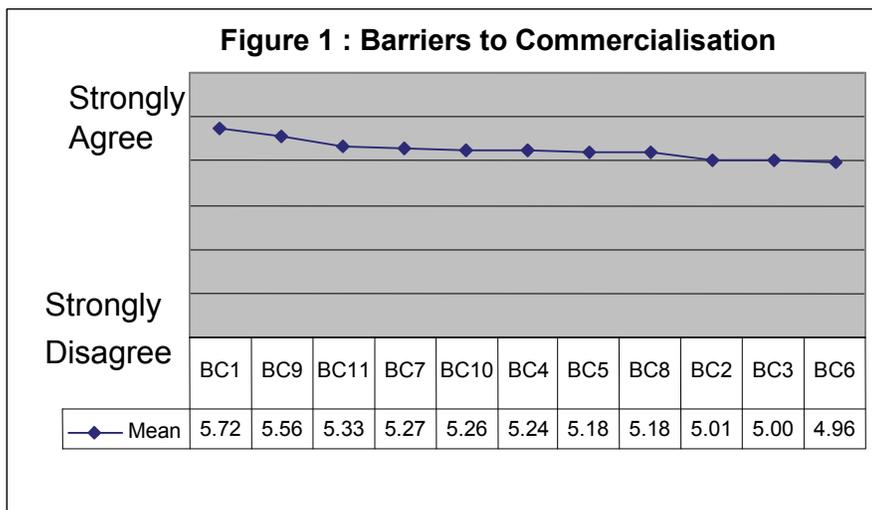
In order to ensure randomness of the sample drawn, a computer program called 'Research Randomizer' was used to generate random numbers from the list of hotels in the different regions. The distribution of hotels in the sample has been maintained to be the same as the population distribution of hotels across the four different regions in India. In choosing the stratification variable, Malhotra (1999) recommends that the elements within the stratum should be as homogeneous as possible whereas the elements in the different strata should be as heterogeneous as possible. This criterion has been followed and the star rating of the hotels has been used as the stratification variable. Therefore in selecting the sample for administering the questionnaires through trained interviewers, the process of stratification and randomization was followed in order to minimise sampling errors. Thus, great care was taken to avoid imbalances in the representativeness of the sample. The data was collected by a prestigious market research firm in India in six Indian cities spread across the different regions of the country. The sample distribution of hotels across the different star ratings and across the different regions is given in Tables 2.

**Table 2: Sample Distribution of Hotels**

	<i>North</i>		<i>South</i>		<i>East</i>		<i>West</i>		<i>All India</i>	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
4, 5 star hotels	20	(37%)	12	(22%)	4	(8%)	18	(33%)	55	(27%)
3 star hotels	23	(35%)	18	(29%)	8	(12%)	17	(26%)	65	(32%)
1, 2 star hotels and Govt. Approved Hotels	25	(30%)	23	(27%)	6	(7%)	31	(36%)	85	(41%)
Total	68	(34%)	53	(26%)	18	(9%)	66	(32%)	205	(100%)

**Results**

As stated before a seven point Likert scale from 1 = Strongly Disagree to 7 = Strongly Agree was used to measure eleven items which were identified to be the biggest obstacles (Cesta & Decker 1978). Results as shown by the mean values in Figure 1 indicate that respondents strongly agreed that the top two obstacles are High initial capital costs (BC1:  $\bar{x} = 5.72$ ) and Lack of awareness about PV systems (BC9:  $\bar{x} = 5.56$ ). The mean values are greater than 5.0 for eight of the remaining nine items and very close to 5.0 for the last item. Respondents agree that these factors are indeed big obstacles to the commercialisation of PV systems. These factors and their corresponding mean values are as follows: Lack of performance standards for PV systems (BC11:  $\bar{x} = 5.33$ ); Inadequate promotion support for solar PV systems (BC7:  $\bar{x} = 5.27$ ); Inadequate warranties for PV systems (BC10:  $\bar{x} = 5.26$ ); Reliability of PV systems (BC4:  $\bar{x} = 5.24$ ); Cost per unit (kilowatt-hour) of power (BC5:  $\bar{x} = 5.18$ ); Efficiency of PV cell (BC8:  $\bar{x} = 5.18$ ); Lack of finance (BC2:  $\bar{x} = 5.01$ ); Inadequate tax incentives (BC3:  $\bar{x} = 5.00$ ); and Maintenance costs of PV systems (BC6:  $\bar{x} = 4.96$ ).



This section also includes an examination of the frequency responses of the respondents to these statements. Those who circled a 1, 2 or 3 as their response were grouped together to denote the lower end of the scale and those who circled a 5, 6 or a 7 were grouped together to denote the higher end of the scale. In a seven point

scale, 4 represents a neutral response and therefore those who had indicated 4 as their response to a particular statement were not included in the frequency analysis. Hence the percentages shown in the Table 4 will not add to 100 percent.

A close examination of the frequencies shown in Table 3 reveals support for the mean values of the factors that have been identified as the biggest obstacles to the commercialisation of PV systems. Nearly three-quarters of the respondents have pointed out that high initial capital costs (BC1) and lack of awareness about PV systems (BC9) are big obstacles. 66.3% have agreed that inadequate promotion support for solar PV system (BC7) is an obstacle while 64.4 % have agreed that cost per unit (kilowatt-hour) of power (BC5) is an obstacle and 63.9% have agreed that lack of performance standards for PV systems (BC11) is an obstacle. A sizeable proportion of the respondents (60% or more) agree that the following factors are big obstacles to commercialisation of PV systems — inadequate warranties for PV systems (BC10); reliability of PV systems (BC4); efficiency of PV cell (BC8); lack of finance (BC2) and inadequate tax incentives (BC3). Lastly 57.3% of the respondents have agreed that the maintenance cost of PV systems (BC6) is another big obstacle to the commercialisation of PV systems.

**Table 3: Barriers to Commercialisation – Frequencies and Percentages**

	Strongly Disagree		Strongly Agree	
	N*	%**	N*	%**
High initial capital costs (BC1)	22	10.7	157	76.6
Lack of awareness about PV systems (BC9)	17	8.3	156	76.1
Lack of performance standards for PV systems (BC11)	13	6.3	130	63.9
Inadequate promotion support for solar systems (BC7)	21	10.2	136	66.3
Inadequate warranties for PV systems (BC10)	19	9.3	128	62.4
Reliability of PV systems (BC4)	23	11.2	129	62.9
Cost per unit (kilowatt-hour) of power (BC5)	27	13.2	132	64.4
Efficiency of PV cell (BC8)	18	8.8	122	60.5
Lack of finance (BC2)	37	18.0	130	63.4
Inadequate tax incentives (BC3)	35	17.1	126	61.5
Maintenance costs of PV systems (BC6)	35	17.1	117	57.1

\*Number (N) of responses; N = 205

\*\*Percentage of responses

### Discussion and Implications of the findings:

The findings of this study provided empirical evidence to the barriers to the commercialisation of solar based technology in the Indian business environment. As stated earlier these barriers can be grouped under three broad areas and they are *Financial Barriers*, *Lack of awareness and Technical barriers*. The high mean values associated with the items which measure the different barriers imply that measures should be in place in order to overcome these barriers. The following is a discussion on the measures to overcome these barriers  
*Financial Barriers — Higher Initial Costs, Lack of Finance & Inadequate Tax Incentives*

The results of this current study identified high initial costs of PV systems ( $\bar{x} = 5.72$ ) as a major barrier to commercialisation. The availability of concessional loans ( $\bar{x} = 5.37$ ); credit terms associated with these

concessional loans ( $\bar{x} = 5.43$ ); provision of tax incentives for users ( $\bar{x} = 6.06$ ); and provision of subsidies ( $\bar{x} = 6.02$ ) by the government are measures that emerged from the study that will help to promote the adoption of PV systems despite the high initial costs. Chaurey, Ranganathan and Mohanty (2003) reported that availability of finance through credit reduces the financial burden of the high initial costs. Potential customers prefer to buy PV systems on credit as it creates positive purchasing conditions. Therefore, it is necessary that sufficient finance is available through soft loans at low interest rates; “because PV systems are characterized by high capital, low operating costs, and financing is a key ingredient in making PV affordable” (World Bank 1993, p. 10 cited in Miller & Hope 2000, p. 92).

At the moment these soft loans are being dispersed through the Indian Renewable Energy Development Agency (IREDA), other banks and financial institutions. These loans are available for commercial organisations, PV manufacturers, product distributors, cooperative societies and non-governmental organisations (Nair 2001). Institutional financing assumes greater importance at a time when new technologies are attempting to get greater acceptance among the users. Nevertheless, as argued by Monga (1997) availability of finance continues to be a critical factor in accelerating the penetration and stimulating market development of RETs such as PV systems.

In order to address the issue of inadequate tax incentives ( $\bar{x} = 5.00$ ), the government should continue to lend its support with the appropriate mix of subsidies, financial and fiscal incentives. These include allowing 100% depreciation in the first year of the installation of the PV systems; concessional import duty on materials, components and equipment used in PV systems; exemptions/reduction in excise duty on locally manufactured materials, components and equipment used in PV systems and exemption from central sales tax. (Sinha, Shukla & Hazarika 1998; Ministry of Non-Conventional Energy Sources 2003b).

#### **Lack of Awareness and Inadequate Promotion Support for PV systems**

The current study showed that lack of awareness ( $\bar{x} = 5.56$ ) and inadequate promotion support for PV systems ( $\bar{x} = 5.27$ ) were barriers to the commercialisation of PV systems. Results of this research showed that in order to overcome these barriers the government needs to create awareness by providing helpful information ( $\bar{x} = 6.11$ ), disseminating relevant information ( $\bar{x} = 5.91$ ), promoting the use of solar systems ( $\bar{x} = 6.02$ ), and publishing the results of the comparative analyses of solar systems and conventional systems ( $\bar{x} = 5.93$ ). It is necessary to expand the network of demonstration projects and dissemination programmes to create awareness and to promote PV systems in the country.

Awareness creation can also be achieved through mechanisms such as exhibitions, conferences, seminars, workshops, study tours, and publication of information PV technologies such as technical reports, guides/manuals, directories, books etc. The internet is another great tool for disseminating information and to create awareness (WinrockInternationalIndia 2001; Ministry of Non-Conventional Energy Sources 2003b). Organisations such as ‘The Energy Research Institute’ (TERI), Winrock International India (WII) etc., are doing some of these things. There are publications such as Energy Technology News and IREDA News. However in order to accelerate the awareness of PV systems among the wider population there has to be an increase in the overall promotion support for PV systems.

#### **Technical Barriers — Reliability of Technology, Performance and Standards**

The present study has identified other barriers related to issues of technology and performance of PV systems. The reliability of PV systems ( $\bar{x} = 5.24$ ), the efficiency of PV cells ( $\bar{x} = 5.18$ ), maintenance costs of PV systems ( $\bar{x} = 4.96$ ) and lack of performance standards ( $\bar{x} = 5.33$ ) are factors which emerged as barriers to the commercialisation of PV systems. Concerted R&D efforts are required to improve the reliability of PV systems and

the efficiency of PV cells. Initiatives are currently underway to improve solar cells and PV modules; and to improve the efficiencies of all the components which make-up the PV system (Nair 2001).

Some of these perceived barriers are really due to the lack of regular maintenance of PV systems. According to Sinha, Shukla and Hazarika (1998) this is due to the lack of proper repair and maintenance facilities. They recommend that PV systems should be inspected at least twice a year. It is also important to adhere to established maintenance procedures which should be carried out by trained technicians with appropriate tools, materials and equipment. This will enhance the operational effectiveness and efficiency of PV systems. In addition this will prevent systemic failures and cause PV systems to be seen as reliable systems (Sinha, Shukla & Hazarika 1998).

Lack of performance standards in regards to system components has led to a variety of design features and technical standards. This in turn has led to manufacturing, servicing and maintenance difficulties (Monga 1997). The situation is being rectified by the development of standards, specifications and the setting up of testing centres. The standards and specifications are drawn in consultation with industry (Ministry of Non-Conventional Energy Sources 2003a)

Government intervention for removing the barriers to commercialisation of renewable energy technologies includes provision of: information to consumers and manufacturers, tax benefits, subsidies, credit services and direct support of the distribution system (Martinot 1998; Muntasser et al. 2000). In an effort to promote the use of solar systems the government should also publish the results of comparative analysis of solar systems and conventional systems (Cesta & Decker 1978). Government intervention, therefore, is necessary in a number of ways to promote solar energy (Roy & Gupta 1996).

## Conclusion

In a country like India where chronic power shortages are rampant there is a strong market potential for PV systems. Power from PV systems offers effective and viable solutions to bridge the energy gap. India is endowed with plenty of sunshine and there is urgent need to remove the barriers that hinder the adoption of environmentally friendly technologies such as PV systems. This can be accomplished by providing appropriate financial incentives, subsidies, strengthening of the supporting infrastructure to ensure reliability, quality and efficiency. Further it is necessary to provide the required regulatory, legislative and policy support for the rapid diffusion of PV systems. Future research in the above-mentioned areas in other developing economies will broaden the scope of this study.

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## *Emerging Techniques in User Identification and Social Data Consolidation*

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### **Abstract**

*In the age of Information and Communication Technology, it has become easier for companies to observe their consumers and serve them personalized information. In particular, an E-commerce website would want to give personalized recommendations to a user based on his previous search patterns and behavior on the website. The strength of this recommendations based on personal information depends on observing the user behavior over time. However, an impending problem that is faced by such firms is to identify the user who is browsing the sites from multiple platforms (Example: Smart Phones, Pads, and other computing devices). A user's behavior on multiple platforms can supplement/complement each other and can give more information about converting a view into a purchase. In this paper, we review some of the emerging techniques that can be used to User Identification across platforms and ways of combining information from cross platform access. This paper also addresses the problem of identifying users with multiple online accounts as well. We also discuss methodologies of integrating social data of the user from the internet and consolidating it in a way that can be used for analysis directly. These methodologies help a firm to make more informed recommendations to their users, and thereby increasing sales.*

### **Introduction**

Technology has shaped how we function in our daily lives. A stream of business born through the internet is E-commerce. E-commerce is expected to hit \$370 billion by 2017, and has been having a steady growth rate of 9%-14% every year. In fact, shopping, that once involved visiting shops and stores to check out the latest products, has now transformed into checking for products online and reviewing multiple options before making a purchase. It has indeed changed the face of shopping all over the world and motivated people to shop extensively to get home essential and luxury products. The advent of mobile phones, smartphones in particular, has given a new dimension to the world of E-commerce altogether over the last 5-6 years. They offer the user an experience of shopping with ease, comfort and convenience. This has particularly become an important strategy for any business since it largely affects the shopping and buying habits of people. Imagine getting a message on your smartphone that your favorite brand is offering a flat 50% off sale? A number of researches conducted on the buying habits of people online reveal that people fall to the idea of sales and discount offers and the best way to keep your prospects informed about these offers is to send text messages.

E-commerce helps a business to implement the best ever marketing strategies for its customers, create applications for browsing the website through smartphones and a lot more, at a considerably lesser price than any other technology. One of the most important feature of E-commerce that has been instrumental in driving sales is 'Recommender systems'. Recommender systems observe a user's buying patterns and behavior online and accordingly suggest the right products to the user's based on a probabilistic mapping. According to Schafer et al, 1999, Recommender systems enhance E-commerce sales in three ways:

**Browsers into buyers:** Visitors to a Web site often look over the site without ever purchasing anything. Recommender systems can help customers find products they wish to purchase.

**Cross-sell:** Recommender systems improve cross-sell by suggesting additional products for the customer to purchase. If the recommendations are good, the average order size should increase. For instance, a site might recommend additional products in the checkout process, based on those products already in the shopping cart.

**Loyalty:** In a world where a site's competitors are only a click or two away, gaining customer loyalty is an essential business strategy (Reichheld and Sesser, 1990) (Reichheld, 1993). Recommender systems improve loyalty by creating a value-added relationship between the site and the customer. Sites invest in learning about their users, use recommender systems to operationalize that learning, and present custom interfaces that match customer needs. Customers repay these sites by returning to the ones that best match their needs. The more a customer uses the recommendation system – teaching it what they want – the more loyal they are to the site. “Even if a competitor were to build the exact same capabilities, a customer ... would have to spend an inordinate amount of time and energy teaching the competitor what the company already knows.” (Pine, et al. 1995) Finally, creating relationships between customers can also increase loyalty. Customers will return to the site that recommends people with whom they will like to interact.

Some examples of Recommender systems are Amazon's 'Customers who bought this also bought' feature, the book matcher feature, Ebay's feedback profile etc. These are mainly Collaborative filtering based recommender systems. Although these kind of recommendations systems have been quite popular for some time now, the recommender systems with more personalized recommendations have been getting more popular of late. A classic example in the personalized recommendations has been Netflix. Netflix has implemented a predictive modelling based approach for the recommendations based on user's previous browsing data. Before Netflix got into the business of building its own recommendation systems, it spent a lot of time emphasizing the algorithms that would learn the user's taste and suggest the perfect title from the company's catalog. All this is being made possible due to personalized recommendation systems, which use Machine learning techniques to give a higher probability recommendation to the end user, based on other user's behaviors and his/her own browsing pattern.

In a study of e-commerce companies, Facebook found that 45% of all shopping journeys included at least one mobile event. For an e-commerce site, any one of those actions could be a crucial point of analysis. For personalized recommendations to be valuable, it is important to track the user and his behavior. This was a fairly easy task if the users use the same computing platform to access the platforms. However, with the proliferation of smart mobile devices, the problem of identifying the user across different platforms becomes more relevant. For example, the user may browse through multiple products on a e-commerce website through a personal computer, and make the purchase from a his mobile phone. In this case, the purchase is happening after careful evaluation of multiple options that the user has on the platform and then making the purchase through the mobile. If the platform can identify the user to be the same as the user who browsed on the personal computer, it can use this information to use the real estate on the mobile screen to present more personalized information to the user. Hence, identifying the user across different platforms becomes an important question.

In this paper, we look at a few emerging approaches that are used to tackle this matching problem. Importantly, we focus on a probabilistic matching based approach that has been used with heterogeneous databases in literature, to see multiple methods in which the users can be identified across multiple platforms. As we deal in probabilities, we cannot exactly say if the same user is using a different device. It might be possible that multiple users use the same device and profiling users just based on the device and session information is not ideal as well. We discuss the deterministic and the probabilistic methods that are used in record linkage to be applied to this scenario. The approaches discussed here talk more in general about the approach that can be taken for the user identification across sessions and platforms.

## The Problem

Internet users access e-commerce through multiple platforms. Also, each user may have a different choice of social media platforms that they use. For identifying a user's preferences, his/her social media profiles also can give interesting insights. Therefore, the problem we are addressing here is twofold. One, identifying the user across multiple devices and identifying the user across multiple social media platforms. This information about the user can be fed in to machine learning algorithm to keep improving the recommendations that the user gets, and thereby improve the sales for the e-commerce platform.

Research Challenge User profiles can be constructed based on implicit and explicit user feedback. With explicit feedback, we refer to the data the user herself provides to the system directly, e.g. during the registration process. Usually such explicit data is structured as attribute-value pairs. In our approaches we experiment with the usernames as explicit profile information. With implicit feedback, we refer to the users' tagging activities within the folksonomy systems, i.e. the set of tag assignments performed by the user. We formulate the problem similar to Iofciu et al, 2008

*User Identification problem:* Given  $u_a$ , the tag-based profile and/or username of user X in system A, and  $U_B$ , the set of profiles from system B, the challenge of the user identification strategies is to rank the profiles from system B so that  $u_b \in U_B$ , the profile of X in system B, appears at the very top of the ranking.

## Literature Review

As discussed in Iofciu et al, the issue of identifying users via their interaction over the web has been recently addressed in various application scenarios, such as personalization. Recent research mainly analyzed whether explicit profile information is sufficient to identify users across system boundaries. For example, Carmagnola and Cena (2009) introduce an approach that bases heuristics on profile attributes such as username, name, location or email address of a user. Vosecky, Hong, and Shen (2009) examine explicit user profile information from two similar social networking services to find which fields in the profiles are best suitable for user cross-system identification. Zafarani and Liu (2009) connect user accounts across 12 communities exploiting explicit profile information. Szomszor, Cantador, and Alani (2008) focus on implicit tagging information. However, they do not aim to identify users across tagging platforms, but their goal is to align tagbased profiles users have in Flickr and Delicious and assume that linkage between different accounts of the same user is given. Nevertheless, the authors propose an approach for correlating tag clouds, which are filtered (to eliminate misspellings) and semantically enriched (e.g., via WordNet synonyms).

Iofciu et al have implemented also the above approach, but for their task it led to a significant decrease in performance. More generally, the problem of identifying users can be regarded as an instance of duplicate detection – also known as record linkage or entity resolution – a long standing problem in computer science. For a comprehensive overview on the topic see Elmagarmid, Ipeirotis, and Verykios 2007. In a sense the experiments described in this paper return to the very root application domain of duplicate detection – identifying individuals – though under quite different circumstances. By tagging and other forms of interactions, Web 2.0 users provide a rich but fairly noisy trace, which as we will show can be readily exploited for identifying them.

One of the biggest challenges for digital marketers today is being able to connect the dots as consumers increasingly engage with their brand across a variety of devices in different settings. These days, it's pretty common for people to browse items on a website using a mobile phone while commuting to work, look up competitor pricing on a desktop while at work, and then come home and use a tablet to make a purchase.

## Methodologies for Record Linkage

There are multiple attributes that are recorded when a user visits a website. Importantly, the user ID, the session ID, device ID, the network ID, Browser, session time, platform, products viewed etc become the main composition of the analytics tracking. The cookies across various platform give information that can be either stored in a database format or a flatfile format. Using these variables from multiple devices, we can match the user across devices and across social media platforms. As discussed in Adexchanger and Cardinalpath references, there are two methods in which the matching problem can be approached. The deterministic matching and the probabilistic matching.

### Deterministic Matching:

Deterministic methods include user authentication and walled gardens, and use system-generated customer IDs. These methods are more accurate than the probabilistic device fingerprinting technique. Using traditional analytics tracking, it's difficult to make the connections to single customers and the relationships between their disparate gadgets, in order to build the full profile of the user experience. Cross-device tracking makes this possible with three primary options, using either deterministic or probabilistic techniques to connect activity across disparate devices.

#### a) User Authentication

User authentication is a deterministic tactic that employs the use of specific identifier such as a customer ID, login or other user-specific data to create a link between behavior on different devices.

For example, if you're browsing on Amazon.com. When you log in to your Amazon account with your mobile phone or tablet, Amazon.com keeps track of your device and can identify where you are in the buyer journey – even across multiple devices. All of your behavior is trackable using the account ID you've logged into. This is the concept behind cross-device tracking with Google Analytics (Universal Analytics) and Adobe Visitor Identification. It's an effective tactic, but it's not scalable because it is limited to registered users or past customers. You can't track new visitors unless they create an account and you assign them an ID. The 1st-party source of information means this method is extremely accurate and it's highly recommended to use this even if you have a low login rate on your site or low return visits. You can always supplement it with one of the other two methods.

#### b) Walled Garden Method

The “walled gardens” we're talking about here are 3rd-party networks with excellent cross-device history on a wide swath of the population such as social networks and telecommunications companies who can provide you with the cross-device graph you are looking for. Large networks and social sites like Google, AOL and Facebook can identify users across devices using their own user IDs. Some of these networks offer tracking of your customers across both your web properties and theirs, and across devices. The services they provide are usually in the form of aggregated reports and analyses. None of the networks provide services to read and utilize their User ID for you to use in your analytics platform for cross-device tracking. Sometimes cross-device tracking is offered as part of other marketing services as with Google's AdWords and Adometry or Precision Market Insights by Verizon Wireless.

Whether you partner with the networks or purchase the information from them, this deterministic option can yield quite accurate cross-device tracking. Although it is a more scalable option than User Authentication, it has limitations. Companies like Google and Facebook cover a larger percentage of the digital population but they are still confined to the size of their user base and will likely limit access to the type of data available for analysis.

### c) Device Fingerprinting

Device Fingerprinting is a probabilistic tactic for cross-device tracking, and one that has the most promise for scalability. Device Fingerprinting employs selected attributes from device settings and browser options which can then be combined with IP addresses, WiFi info, and users' web browsing behavior to build fairly unique user identifiers for cross-device tracking. Device Fingerprinting techniques were developed a decade ago to replace website tracking cookies that were not allowed in the earlier versions of mobile browsers. However, these techniques have found new uses in connection with data management platforms (DMPs). DMPs collect data from websites and other data sources in huge quantities. They can then mine this data, based on your organization's specifications and derive answers to specific questions you have about users including their cross-device behavior. Tapad is a leader in this technology and partners with several DMPs and marketing measurement services. A few DMPs (KruX and Lotame) have built their own algorithms.

Again, this method has the potential to be less accurate than the other two options, but it is very scalable. If you're already considering a DMP for programmatic media buying or other marketing applications, this would be a good option to supplement your 1st-party cross-device tracking, especially for new, unregistered users. Many organizations will employ multiple methods to strike a balance between accuracy and scalability. No one method is perfect in and of itself, but they get us closer to the end goal of being able to map a customer's journey from interest in a product or service to final purchase across a variety of devices.

In the deterministic method, device matches are made using personal identification information, for example when a person uses the same email address to log into an app and a website, thereby creating cross-device linkage. As long as a user is logged in across devices, the e-commerce platform can use this unique identifier to target those users on multiple screens with near-perfect precision.

This tactic requires scale in order to be effective, which means it's mostly reserved for giants like Facebook, Twitter, Google and Apple, all of which have enormous user bases and maintain mobile and desktop properties that require logins, although somewhat less gargantuan companies like eBay and Verizon could and do also take advantage.

#### **Probabilistic Matching:**

Probabilistic cross-device matching is achieved by algorithmically analyzing thousands of different anonymous data points – device type, operating system, location data associated with bid requests, time of day and a host of others – to create statistical, aka likely, matches between devices. For example, if a phone, a tablet and a laptop connect to the same networks or Wi-Fi hotspots in the same places every weekday, it's safe to surmise that all three devices belong to a specific commuter.

But it's not an exact science, although some vendors, such as Drawbridge and Tapad, say they can match devices with 70% to about 91% accuracy.

But there are strong differences even between the probabilistic ID vendors. While Drawbridge doesn't use deterministic (i.e., login) data in its reckonings, thereby mostly skirting the privacy issue, Tapad leverages a small core of deterministic data that it accesses via direct partnerships with companies that have access to explicitly connected devices. Tapad uses that data to train its probabilistic device graph to model more accurate statistical cross-device matches over time.

Although deterministic matching seems like the "better" solution, users don't always stay logged in or use the same email address everywhere. And although a player like Facebook has an impressively high percentage of mobile-only users – its mobile monthly active users rose 26% YoY to 1.2 billion in Q4 – overall desktop usage is down on Facebook, as noted by CFO Dave Wehner on the company's Q4 2014 earnings call, a fact that might

diminish its ability to create cross-device matches down the line as future users eschew desktop for mobile. As Wehner observed to investors on the call, “Mobile remains the primary driver of our growth.” In either strategy, the user’s preferences and behavior can be captured to a good extent and can be used for the recommendation systems.

## Conclusions:

The user matching problem across platforms and devices is an important problem to solve for better personalization on the internet. In this research note we have discussed two emerging methodologies that come from statistics literature to solve the record linkage problem. Although this paper consolidates and introduces various approaches for the User Identification Problem, a mixture of these methods can be used to consolidate the data. Emerging methodologies on user recognition based on typing patterns is getting popular (Peacock et al 2004). The more variables that are recorded for a user, the better the recommendations can be personalized. Hence, these methodologies discussed here only act as a starting point for further research into mixed strategies of deterministic and probabilistic record linkage methods for user identification.

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## ***Importance, Role and Impact of E-Training on Employees in Workplace***

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### **Abstract**

*The paper recognizes impact of Information and Communication Technology and the increasing usage of Web Based Training by the organizations to generate skilled employees. Generally most of the organizations have to undergo problems related to cost, performance and benefits. On the other hand ICT has revolutionized the world by technology innovation for training delivery. Thus, assisting in bridging the gap between organizational performance and employee performance.*

*This paper intends to visualize the importance, role and impact of Web based training in enhancing employee performance. The paper uses both qualitative and quantitative approach to analyze the objectives. In order to examine the objectives; factors used are trainee's dimensions, user satisfaction, continuous intention and individual performance. Trainee's dimensions have been studied with the help of two constructs digital literacy and performance expectancy.*

**Keywords:** *E-Training, digital literacy, performance expectancy, user satisfaction, continuous intension, individual performance*

### **Introduction**

Technology has always remained the main drivers of the ecosystem (Sujeet Kumar Sharma, Jyoti Kumar Chandel, 2013). From last two decades there has been a lot of work in the area of information and communications technology (ICT). The innovation and development in the area of ICT is quite evident in almost all the sectors. Today even our honorable Prime Minister Shri Narendra Modi speaks about Digital India and has inaugurated applications for "Digital India" which itself means "Power To Empower". This shows the revolution that ICT has brought in our day today life.

## **1. Information and Communications Technology**

ICT is defined as an umbrella term which includes any communication devices or applications encompassing television, radio, mobile phones, network hardware, software, satellite systems as well as various applications and devices associated with it such as video-conferencing, audio conferencing, distance learning and many more. However, UNDP (United Nations Development Program) has defined ICT as information handling tool that are basically a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information.

The creative use of ICT can be seen in the field of education which has undoubtedly affected teaching, learning and research. With the use of technology today students can click to knowledge in few seconds. The role of ICT is not only evident in education sector but has influenced organizations also. These organizations initially were more focused towards job accomplishment but today they are determined to make their organizations as “Learning Organization”. Thereby, introducing an E-Learning environment at workplace. (Minhong Wang, Weijia Ran, Jian Liao, Stephen J.H. Yang., 2010) the paper found that the workplace e-learning should align individual and organizational learning needs and indulge a learning environment such that it is mutually benefited to both employee and the employer.

## **2. ICT in India**

According To (Overseas Indian Facilitation Centre, NOV 2013) Indian Information and Communication Technology (ICT) industry has witnessed excellent growth in the past two decades. Capitalising on its advantages of talent pool, lower cost of operation and the innovative remote delivery model, India has established itself as a global leader in the ICT sector. ICT can be broadly viewed under two sectors, information technology (IT) and Communication. The rapid growth of it sector has transformed the image of India from slow bureaucratic economy to a country of innovative entrepreneurs. The market size of information technology in India is expected to touch US\$ 44.8 billion in 2014 as compared to US\$ 35.1 billion in 2012, as per International Data Corporation (IDC). (Gargi Banerjee, 2014) India holds 121<sup>st</sup> position in ICT Development Rankings out of total 157 countries. Though the value of the index increased from 2.13 in 2011 to 2.21 in 2012 India’s overall ranking slashed down from 120 to 121 during this period.

According to Gartner, Indian IT infrastructure market (comprising servers, storage and networking equipments) is projected to grow to US\$ 2.1 billion in 2013, an increase of 9.7 per cent as compared to 2012. On the other hand, the growth of telecommunications sector has shown an enormous growth. In few years India has emerged as the fastest growing telecom market which now stands second largest wireless network after China.

As per NASSCOM results, the estimated number of business sector workforce involved in the ICT sector – IT – BPO direct employment for the financial year 2009 - 10 is 2.3 million and the ICT goods exports as percentage of total exports – IT – BPO services as a percentage of total exports for the year 2009 - 10 is 27.3%.

According to schaltegger and wagner, the entrepreneurs happens to be the main drivers of economic and social issues and lacks in the sustainability of sources to the society. The innovation in technology in view of sustainability problem tries to meet such problems. According to the final report of the Digital Opportunity Initiative, ICT can make a valuable contribution to sustainable environment management by improving monitoring and response system, facilitating environmental activism and enable the resources to be used efficiently. Attilio Di Battista, Soumitra Dutta, Thierry Geiger, Bruno Lanvin, 2015 Information and Communication Technologies (ICTs) are becoming more powerful, more accessible, and more widespread. It is playing a fundamental role in enhancing competitiveness, enabling development, and bringing progress to all levels of society.

### 3. E- Training

ICT (Information and Communication Technology) is commonly defined as a diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information ([https://en.wikibooks.org/wiki/ICT\\_in\\_Education/Definition\\_of\\_Terms](https://en.wikibooks.org/wiki/ICT_in_Education/Definition_of_Terms)). These technologies use computers, networks and other multimedia. E-learning being one of the Information and Communication Technology and is widely used in education and corporate trainings. It encompasses the use of LAN, WAN, internet to communicate, create, disseminate, store and manage information.

Web based training being the subset of e-learning, refers to instructional delivery using electronic devices, internet, CD-ROM, audio-video streaming, web broadcasts, hyperlinked web page (<http://www.webopedia.com/TERM/W/WBT.html>). Web based training is often used by organizations for training employees. It facilitates employee learning at self directed mode, paced by trainer or trainee. It includes courseware in which interaction, instruction and feedback is delivered via web (Designing Web-Based Training, Ann E. Barron). In recent times, web based and self directed learning environment has taken up its pace in delivering training solutions, as a result of which organizations can feel the decline in training budgets in terms of their time and cost. Its use has reduced the logistic cost of trainer and trainee and has saved the time of trainee which can otherwise be used in other organizational activities. The obsolescence in skills and knowledge, high cost of conventional training programs and other logistic hurdles are the major barriers of traditional training programs (Luiz Antonio Joia, Mario Figueiredo Costa (2010), IGI Global, Interactive Whiteboards for Education Theory, Research and Practices), Michael Thomas & Euline Cutrim Schmid). Thus, it becomes quite evident to understand firstly, whether companies are opting for web based training programmes over face to face trainings. Secondly, to study role of digital literacy and performance expectancy in continuous intention to use Information system and therefore, studying the affect on individual performance or employee performance.

### 4. Objectives

- The research aims to analyse benefits incurred by companies by opting web based training as compared to traditional face to face trainings.
- This paper examines the impact of User satisfaction on Employee Performance and its impact on continuous intention in Telecom companies.

### Theoretical Framework and Hypothesis Development

Azara Shaheen et al, 2013 Training is considered as a process of enhancing or improving individual's knowledge, skills, exposure and abilities. A trained workforce forms a competitive advantage for its organization. Training is considered by individuals while seeking promotions or while gaining improved professional skills. Perhaps training increases the cost incurred by organizations, thus they look for other alternatives to deliver training incurring minimum training cost.

This section contributes review of past studies relevant to focused area of study.

#### 1. Web Based Training versus Traditional Classroom Training

World Wide Web (www) can be used as an instructional source to deliver instructional courseware to trainees. (Tatana M. Olson, Robert A. Wisher, 2002) Web based Training offers unparalleled access to training resources as compared to traditional training method. Moreover as per Piccolli et al, 2001 suggests that web based training can eliminate potential geographical barriers and adds more flexibility, individualized learning and feedback

as compared to traditional classroom training. (Joi L. Moore et al, 2011) Web based training being the subset of E-learning, and refers to the use of internet for content delivery. Thereby provides knowledge at trainees pace. (Čonková Monika, 2013) employers using such modes of training and development can minimize their training cost by cutting down the travelling cost of trainer and trainee and other indirect costs as it is in case of traditional classroom setting.

Although web based training has many advantages over traditional training but major disadvantage we come across are lack of human contact, limited bandwidth moreover not all trainings can be delivered on web such as team building activities (Richard Nathaniel Landers, 2009)

**Related Theories**

**1. Expectation Confirmation Model**

The Expectation-Confirmation Theory (ECT) asserts that intention to repurchase or reuse a product or service is significantly influenced by their prior experience with that product or service (Thurasamy Ramayah, 2012). Lower expectation and/or higher perceived performance may lead to a greater confirmation, which results in positive influences to user satisfaction and continuance intention. Reversing the relationship would cause disconfirmation, dissatisfaction, and discontinuance intention.

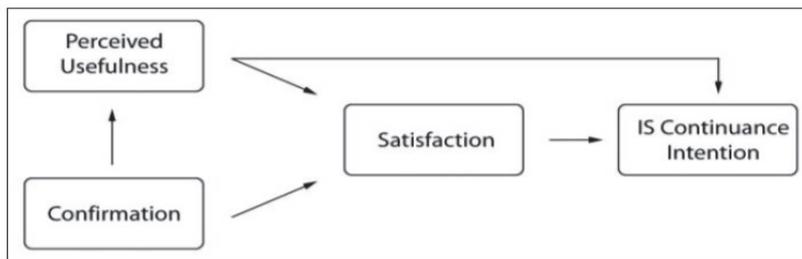


Fig 1. Expectation-Confirmation Model (ECM)

**2. Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM), developed by Davis et al. (1989) intends to measure, predict, and explain user acceptance of information technology (refer to Figure 1). TAM theorizes that perceived usefulness and perceived ease of use determine users' behavioral intention and actual usage. The causal relationships among these constructs have been validated empirically in many studies. Over the last two decades the TAM has been one of the most influential research models in studying the determinants of IT usage (Chau, 2001).

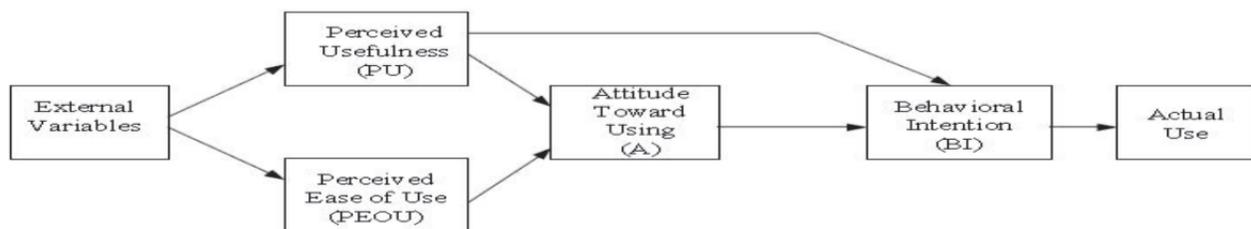


Fig 2. Technology Acceptance Model (TAM)

Based on the integration of above two models (Expectation-Confirmation Model and Technology Acceptance Model) and extensive review of the literature, two factors that describes trainee's dimensions (Digital Literacy and Performance Expectancy) were found and chosen to find the significant relation between these factors and user satisfaction, relation between user satisfaction and trainee's intention to continuously use the technology as a mode of training. It also examines the influence of user satisfaction and continuous intension on employee performance.

## **Research Model and Hypothesis**

### **1. Digital Literacy**

In order to build the competitive advantage it is not important for the companies to ensure that individuals have an access to technology but certain fundamental IT skills are required by individuals which makes them easy to use and adapt to any technology changes (Buckingham, 2011). (S. Mohammadyari, H. Singh, 2015) the paper examined significant relation between digital literacy and continuous intention to use an Information system and trainee's satisfaction.

(S. Mohammadyari, H. Singh, 2015) Digital Literacy refers to the ability to understand, analyze, assess, organize and evaluate information using digital technologies. Being digitally literate means knowing about various technologies and understanding how to use them, as well as having an awareness of their impact on individuals and societies. Therefore, the individual with high level of digital literacy will perceive that the continuous use of an information system would enhance their performance and will be satisfied. Hence, we propose:

*H1: Digital Literacy has significant impact on User Satisfaction*

*H2: Performance Expectancy has significant impact on User Satisfaction*

### **2. User Satisfaction, Continuous Intention and Individual Performance**

Previous studies found positive relation between learner's satisfaction and intention to continuously use the technology (Ramayah, T., Ahmad, N. H., & Hong, T. S. (2012). In order to enhance the individual performance it emphasis on performance expectancy which refers to the extent to which users believe that a system would enhance their performance (Venkatesh and Zhang, 2010) found performance expectancy was the strong indicator of an individual's intention to use new technologies in organizations. Therefore, if the desired expectation is meeting it tends to increase user satisfaction. This refers to a possibility of having a relationship between performance expectancy and user satisfaction and also between user satisfaction and continuous intention. Also Expectation Confirmation model states that Information System continuous intention is positively related to satisfaction. Hence, we propose:

*H3: User Satisfaction has significant impact on Continuous Intention.*

*H4: User Satisfaction has significant impact on Individual Performance.*

*H5: Continuous Intention has significant impact on Individual Performance.*

## Research Model

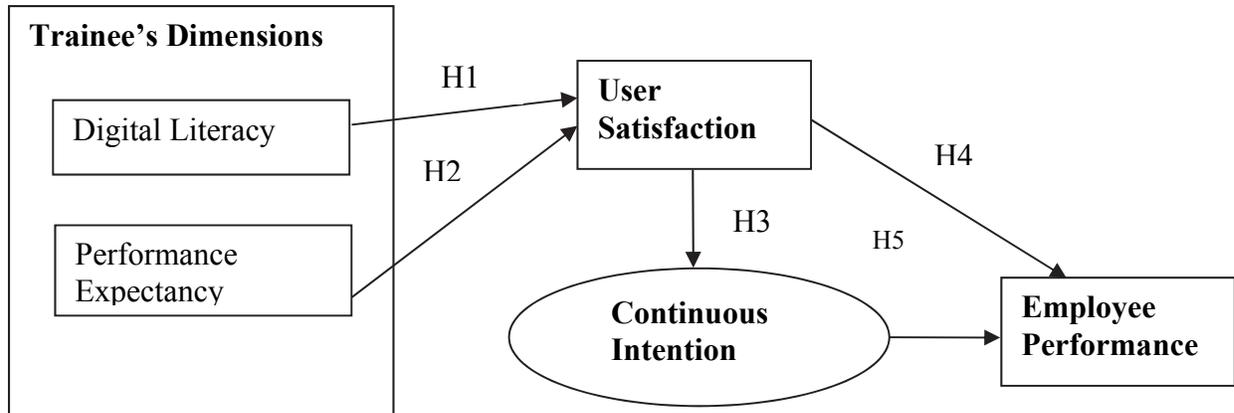


Fig3: Research Framework

## Method

The research is based on data collection from employees in different IT organizations in India (Delhi/ NCR region) who had experienced e-trainees in their workplace. The data is mainly collected using structured questionnaire (as attached in Appendix A) from middle level. This research is a cross sectional study that has been conducted over a sample of 80 employees who had been using e-learning module at workplace.

Table 1: Sample Profile

Variable	Description	Frequency	Percentage (%)
Age	Between 18 to 30	56	70
	Between 31 to 55 years	24	30
Gender	Male	43	53.8
	Female	37	46.2
Number of hours spent using internet	1 to 4 Hours	11	13.8
	5 to 9 Hours	33	41.3
	More than 9 Hours	36	45
Number of hours spent using e-training system	1 to 4 Hours	38	47.5
	5 to 9 Hours	23	28.8
	More than 9 Hours	19	23.8

## Results

### 1. Reliability Analysis

Variable	Cronbach's Alpha
Digital Literacy	0.847
Performance Expectancy	0.915
User Satisfaction	0.891

Continuous Intention	0.514
Individual Performance	0.810

The constructs measuring digital literacy comprises of the variables from X1 to X7 as per the questionnaire the reliability check is done using cronbach's alpha followed by factor analysis. As per cronbach's alpha value (0.847) which is more than threshold value 0.7. Further looking at the other construct; Performance reliability, User satisfaction and Individual Performance the value of cronbach's alpha is >0.7. The value of alpha for Continuous Intention is less than the threshold value. So now we need to remove few variables which can be done by looking at Corrected Item-total Correlation (CITC) Column in Table 2 where if CITC<0.35 we reject the variable(s).

Table 2

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X14	5.54	2.961	.327	.419
X15	5.52	2.025	.663	-.213 <sup>a</sup>
X16	5.04	3.277	.098	.795

Therefore from the above table we can remove variable X16 which are less than 0.35. We may select X14 as its value is near 0.35. So we now include X14 and X15 for factor analysis. We use KMO and Bartlett's Test as shown in Table 3.

Table 3

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.500
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	44.522
	1
	.000

The test indicates the sampling adequacy which should ideally be more than 0.6 and significance should be less than 0.05. But from the above table we can conclude that sample is not adequate as 0.500<0.6. From component matrix table 4 we can depict the values of variable is 0.911 which is greater than ideal value 0.3

Table 4

**Component Matrix<sup>a</sup>**

	Component
	1
X14	.911
X15	.911

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5 Total Variance Explained 83% which means 83% of the values is explained by the variables.

Table 5

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.661	83.053	83.053	1.661	83.053	83.053
2	.339	16.947	100.000			

Extraction Method: Principal Component Analysis.

Since the values of component matrix is adequate however KMO value is less than 0.6 although sample significance is far less than 0.05 (highly significant). Hence we conclude that the sample is not significant and thus we cannot derive any result from it.

**Discussion**

Hypothesis 1 (H1) which posit that digital literacy has significant impact on user satisfaction which was depicted using regression analysis as mentioned in Table 6

Table 6

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.445 <sup>a</sup>	.198	.188	.783

a. Predictors: (Constant), Digital Literacy

b. Dependent Variable: User Satisfaction

The table provides the value of Rand R<sup>2</sup>. R value represents simple correlation and the value is 0.445 to which R square value is 0.198 which means independent variable (digital literacy) explains 19.8% of dependent variable (user satisfaction), which is very low. Thus, indicates that digital literacy is not significant. However, the statistical significance of regression model was less than 0.05 (p<0.0005) as per table 7

Table 7

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.788	1	11.788	19.251	.000 <sup>a</sup>
	Residual	47.762	78	.612		
	Total	59.550	79			

a. Predictors: (Constant), Digital Literacy

b. Dependent Variable: User Satisfaction

Hypothesis 2 (H2) which assumes that performance expectancy has significant relationship with user satisfaction as per table 8

Table 8

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826 <sup>a</sup>	.683	.679	.492

a. Predictors: (Constant), Performance Expectancy

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826 <sup>a</sup>	.683	.679	.492

a. Predictors: (Constant), Performance Expectancy

b. Dependent Variable: User Satisfaction

The result depicts that independent variable explains 68.3% of user satisfaction. Also from regression row in table 9 given below indicates significant relation between the two as significance value is far less than 0.05

Table 9  
**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.675	1	40.675	168.091	.000 <sup>a</sup>
	Residual	18.875	78	.242		
	Total	59.550	79			

a. Predictors: (Constant), Performance Expectancy

b. Dependent Variable: User Satisfaction

Table 10  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.684	.145		4.710	.000
	Performance Expectancy	.657	.051	.826		

a. Dependent Variable: User Satisfaction

The above table 10 provides the model equation to predict user satisfaction from performance expectancy. The regression equation is as follows:

$$\text{User Satisfaction} = 0.684 + 0.657(\text{Performance Expectancy}) \quad (1)$$

Therefore, we can conclude that the two variables have significant relationship.

Hypothesis 3 (H3) states user satisfaction has significant impact on continuous intention. The results depicts r value as 0.694 and R square value as 48.2% which indicates user satisfaction explains 48.2% of its dependent variable (continuous intention) which is significantly low. As shown in table 11

Table 11  
**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694 <sup>a</sup>	.482	.475	.599

a. Predictors: (Constant), User Satisfaction

b. Dependent Variable: continuous Intention

Therefore, the null hypothesis is accepted that is user satisfaction does not have an impact on continuous intention.

Hypothesis 4 and 5 (H4 and H5) posits that user satisfaction and contentious intention has significant impact on individual performance.

Table 12  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873 <sup>a</sup>	.762	.748	.592

- a. Predictors: (Constant), User Satisfaction  
b. Dependent Variable: Individual Performance

From the above result it can be inferred that value for R is 0.873 and R square is 0.762 which means that independent variable can explain dependent variable (Individual Performance) by 76.2%. As the value of R square is highly significant, model can be predicted as a good fit. Moreover from the table below (Table 13) which indicates significance value as 0.000 which is far less than  $p < 0.0005$ . Therefore, we reject the null hypothesis that is User satisfaction has a significant impact on Individual Performance.

Table 13  
ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.738	1	25.738	71.162	.000 <sup>a</sup>
	Residual	28.212	78	.362		
	Total	53.950	79			

- a. Predictors: (Constant), User Satisfaction  
b. Dependent Variable: Individual performance

Table 14  
Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.431	.201		7.132	.000
	User Satisfaction	.657	.078	.691	8.436	.000

- a. Dependent Variable: Individual performance  
The regression equation as per the above table 14 can be presented as:  
Individual Performance = 1.431+0.657(User satisfaction) (2)

Table 15 represents significantly no relation between continuous intention and individual performance.

Table 15  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566 <sup>a</sup>	.321	.312	.685

- a. Predictors: (Constant), continuous Intention

**Table 15**  
**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.566 <sup>a</sup>	.321	.312		.685

a. Predictors: (Constant), continuous Intention

b. Dependent Variable: Individual performance

As the value of R square is 0.321 which is very low and thus does not explain the impact of continuous intention over Individual Performance.

## 7. Conclusion

This paper sheds light into important trainee dimensions which are necessary for the employees using e-trainings and enhancing their performance. This study reflects the importance of digital literacy and performance expectancy on user satisfaction and individual performance. From here we can state that if the employee is digitally competent will be satisfied using e-trainings. However, user/employee satisfaction does not impact their intentions to continuously use e-training system. Even from the other construct that is performance expectancy it can be inferred that individuals perceive 's using e-training system would lead to desired performance outcome and are satisfied with the system at their workplace.

This research offers valuable insight to the organizations in order to understand trainee's dimensions while accepting e-training system.

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## *A Special Review for the Wave of Big-data Development*

Ruben Xing, Montclair State University, USA

### **Abstract**

*The developmental directions of big data are readjusted with some new areas along with the quick boom of Internet of Things (IoT). Big data was a hot topic in past years. Some of the omitted focuses become major concerns for developers, and several new functions are becoming critical needs for the smart Internet movement. The paper is to address the sensitive transitional period of big data with the strategic changes and directions to be recognized for the business leaders and developers.*

**Keywords:** Big data, Internet of Things, data attributes, information technology, scientific revolutions, business transformations

### **Introduction**

It is not about the size of the data, it's what you do with it (Salkowitz, 2014). The concept of big data was hyped and omitted with some of its essential attributes. The strategic concerns of big data from the business and industry circles are all about: what the trends will have an impact on global big data domain, and how big data will affect organizations in 2016 (Raijmenam, 2016). There are six top priorities of information technology development were concluded by CIO 2015 summit. They are: Business Intelligence, IT Infrastructure reconstructions, Cloud computing, Enterprises Resource Planning, Mobile computing, and Information Security. None of the hyped mass data volume, its universal coverage, and the handling of big-data storage capacity and processing speed were mentioned. Along with the fast IT innovative movement, some major misunderstandings and misconceptions are growing among business executives, analysis, and even some technology developers, and educators as well (Xing, 2013). The unclear moving status triggered this research study focusing on important readjustment for the strategic development and necessary clarifications for the moving directions of big data.

### **Methods**

This is a critical review of archived data (Strang, 2013) with a purpose to organize and highlight key events in IT and Internet innovations which have had a profound impact on the future. Instead of going through specific needs, features, and performances of concerned analysis, this research is going to approach our targets through the discussions for the following aspects:

1. Clarifying the some misconceptions from the business and industry circles
2. Clarifying the connections between big data and information technology
3. Making clear for the important big data trends
4. Redefining the big data attributes
5. Reviewing the bottlenecks and challenge facing the technology future

### **Literature Review**

To review the critical concerns of big data development, it is imperative to clarify some misconceptions and the historical process of digital evolutions.

## **The Developmental Stages of Science, Industry and Technology**

During past few years, the term of big data was hyped and described inappropriately. One of typical sayings was the so-called “big-data stage” or called “big-data revolution”. It misled people that as if we were jumped into a brand new digital era with a revolutionized technology of big-data which was just discovered, and invented.

Historically speaking, the contemporary world has gone through five scientific and industrial revolutions. The publication in 1543 of Nicolaus Copernicus's Heliocentric Theory which was the first *theory* that said that the universe does not revolve around the Earth. In early 20<sup>th</sup> century, the most famous scientist Albert Einstein's relativity theory reinterpreted the inner workings of nature, the very essence of light, time, energy and gravity. His insights fundamentally changed the way we look at the universe (Overbye, 2015). Meanwhile, another equally important scientific breakthrough – quantum theory was discovered. The both theories profoundly shocked and reshaped traditional physics and scientific circle, and they were commonly believed the second scientific revolution.

The breakthrough scientific revolutions profoundly stimulated the production forces, laid out broad domains for industry and technology development. From the first mechanical loom, dating from 1784, we can distinguish three stages in the ongoing process called the Industrial-Technological Revolution. The first “acceleration” occurred toward the end of the 18th century: the appearance of steam engine in England. The Second Industrial-technological revolution started at the beginning of the 20th century with the introduction of mass production powered by the electricity (Sogeti, 2014). The third one started in 1946 when the first electronic computer was invented. It triggered the movement of information technology (IT) which was considered a core driving force for other industrial, scientific and technological domains on space technology, energy industry, and life-science. The process is still ongoing to date.

## **The Evolution of Big-data Development Along with Information Technology**

First of all, big-data is not a new technology domain nor is a digital product invented in recent years. Big-data is a growing digital resource along with the information technology development. As the core driving force of the third industrial-technological revolution, IT has gone through the following three revolutionary milestones.

### **Milestone of Computing Technology and the Rise of Microsoft**

The potential computing power and data were not fully utilized until the computer software revolution took place in late 1970s when Microsoft developed its first Windows Operating System. Windows OS enabled data can be expanded, stored, exchanged and shared between computers much easily. The Microsoft OS profoundly changed the way people use computers and manage their data and information. This great achievement was indeed a first milestone since the first electronic computer was invented (Xing, 2013).

### **Milestone of Internetworking and Google's Rise**

By late 1980's, the appearance of Internet started collecting and providing huge amount of data and contained almost unlimited information resources. However, it was crippled by using old browsing technologies, and made people could hardly use and find them efficiently (Estrin, 2009). Google caught this problem timely, and grabbed it as a great opportunity to start developing its search engine for the Internet community. More than one trillion unique, worldwide URLs were indexed by Google alone by 2010 (MiKinsey, 2011). The Internet search technology changed the way how people use the Internet, fully released the unlimited hidden data, redefined the concept how much the Internet could help people. This epoch-making milestone should attributed to Google. This Internet stage is commonly called Web 1.0.

## Milestone of Social Network and the Boom of Cloud Computing

Followed by the Google's search engine based Web 1.0, other significant innovations in forms of electronic communication including Social Media (Harrin, 2010) started in late 90s. Some typical developers such as Myspace, Facebook, and Twitter are typical social media providers. Working at such different Internet platform, the end users participating not only as passive consumers of content provided by the web-sites, but also as a contributor creating content collaboratively with fellow users. Thus, at a logical level, many of these Web 2.0 applications are inherently peer-to-peer (P2P) in nature (Buchegger, 2010).

Social network innovations in areas of internet connectivity, increased comfort with online collaboration and the need for mobility added to driving forces behind a concept of cloud computing (Buyya, Broberg, & Goscinski, 2011). As a huge power plant, the Cloud provides not only all kinds of information, the variety of 'Computing Services', but also a collaboration sharing powers of supercomputing to meet the needs for businesses and individuals (Ruben Xing, 2010). Web 2.0 is a "writable" phrase of the web facilitating interaction between web clients and web sites (WittyCookie, 2012). It allows users to interact more freely with each other, and encourages participation, collaboration, and information sharing while the data and information could only be originated and provided by web servers with the Web 1.0 model. That is the key reason why bag-data brows exponentially along with Web 2.0.

## Discussion and Impications Digital Evolution

The three milestones of the information technology are the best explanations of what the core driving forces are and how big-data has evolved as shown in the table below:

Digital Unit	Measure	Starting Stage Background	Description
Bit (b)	1 or 0	Binary digit, computers use it to compose, store and process data; One hole per bit on Punch-card	Invented in late half of 1940s when the first electronic computer was invented
Byte (B)	8 bits	An English letter or number in computer code. Maximum of 70 bytes can be stored per punch-card – the early computer data storage technology	The term <i>byte</i> was coined in July 1956, during the early design phase for the IBM Stretch computer
Kilobyte (KB)	1024 B, or 10 <sup>3</sup> Bytes	One regular typed text page is 2KB; An 5 <sup>1/4</sup> floppy disk stores 80~800 KB data max.	The unit was widely used in the 1950s and 60s as the main working memory of computers.
Megabyte (MB)	1024 KB, or 10 <sup>6</sup> Bytes	The first hard disk drive stored under 5 MB data by IBM 305 RAMAC computer	In 1950's, IBM developed first computer hard-drive contains 5MB of data, which covers the complete works of Shakespeare. By 1960's, 650 MB CD was developed to store multimedia data

Gigabyte (GB)	1024 MB, or $10^9$ Bytes	The unit of GB was reached and utilized during the stage of Web 1.0. The typical hard disk drive for a PC with multi-GB capacity	By 1990, IBM first developed a 1-GB computer disk drive. By 2005, 100s-GB based DVD came out A two-hour film contains 1~2 GB;
Terabyte (TB)	1024 GB, or $10^{12}$ Bytes	The unit of TB was reached and utilized during the stage of Web 2.0 around 2000s.	In 2009, SONY first developed 2 TB memory card. US Congress Library collections are digitized and publicly available on the Internet is about 74 TB;
Petabyte (PB)	1024 TB, or $10^{15}$ Bytes		Total 6 PB of letters US postal service delivered in 2012; Google process 20 PB data per day
Exabyte (EB)	1024 PB, or $10^{18}$ Bytes		By 2010, computer storage reached 1-EB capacity
Zettabyte (ZB)	1024 EB, or $10^{21}$ Bytes	Data grows double in every two years from now on	By 2020, data will reach 40 ZB. 2014 global amount of data has reached 5-ZB, An example to describe this amount of data: If all the data are carved into the DVD (5G/Pd) discs can be superimposed with a total length of two round-trip distance from the Earth to the Moon, a total of about 1.6 million km.
Yottabyte (YB)	1024 ZB, or $10^{24}$ Bytes	Today data scientists use YB to describe how much government data NSA or FBI have on people altogether	Big data grows will continue, and be stored on the Cloud with virtually unlimited space.
Brontobyte (BB)	1024 YB, or $10^{27}$ Bytes	In the near future, BB will be the measurement to describe the type of sensor data that will be generated from the IoT	

### The Big-data Evolution

As stated above, the stage of Web 2.0 uses the ‘**read and write web**’, it is the essential reason why data grows exponentially since then. Table below further indicated the fact:

Total Population	Active Web Users	Active Social Media Accounts	Unique Mobile Users	Active Mobile Social Accounts
7.210 Billion	3.010 Billion	2.078 Billion	3.649 Billion	1.685 Billion

Global Digital Snapshot, Jan. 2015 (Source: World Population)

While people working on web interactively became a main fashion, an immediate concern came up, that is how smartly and intelligently the web helps us? Technically, both Web 1.0 and Web 2.0 are written with HTML language. Web contents are literally represented by the words only.

In contrast, *Web 3.0* is written with XML language, uses the '**Data Web**' technology featuring structures data records that are publishable and reusable on the web through query-able formats like RDF, ontology and micro formats. It is the stepping-stone to complete semantic web, which enables new levels of application operability, data integration and makes data openly linkable and accessible in the form of web pages (Viluda, 2011). Web 3.0 will be the next logical step in the evolution of the Internet (Matusky, 2015).

While we concern what Web 3.0 means and how it impacts on still-actively-adopted-Web 2.0, we are simultaneously recognizing for another quick looming trend beyond it - the **Internet of Things** (IoT). The IoT will likely be the next Web era, as it takes the notion of an ever-present internet to a new level. Smart devices in the Internet of Things not only use the internet, but speak to each other via machine-to-machine communication (M2M) to accomplish tasks without the need for human input (Kim Morrow, 2014). The amount of data created by M2M based IoT will be nearly unmeasurable. This new big-data resource was defined as Data Lakes. Data lakes are becoming an essential big data storage tool as enterprises amass mountains of data from M2M connections, social networks, and remote workforces (Rijmenam, 2016).

### Big-data Attributes

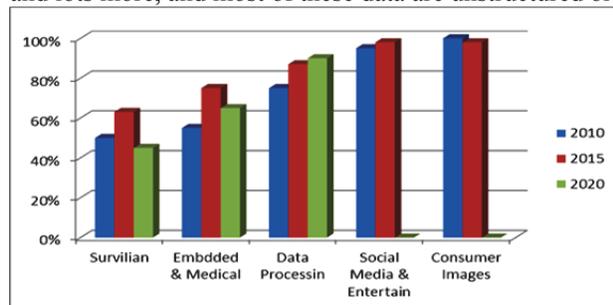
As the above redefined major web stages, it is necessary to clarify the attributes of big-data. Started in around 2000s, big-data was addressed with 3-V attributes which are Volume, Variety, and Velocity as the focused areas.

- **Volume**

Today organizations like NASA, Facebook, Google and many other such companies are producing enormous amount of data per day. It should be clear that starting in the stage of Web 2.0, the data volume has grown exponentially.

- **Variety**

Big-data is currently generated from different sources in different forms, like videos, text, images, emails, binaries and lots more, and most of these data are unstructured or semi structured.



Categories of big-data created during 2010~2020 (Source: IDC report 2012)

As the above table indicated, some typical data sources that are becoming increasingly popular are: mobile devices, sensor networks, call detail records (CDR), Radio Frequency Identification (RFID) tags and systems, scientific imaging, environmental control, biomedical systems, military applications, video surveillance, and M2M systems (Rios, 2014). In addition, the data generated from wireless sensor networks (WSNs) has quickly become the latest big-data resources. WSNs are widely being used to monitor public security, environmental changes, traffic, or military activity, detect hazardous substances in air, wearable wireless health monitors, sensor-equipped modern cars,.... and almost every single corners of social activities and family life. It is essentially fueling the Internet of Things. IoT has become an important symbol along with the era of Web 3.0.

- **Velocity**

Velocity was the third attribute defining the methods of capturing, storing and processing big-data. In the big data era, data is generated in real-time or near real-time. With the availability of Internet connected devices with wireless or wired media, machines and devices can pass-on their data the moment it is created (Rijmenam, 2015). According to IBM, by 2016, it is projected there will be 18.9 billion network connections including about 2.5 connections per person on earth. And here we are talking about the analysis and processing of data that is in the range of hundreds and thousands of Petabytes, Exabytes and much more. So to analyze the same we need a better system that will process the data at much higher speed and with high scalability more efficiently and smoothly. That is the challenge facing today's data velocity issue.

Along with the fast growth of big data, in addition to the concerned 3Vs properties above, organizations have started paying attentions on some other important aspects when they develop a big data strategy. Here are two more attributes to be addressed:

- **Value**

Big-data is useful only when they are tapped, structured and analyzed (IBM, 2015). Today about 80% of captured big data are unstructured, untapped, unanalyzed. According to a recent study from IDC, even with a generous estimate, the amount of information in the digital universe that is "tagged" accounts for only about 3% of the digital universe in 2012, and that which is analyzed is half a percent of the digital universe.

The key challenge facing such low value from the current data lakes is developing new tools to help get big data tagged, structured, formatted, so that to make to make it suitable for data mining and subsequent analysis. Hadoop has become a major driving force for developing big-data from now on. Apache™ Hadoop® is an open source software project that enables distributed processing of large structured, semi-structured, and unstructured data sets across clusters of commodity servers (IBM, 2015). As some digital experts saying, "You simply can't talk about big data without considering Hadoop today" (HappinestMinds, 2011).

- **Veracity**

Veracity normally means data accuracy. Since we use V to address our concerned area, veracity also reflects on data reliability, security and recoverability:

- **Accuracy**

According to Harvard Business Review, big data is a mega-problem because turning relevant data into useful information is a big problem. Typically, here is looming tragedy of big data – spurious correlations. The more variables, the more correlations that can show significance. Falsity also grows faster than information. A

recent study from Harvard University Law School displayed several charts with absurd correlations. As typical examples of the spurious charts: <Deaths caused by falling down stairs> correlates with <Increased sales of iPhones>; <Number of people who drowned by falling into a pool> correlates with <Films of Nicolas Cage appeared in>; and <Divorce rate in Maine> correlates with <Per capita consumption of margarine> (source: Harvard Business Review, 2015). It is not uncommon that organizations and people can collect or structure data. But there is too much of it. Unless you have the means of turning this relevant data into useful information (Modoveanu, 2013).

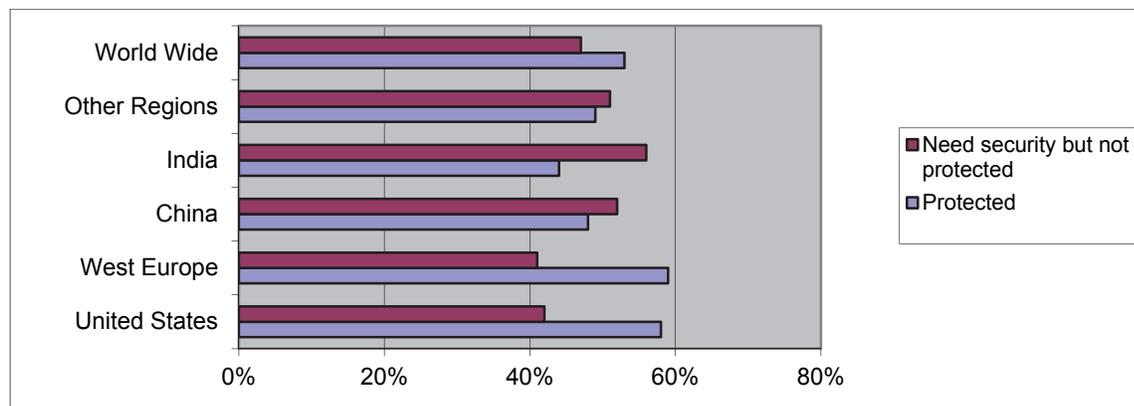
Now the essential means is bring in new algorithms. These algorithms are very specific artificial intelligent. They define action and they are very specific pieces of software that are very good at a very specific action, much better than humans can do (Rijmenam, 2016). The intelligent algorithms will change the way we work and will have a dramatic impact on employees in a wide variety of industries and departments.

➤ **Reliability, Security, Recoverability**

Veracity also concerns about the security measures prevent from data breaches and data availability and recoverability upon any kind of disasters occur. As CIO 2015 Summit indicated below, cyber security weights 25% of IT strategies for 2016.

Hard lessons have been learned from the previous 2 years of high-profile data breaches, and already this year criminal access to over 100 million records has been identified in the U.S. alone (Mattson, 2016). With everything going digital and the huge amount of connected digital devices with IoT, big data security will become more and more important. During the 21 month period between November 2013 and July 2015, 81% of the U.S. population became victims of data breaches (The Copper River Group, 2015) which include consumer’s credit card information, birth dates, government ID numbers, home addresses, medical records, phone numbers, financial information, email addresses, login, passwords, and other personal information into the criminal underground.

The Forbes reported that data breaches in healthcare totaled over 112 million records In 2015. The Figure below shows the current worldwide data-protection status (IDC).



Worldwide data protection (source: IDC, 2015)

The main causes from the typical breaches such as malicious code, computer hacking, and denial of service attacks have become more common, more ambitious, and increasingly sophisticated. Information Security is not an

IT problem, it is one of primary government and business issues. Most organizations will identify information as an area of their operation that needs to be protected as part of their system of internal control. Big data disaster recovery upon either natural, terror attacks or IT systems failure has become an equally critical strategy for business leaders and tech developers. As the following table summarized, there are three major lessons learned by US from the last decades:

Disasters	Data Loss	Three Lessons Learned
1993, Terror attacked with bombs on WTC, New York	65%+ WTC businesses lost their data from damaged computer hard disks	100% US businesses started doing full, differential, incremental backup regularly;
9/11/2001 Terror attacks destroyed twin towers of WTC, NY	Businesses lost their medias of backup data stored in the same building	100% US businesses started doing remote backup; building hot, warm, cold sites of datacenters
2005, Hurricane Katrina made entire New Orleans city under deep seawater	Most organizations lost their data from local or remote backup medias placed in the same city	US started data backup onto the Internet. Virtual backup and cloud computing

Three lessons learned from US disaster recovery history (source: Xing, 2010)

As discussed above, data accuracy, reliability, security and recoverability based Veracity should be certainly added as one primary attributes when plan big data strategies.

## Conclusions

- ❖ Today we are on the stage of the third industrial and technological revolution. The core driving force is the information technology. Big data is not a new stage, nor is any new technologies. Big-data is a great resource generated along with the three information technology development milestones;
- ❖ The essential focuses of big-data should be how to provide great Value among the sheer Volume of data generated from all the possible Varieties, collected, processed through the efficient Velocity. The data we are using must have an excellent Veracity which is accurate, reliable, highly secured and recoverable. IT leaders need to cut through the hype and confusion, and base their actions on known facts and business-driven outcomes (Gardner, 2014);
- ❖ The major challenge facing big-data is how to get more valuable, useful, accurate, and reliable data. Tackling the problems associated with big-data takes more than intelligence: It takes ingenuity (Harvard Business Review, 2015). It is highly expected that the scientific and technological researches make more breakthrough theoretical achievements, which will revolutionize, inspire, and create new domains and products of future development.

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**Track: International Business, MNEs and Global Issues**

## ***The Impact Of Internal And External Aspects On Foreign Subsidiaries' Performance During Economic Crisis***

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### **Abstract**

*This study intends to analyze which relevant aspects influence performance of foreign subsidiaries and remain its competitiveness during economic crisis in international market where they operate. To investigate this effect, we analyzed the subsidiaries' behavior located in the European market during pre- and post-crisis period that started in the US in 2008 and spread all over the world. Our analysis is based on longitudinal data of foreign subsidiaries of Japanese multinational firms on the period 2006 to 2013. We applied a multiple linear regression with panel data using fixed effects models. The findings show that internal aspects related to accumulated local market knowledge, entry mode through joint ventures with partners from the same nationality, and the subsidiary management as well as external macroeconomic aspects involving low inflation rate and population income indicators, present a positive impact on subsidiaries performance during economic crisis period. The subsidiary performance is also higher in pre-crisis period, showing the importance to consider economic crisis in the analysis of international operation. Furthermore, the result has managerial implications and contribute to the understanding of the important factors that have to be considered to succeed during economic crisis.*

**Keywords:** Subsidiary; Economic Crisis; Company Internationalization; Subsidiary Performance.

### **Introduction**

Economic crisis had been investigated through different perspectives. For over a century, prior studies were led by a number of scholars mainly in the economic research field. At the beginning of 20<sup>th</sup> century, England (1913) investigated about firm profitability and price rise before economic crisis, while Kondratieff (1935), Stolper (1935) and Mitchell (1913) examined economic cycles (long waves) and their effects on economic dynamics and how they influence on creation or recovery from economic crisis.

Krugman (2008) also asserted about economic cycles that had influence on economic recession. Other authors also explore this theme in an economic perspective. Zarnowitz (1985) identified at least 25 business cycles through a longitudinal study between 1854 and 1982; Koellinger and Thurik (2012) and Rampini (2004) explained that the dynamics of these crisis period are connected with entrepreneurship and based on it, he suggests that new business growth follows low risk periods.

As a way to protect and avoid great losses in recession times, multinational enterprises (MNE) tend to close their subsidiaries operations on countries which are facing a severe economic crisis period. Chung, Lee and Lee (2013) discussed this theme through a study about dual option MNE subsidiaries and they revealed that in crisis periods, MNEs are less likely to exit its operation in the host country. In another study, Chung et al. (2010) suggest that beyond the subsidiary's strategy, there are situations where the expansion can be a better choice.

It should be noted that there is a broad research field and several studies with specific focus can be developed in this topic. There are many investigations about recessions in the economic field as we can highlight with Krugman (2008), Pomfret (2014), Flores (2012) and Conti (2014). However, few studies focused on the business and management field, particularly using firm level data such as MNEs. Another important aspect refers to a small number of studies that analyze economic crisis considering firm internationalization using firm- or subsidiary level data (Chung and Beamish, 2005; Chung, Beamish and Isobe, 2010; Lee and Makhija, 2009; Godart, Görg and Hanley, 2011). However, past studies on foreign subsidiary adopted survival analysis as a way to measure performance.

Thus, in order to fill this research gap, this study aims at analyzing which factors may have impact on subsidiary performance during economic crisis period. This research intends to understand how foreign subsidiaries operating in European countries behave during economic crisis started in the U.S. in 2008. To achieve our aim, this study has examined some factors that had influenced performance during turbulence period by considering: (i) internal factors such as market entry, subsidiary management and local market knowledge; (ii) external factors related to macroeconomic aspects.

## **External Aspects**

### ***Economic Crisis***

There is not a consensual definition about what are economic crisis. Claessens and Kose (2009) and Conti (2014) used the International Monetary Fund (IMF) definition, where these periods of recession are determined with a reduction in the amount of Gross Domestic Product (GDP). However, it is not every decrease in this index that indicates an economic recession, but it has to be considered at least two subsequent quarters of GDP decrease.

National Bureau of Economic Research (NBER, 2014) has a different point of view about these recession periods. For NBER, economic crisis does not only involve two consecutive quarters, but the most important point refers to a massive decline in economic activities for a few months, which could be measured by many indicators. In this way, NBER (2014) defines economic recession when occurs a decrease of several other economic sectors indexes and it takes more time than a few months. Due to it, it usually has a negative impact on real GDP, real income, employability level (or unemployment), industrial production and wholesale and retail sales.

Economic crisis clearly directly or indirectly affect everyone (Claessens and Kose, 2013). Thereby, MNE are inevitably affected by economic recessions as well as banks, governments, industry sectors. In most of cases, prior studies that analyze economic crisis and firm internationalization considering the subsidiary divestment operation in international markets.

It is expected that during period of economic crisis, the country's macroeconomic indexes tend to get worse than in previous time. The crisis effects should be taken into consideration in the analysis since many prior longitudinal studies had not taken into account this period of recession. Therefore, it is possible to suppose that foreign subsidiaries performance is better in the years that preceded the economic crisis, thus:

**H1.** *Subsidiary achieves in pre-crisis period a better performance than in post-economic crisis.*

### ***Macroeconomic Aspects***

Economic crisis directly affects indexes that measure the country's economic situation (Ferraz, 2013). This, in turn, can impact firms located in those countries, including MNE subsidiaries. The GDP is one of the most representative indexes that show the situation of a country or a region (Kasznar, 1997). This index measures the monetary value from everything purchased by the final consumer. It consists on the sum of all population income, in other words, total income minus costs. Callen (2008) introduces an alternative definition where the GDP is the

expenses from everyone on a country. Through this index, it is possible to define GDP per capita, which is the ratio between total income and total country's population. According to Sposati (1996) this GDP index measures the economic greatness and identifies the proportionality of economic situation in terms of per capita income.

Initially, GDP per capita is understood as a way to represent the development of a country or region. Recently, social factors started to be considered to define it. However, this index continues to be an important indicator about economic development (Massardi, 2014). The use of GDP per capita is often applied in longitudinal empirical analyses (Massardi, 2014; Greasley and Oxley, 1997; Le Gallo and Ertur, 2003; Maddison, 1983).

Another important macroeconomic index that shows a country situation is related to the inflation rate. It can be defined by a simple way as being the general rise in the economy's prices (Paula et al., 2011). According to Oner (2010), this measurement is widely used and it does not involve only the product prices, but the living cost in each country.

Paula et al. (2011) and Oner (2010) suggest that the variation in GDP and inflation rate could cause serious trouble and changes in any country. It impacts directly or indirectly the whole society, as well as MNEs and its foreign subsidiaries. There is a trend that these indexes get worse during economic crisis, and consequently, it could impact the subsidiary performance, hence:

**H2.** *The better the macroeconomic aspects of a country during economic crisis period, the better is the subsidiary performance.*

### **Internal Subsidiary aspects**

Honorio and Rodrigues (2006 ) developed a research to identify motivational and strategic factors that influence the decisions of MNEs based on four main aspects: (i) entry in a new market; (ii) firm size; (iii) companies' involvement; and (iv ) accumulated market knowledge.

According to the findings of Honorio and Rodrigues (2006), when it comes to the first three points mentioned earlier, there are significant differences between MNEs with higher or lower indexes related to these items. However, it is not the same to the factor of accumulated market knowledge. It because there is a small differences between MNEs that have more experience than others. Nevertheless, their research was not investigated in an economic recession period.

In this way, this study will analyze the impact of internal aspects related to market entry, accumulated local market knowledge, and the subsidiary management during economic crisis. In addition, we use firm size as a control variable for analysis.

### ***Market entry***

According to Dias, Rocha and Silva (2014), there are two groups of market entry types. One on hand, there is a possibility of joining the international market with no equity capital and settle a foreign operation in a country through: arrangements, licensing, franchise, strategic alliances and contracts. On the other hand, there are firms that invest equity capital in their entry mode strategies, involving joint venture (JV) or greenfield investments. Both can be structured by an acquisition or a full control (Wholly Owned Subsidiaries - WOS) (Days, Rock, Silva, 2014; Ferreira, Serra, Reis, 2011).

Essentially, when a firm decide to enter an international market through joint venture, it is necessary at least two companies – a local and a foreign company to invest together and establish a subsidiary. However, each one

must have at least 5% of ownership equity (Chung and Beamish, 2005; Dahab, Guimarães and Dantas, 1994). Ogasavara and Hoshino (2007) assert that international JVs are established according to the equity that the foreign partner holds. In other words, the JV control can be divided equally between partners or some of them could have more decision power and then it defines the level of the ownership control. However, Makino and Beamish (1998) emphasized that there are other JV types, especially in Japanese subsidiaries. Considering the partners involved, there are three unconventional ways which were highlighted to organize a JV: (i) multiple partners (more than two partners); (ii) do not involve a local partner; (iii) affiliated partners, which is home-country partners with some affiliation such as *keiretsu* (Japanese conglomerate).

Ogasavara and Hoshino (2007) highlight the second type of JV, where the subsidiary is formed among home-country partners. In other words, for Japanese subsidiaries, it is possible to have JV type with only home-country partners (i.e. Japanese-Japanese JV), instead of other type of JV formed by a local and foreign firm. Furthermore, this kind of partnership that has two or more companies from the same nationality could be formed among partners from the same conglomerate group (*keiretsu*) or by an independent firm that does not take part of the conglomerate (independent firms).

Based on the information mentioned earlier, we can reinforce that it is necessary to consider entry market through JVs into two ways: the traditional JV or International JV. Concerned about these cases, it is important to know which company is investing more capital in the subsidiary. The other JV form is the subsidiaries that do not involve local partners, but home-country partners, in other words, firms that have the same nationality.

Tang and Liu (2011) use an analogy to explain subsidiaries that have full control ownership, that is the greenfield investment or known as "Wholly Owned Subsidiaries" (WOS). These authors consider that a WOS is a subsidiary that is a copy of the parent firm, because theoretically all its characteristics are identical to the headquarter. Ogasavara and Hoshino (2007) state that WOS are branches placed in another country which are controlled by the parent firm.

According to Dias, Rocha and Silva (2012), there is only one difference between those two ways to entry in the foreign market. WOS is a subsidiary through a firm that starts a new business, while JV must have at least the participation of two companies to establish in an international market.

After studying the entry mode of Chinese subsidiaries, Chang, Chung and Moon (2013) reached the conclusion that WOS has a better performance than JV, when the last one involve local partners. In the same vein, Alvares (2003) based on Spanish manufacturing firms, asserts that there are two factors that MNEs decide to enter in a new market through the full control (WOS). The first one follows the view of Transaction Cost theory (Hennart, 2010) where it is more likely that the selected entry market is WOS when there are intangible assets such as knowledge or high technology. The second aspect involves large MNEs that, on one hand, are still new and had little international experience, but on the other hand, these firms present enough knowledge about the market where they want to enter.

Several authors have different opinions about which kind of market entry results on a better subsidiary performance. Some authors (Dias, Rock and Silva, 2012; Chung, Chung and Moon, 2003; Woodcock, Beamish and Makino, 1994) state that WOS entry strategy allow a better performance. However, others assert the exact opposite (Ogasavara and Hoshino, 2007; Youssef and Hoshino, 2003). We expect that in economic crisis period these hypothesis could be hold, hence:

**H3a.** *Foreign subsidiaries that entered the market through WOS, they have a better performance in an economic crisis period than those subsidiaries that entered through JVs.*

**H3b.** *Foreign subsidiaries that entered the market as a JV with partners from the same nationality, they have a better performance in an economic crisis period than international JV.*

### ***Subsidiary management***

The subsidiary management can be done by two options (Caligiuri, 2000). An employee from parent firm can be chosen to leave his home country and send to a foreign subsidiary. In this case the staff is called expatriate. The other way is the parent firm select a local staff who work in the same country as the subsidiary to manage it. Considering both options, there are advantages and disadvantages. Local managers have the advantage of being familiar to the language, culture and local market, but they may face difficulties in communicating with the parent firm. The expatriates have characteristics in opposite to those. On the one hand, they may not know the language, culture or local market, on the other hand, he has the advantage of being able to communicate better with the parent firm (Welch, Welch, 2008).

The subsidiary management can be analyzed in two ways. The first is related to the main director of the subsidiary (CEO) who is the in charge for managing the operation abroad. This might involve a director who has the same nationality of the parent firm. The second is referred to the subsidiary manager team (top management team). These can also have people from the same nationality as the headquarter team (expatriates) and / or local employees.

The expatriate is an employee sent to an overseas subsidiary with international operations (Caligiuri, 2000; Mitrev, Culpepper, 2012). The parent firm often uses the expatriate turnover as a way to get knowledge experience that can be transferred to other subsidiaries (Chung, Beamish, 2005). According to Tungli (2009), Peiperl (2009) and Tung (1982), there are several reasons for a MNE to send its own staff (expatriate) to a subsidiary in another country. The three main reasons are (i) develop international management skills; (ii) establish a new operation; and (iii) enrich the professional knowledge.

Moreira, Norões and Ogasavara (2014) conducted a study on expatriation strategy based on the vision of the individual, organization and international environment. Their findings show a strong relationship between expatriation and the subsidiary performance. However, for this to occur, it must have a support to the expatriate as well as a good selection process and recruitment. The subsidiary performance can be improved when there is an exchange of knowledge with the parent firm. Therefore, the expatriates have a high importance for this to process (Gallon, Scheffer and Bitencourt, 2014).

Due to earlier argumentation, we can highlight the need for considering the subsidiary management (CEO and expatriate team) as a relevant factor to achieve a better performance of the foreign subsidiary in economic crisis, thus:

**H4a.** *Subsidiaries whose manager is from the same nationality as the parent firm achieve a superior performance during an economic crisis period than subsidiaries controlled by a local manager.*

**H4b.** *Subsidiaries with a high number of expatriates achieve a superior performance during an economic crisis period than subsidiaries with a few numbers of expatriates.*

### ***Local knowledge experience***

Regardless of the market where a firm operates, one aspect that does not change refers to the experience gained due to the lived situations. According to Penrose (1966), Bruneel, Yli- Renko and Clarysse (2010), the

objective knowledge that can be found on books, theories, formulas, events around the world is possible to be taught without any concern. However, experiential knowledge is impossible to be totally transmitted. The experience acquisition is essential for the success of internationalization process (Penrose, 1966; Johanson and Vahlne, 1977). Firms that have no market experience are more likely to face major problems in managing international operations (Tang and Liu, 2011)

According to Johanson and Vahlne (1977) due to the accumulation of knowledge, firms can create a database about experienced situations. Thus, it is possible to face a problem or see an opportunity by making decisions with greater confidence. According to Gao et al. (2008), the subsidiary performance is directly linked to its experience accumulated and also with the parent firm's knowledge. These authors state that the learning processes to a subsidiary happens naturally based on experienced situations, it would improve its skills and knowledge of the local market. The parent firm uses the operation of the subsidiary to learn and gain experience for the future, and it may apply for a new international project.

Even though many researches about the knowledge accumulation experience relationship related to the performance, to our knowledge we did not find any prior research that applies it in an economic recession scenario. It is expected that the experience accumulated in local operation can be useful to the subsidiary performance, mainly when it face periods of financial turmoil as in economic crisis, hence:

*H5. Subsidiaries with a higher accumulated knowledge of the local market achieve a better performance during economic crisis period compared to those that operate recently.*

## **Methodology**

This study employs a quantitative approach. We used a representative sample data and due to that, it was possible to ensure the main results (Günther, 2006). Moreover, this approach is ideal when it based on theory to develop hypotheses using a statistical tool for analysis and relationship of variables (Terence and Escrivão Filho, 2006).

To test our hypotheses, we collect data using a secondary database called Toyo Keizai – *Kaigai Shinshutsu Kigyō Souran - Kuni Betsu* (Japanese Overseas Investment - by country). This database has been used in the international business field since it is a unique subsidiary level data available (Chung and Beamish, 2005; Chung, Lu and Beamish, 2008).

The initial sample comprised 29,111 observations for the period 2006-2013. Our sample contains 5,619 foreign subsidiaries established in 36 countries in European countries. We decide to use this region for our analysis, as European countries suffered severe economic crisis in recent years. Another reason is that prior research had analyzed other regions such as South America (Ogasavara and Hoshino, 2007, 2008; Ogasavara, 2010), North America (Woodcock, Beamish and Makino, 1994), Asia (Chung, Lu and Beamish, 2008; Chung and Beamish, 2005; Dai, Eden and Beamish, 2013). Thus, there is a few research done on analysis of foreign subsidiary in Europe and in particular considering economic crisis period.

We adopted regression model using a panel data analysis since we used a longitudinal data. In other words, the analyses are performed using information collected for eight years (2006-2013). Most prior research on subsidiaries use cross-sectional data (only one year observation). The longitudinal data is not commonly used due to the difficulties to collect subsidiary level data over long period of time. The regression model panel data is introduced below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_k X_k + \dots + \varepsilon$$

where  $Y$  is the dependent variable,  $X_n$  are the independent variables,  $\beta_0$  is the intercept,  $\beta_n$  is the yield curve and  $\varepsilon$  is the error (Montgomery, Peck and Vining, 2015).

For panel data, we run Hausman test to determine if the model should be applied with fixed or random effects (Stata, 2016). If the result coefficient value is lower than 0.05, it uses fixed effects, otherwise random effect models. All models applied the "robust" function to control heteroscedasticity. This effect occurs when the unobservable variable errors in independent variation are not constant.

**TABLE 1 – VARIABLES DESCRIPTION**

<b>Variable</b>	<b>Description</b>	<b>Font</b>
<b>1) Dependent Variables</b>		
- Sales	Total sales in the year	Toyo Keizai
- Productivity	Total sales in the year divided by the total of employees	Toyo Keizai
<b>2) Independent Variables</b>		
<b>External Environment</b>		
- GDP per capita	Refers to GDP for each person.	World Bank
- GDP Growth	Variation between the GDP of a year compared with the previous year.	World Bank
- Annual Inflation	Annual inflation rate of each country.	World Bank
- Pre-crisis	Dummy variable, where 1 = years before crisis (2007 e 2008) and 0 = years during crisis.	Toyo Keizai
<b>Internal Environment</b>		
- Local Experience	Base year - Establishment year	Toyo Keizai
- Entry Mode		
.Wholly owned	Dummy variable, where 1 = Wholly Owned Subsidiaries (>95%) and 0 = others.	Toyo Keizai
.International JV	Dummy variable, where 1 = JV with share control involving at least one local partner and 0 = others.	Toyo Keizai
.Jap-Jap JV	Dummy variable, where 1 = JV with share control involving only japanese partners and 0 = others.	Toyo Keizai
- Subsidiary Management		
.CEO Nationality	Dummy variable, where 1 = Expatriated CEO and 0 = others.	Toyo Keizai
.Total Expatriates	Percentage of expatriates compared to the total of employees.	Toyo Keizai
<b>3) Control Variable</b>		
- Subsidiary Size	Total of employees	Toyo Keizai

Source: authors.

We summarize the variables, description as well the data source used in the study in the following table. It should be noted that we adopted two dependent variables: sales and productivity. We also used two types of subsidiary management as independent variables, which considers the individual management (CEO) and team management (expatriates).

Data analysis

Although it is not depicted in this paper, we run correlation analysis. The results show that none of the coefficients are higher than 0.60. In addition, variance inflation rate (VIF score) is lower than 2.0, which means that no problem related to multicollinearity. After running correlation analysis, we applied Hausman test in order to identify which model is better for our sample: fixed or random effect models. According to Table 2, all models

should be performed using fixed effects since the significance level for the Hausman test presents a result lower than 0.05.

**TABLE 2 – HAUSMAN TEST**

	Models "A"	Models "B"	Models "C"	Models "D"
Sales	0,0075	0,0138	0,0000	0,0000
Productivity	0,0372	0,0117	0,0028	0,0024

Source: authors.

We run linear regression analysis using panel data and found four models with high level of significance ( $p < 0.001$ ). A model was designed for each dependent variable (sales and productivity). Table 3 shows four models that consider sales as a dependent variable. The first two models (1a and 1b) consider subsidiary management as the CEO's nationality. While models 1c and 1d consider subsidiary management based on the number of expatriates (top management team). In terms of market entry (entry mode), models 1a and 1c consider the WOS in the analysis, while models 1b and 1d considers different JV types.

**TABLE 3 – REGRESSION ANALYSIS ON PANEL DATA - SALES AS A DEPENDENT VARIABLE**

Variables	Model 1a	Model 1b	Model 1c	Model 1d
Constant	2,57e+08***(3,97)	2,55e+08***(4,17)	1,01e+08*(1,73)	9,75e+07*(1,84)
<b>Internal Environment</b>				
Local Experience	3,91e+06**(2,02)	3,91e+06**(2,02)	7,70e+06*(1,83)	7,69e+06*(1,83)
CEO Nationality	-3,14e+07(-0,89)	-3,14e+07(-0,89)	x	x
Total de Expatriados	x	x	8,56e+06**(2,49)	8,56e+06**(2,49)
Wholly owned subsidiary	-1,46e+06(-0,05)	x	-4,38e+06(-0,15)	x
International JV	x	-1,23e+07(-0,27)	x	-7,98e+06(-0,14)
Japanese-Japanese JV	x	5,55e+06(0,20)	x	8,09e+06(0,30)
<b>External Environment</b>				
GDP per capita	-4,76e+03***(-2,58)	-4,76e+03***(-2,58)	-4,13e+03**(-1,98)	-4,14e+03**(-1,99)
GDP Growth	-4,81e+08***(-3,23)	-4,81e+08***(-3,23)	-4,29e+08***(-2,92)	-4,28e+08***(-2,92)
Annual Inflation	-9,58e+08***(-3,17)	-9,52e+08***(-3,16)	-6,93e+08*(-1,72)	-6,92e+08*(-1,72)
Pre-crisis	7,39e+07***(5,22)	7,51e+07***(5,22)	6,91e+07***(4,25)	6,90e+07***(4,25)
<b>Control Variable</b>				
Subsidiary Size	-2,31e+03(-0,07)	2,27e+03(-0,07)	3,78e+02(0,02)	3,84e+02(0,066)
Number of Observations	7.681	7.681	6.610	6.610
Number of Subsidiaries	2.276	2.276	1.954	1.954
F	7,48	6,7	4,79	6,7
Prob > F	0,0000	0,0000	0,0000	0,0000
Overall R <sup>2</sup>	0,0064	0,0065	0,0241	0,0065

\* Significance level of 10%; \*\* Significance level of 5%; \*\*\* Significance level of 1%.

All models on Table 3 show a high significance explanation since "Prob>F" is lower than 0.001. Concerned to the internal aspects of market entry, the findings show that WOS and International JV has a negative relationship with performance (sales), however the coefficients are not significant ( $p > 0.10$ ). This lack of significance also applies for the Japanese-Japanese JV market entry, but in this case, the ratio presents a positive impact.

Regards to the subsidiary management, there is also a negative impact on the relationship related to the CEO's nationality in models 1a and 1b, but the coefficient is also not significant ( $p > 0.10$ ).

However, when the subsidiary management is related to the expatriates team (Models 1c and 1d), the result shows that the expatriation has a positive and significant ( $p < 0.05$ ) impact on subsidiary performance. This is line with Gallon et al. (2014) study where it states that the greater number of expatriates, the greater is going to be the experience gained about culture and local market. Thus, the subsidiary with large number of expatriate has a better capacity to exchange knowledge and practices with their local staffs and then it could increase the sales volume to face crisis periods.

In terms of internal aspects, local experience is the only independent variable that shows a positive and significant results in all models ( $p < 0.05$  in Models 1a and 1b;  $p < 0.10$  for Models 1c and 1d). It implies that the longer the subsidiary operates in a host country, more knowledge the subsidiary acquire from the local market. Thus, even during an economic recession period, subsidiaries with more experience in the local market can handle adversities of crisis and present a better performance in terms of sales volume. This finding is in accordance to Gao et al. (2008), Johanson and Vahlne (1977), Delios and Beamish (2001) who state that experience knowledge is an important factor for success of internationalization process.

Regarding to the external aspects, we note that all the macroeconomic variables and the pre-crisis period present a high significance result ( $p < 0.01$ ). Only the variable of annual inflation rate (Models 1c and 1d) present a lower significance level ( $p < 0.10$ ). The result also shows that there is a positive relationship between the pre-crisis period and subsidiary performance. It implies that in previous years of recessions, the subsidiary achieved a superior performance compared to the post-crisis period. On the other hand, considering the inflation rate the result shows a negative and significant relationship ( $p < 0.01$ ) for models 1a and 1b ( $p < 0.10$ ). This suggests that the lower inflation rate in the host country, the better is the performance achieved by the subsidiary.

It should be noted that other two external aspects, GDP per capita and GDP growth have unexpected results since both have a negative and significant relationship ( $p < 0.01$ ) with subsidiary performance. It indicates that the higher GDP per capita or GDP growth, the worse is going to be the subsidiary performance. An explanation for this controversial result may be related to the fact that in markets with slower economic growth, the subsidiary has to make a greater effort to achieve a superior performance compared to the more favorable economic environments. Thus, the local experience becomes an important factor to reach a better performance.

Finally, the control variable firm size showed distinct signs. In Model 1a, there is a negative relationship with sales. For other three models (1b, 1c and 1d), the control variable had a positive impact on performance. In other words, the larger the subsidiary the better is its performance. However, none of these variables is significant ( $p > 0.10$ ) for the analyzed models.

In summary, the variables which have a good significance when they are considered the dependent variable profitability are related to local experience, expatriate team (Models 1c and 1d), and macroeconomic aspects related to pre-crisis period. Moreira et al. (2014) identify the expatriate manager as fundamental key aspect in the parent firm strategy implementation in a multinational operation in Latin America. However, in any of our models, we did not find any evidence that the CEO's nationality or the market entry have an impact on the subsidiary performance.

Table 4 shows four models using the productivity as a dependent variable. It should be noted that most of the results presented on Table 4 followed the same behavior obtained when it is analyzed the sales perspective (Table 3). However, we found some relevant results in these models.

Concerned to internal aspects, the local expertise continues to have a positive and significant relationship ( $p < 0.05$ ) with subsidiary performance in all models following the same results related to the sales volume.

Regarding to the subsidiary management, the CEO's nationality also showed no significance to the performance. However, the total expatriates variable became not significant ( $p>0.10$ ), different from the results obtained previously with the sales measure.

**TABLE 4 – REGRESSION ANALYSIS ON PANEL DATA - PRODUCTIVITY AS A DEPENDENT VARIABLE**

Variables	Model 2a	Model 2b	Model 2c	Model 2d
Constant	1,14e+07***(2,60)	9,30e+06**(2,44)	1,21e+07***(2,83)	8,96e+06***(2,66)
<b>Internal Environment</b>				
Local Experience	4,61e+04**(2,10)	4,58e+04**(2,07)	1,00e+05**(2,15)	1,04e+05**(2,20)
CEO Nationality	-1,10e+05(-0,19)	-1,18e+05(-0,20)	x	x
Total de Expatriados	x	x	2,32e+04(0,77)	2,28e+04(0,76)
Wholly owned subsidiary	-2,04e+06(-1,40)	x	-2,90e+06*(-1,70)	x
International JV	x	4,56e+06(1,35)	x	6,23e+06(1,49)
Japanese-Japanese JV	x	1,34e+06(1,28)	x	1,94e+06*(1,69)
<b>External Environment</b>				
GDP per capita	-1,71e+02(-1,64)	-1,70e+02*(-1,65)	-2,20e+02**(-2,16)	-2,18e+02**(-2,18)
GDP Growth	-1,62e+07**(-2,25)	-1,61e+07***(-2,23)	-1,40e+07***(-2,65)	-1,42e+07***(-2,68)
Annual Inflation	-2,68e+07**(-2,19)	-2,79e+07***(-2,29)	-1,45e+07(-1,24)	-1,48e+07(-1,29)
Pre-crisis	2,48e+06*** (3,30)	2,44e+06*** (3,25)	1,61e+06*** (3,03)	1,62e+06*** (3,05)
<b>Control Variable</b>				
Subsidiary Size	-2,55e+03***(-12,43)	-2,55e+03***(-12,36)	-1,90e+03***(-3,49)	-1,88e+03***(-3,43)
Number of Observations	7.421	7.421	6.400	6.400
Number of Subsidiaries	2.189	2.189	1.879	1.879
F	26,5	23,48	5,2	4,61
Prob > F	0,0000	0,0000	0,0000	0,0000
Overall R <sup>2</sup>	0,0009	0,0005	0,0001	0,0001

\* Significance level of 10%;

\*\* Significance level of 5%;

\*\*\* Significance level of 1%.

An interesting finding about the internal aspect is that it is related to the market entry. On opposite to the expectations, the WOS has a negative and significant ( $p<0.10$ ) relationship with the performance (Model 1c). An explanation of this controversial result, it is necessary to take look at the Model 1d. In this case, it is not any type of Joint Venture that outperforms the WOS, but only the JV that has partners from the same nationality. In other words, only Japanese-Japanese JV shows a superior and significant ( $p<0.05$ ) performance compared to WOS. While International JV has a lower productivity compared to WOS, but it is not significant ( $p>0.10$ ). This suggests that JVs with partners from the same nationality obtain a better result than the other JV types or WOS. This same effect was found by Ogasavara and Hoshino (2007). Delios and Beamish (2004) have another view from this aspect and they state that WOS outperform other entry modes, but also believe that there are cases where the JV could achieve a good performance. It implies that is a good strategy to have partner from the same nationality to face economic crisis periods.

According to Barkema et al. (1996), the JV partnership success depends whether it is formed by partners from the same nationality, because in this way, they are not going to face a distance obstacle called "double layered acculturation". It is a cultural gap considering country level and organizational level. Therefore, in the case of the "local firm + Japanese" there are two levels of cultural differences, the first is related to the country level and other

is organizational level. While considering subsidiaries formed only among Japanese partners, it exists only the cultural distance in terms of organization. This distance may be even lower when the JV can be formed by two partners from the same conglomerate group, in other words, they may be affiliated.

The external aspects followed the behavior of previous models (Table 3), but there are some results with no significance ( $p > 0.10$ ). Concerned to the variable inflation rate, Models 2a and 2b maintained the same behavior as the previous analysis (Table 3). In other words, the lower the inflation rate the better the subsidiary performance. In addition, the pre-crisis period shows a better performance for productivity. Finally, the variables of GDP per capita and GDP growth maintain the same behavior of prior analysis. Both have a negative and significant relationship ( $p < 0.01$ ) with the subsidiary performance.

After conducting all empirical analysis, we found support to H1 and H5 in all the proposed models. On the other hand, we could not support H3a and H4a since there is no significance coefficient ( $p > 0.10$ ). Finally, we found partially support for some hypotheses, but it depends on which variable is used (dependent or independents). In this last case, we accept H3b when using the productivity variable in Models 2d and 4b. On models which considered the sales variable and the expatriates team, Models 1c, 1d and Model 2, H5 is partially supported. In all models, the inflation rate support H2, while it is not supported when considered GDP per capita and GDP growth.

## **Conclusion**

This study provides important contributions to the international business literature. First, it performs the analysis based on longitudinal data focused on foreign subsidiaries. In general, prior studies are based only on one year observation. Second, it is not usual to find empirical analysis that uses a long observation time of subsidiary level data, but mostly using parent firm level data. Thus, an analysis involving several years' observation of subsidiary level data is important as we could verify and monitor the behavior of each specific foreign affiliate for a long period of time. Third, by considering economic crisis in our analysis is also very important as these recession periods often take place around the world, but it is not taken into account by prior studies on international business field. Fourth, our findings show that entry market through joint ventures, but using partners from the same nationality, seems to be a good strategy to achieve high performance during downturn periods.

The behavior of the market environment during economic recession is quite unpredictable. There are very important implications for MNEs managers to understand which factors most impact the success of their foreign subsidiaries' operation during economic crisis. Thus, the decision could be made with greater confidence to reach the most important performance indicator for the subsidiary management. Some managers could focus its strategy on business expansion with sales growth, getting greater market share without worrying about productivity. Others managers may have the view on achieving a larger productivity subsidiary gain. The indicators chosen would depend on the strategies that the subsidiary managers decided to follow. This research just helped to clarify this issue by showing the most important aspects for each subsidiary performance measurement.

Unfortunately, this study has a limitation related to the sample used. The results may be specific to Japanese MNEs or to the European context. However, it is possible to see that we adopted one of the few databases that contain many details about each subsidiary for a long period of time. For future studies, we suggest to perform analysis involving other nationalities of subsidiaries as well as from choosing other regions to examine whether the aspects found in this study are still relevant to succeed in economic crisis. Furthermore, it would be interesting to examine not only macroeconomic aspects, but also consider in the analysis other external aspects such as institutional, cultural and social factors.

Finally, despite of these limitations, this study demonstrated important contributions. The evidence shows that the economic crisis periods should not be ignored in the longitudinal analysis, particularly when investigating

foreign subsidiary operations. These results may support further research in this area, in addition to provide important information to MNEs that could help managers to make decision on strategies of international expansion during economic crisis.

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## ***Foreign Direct Divestment in the Water Sector in Brazil: in Search of the Causes***

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### **Introduction**

During the 1990s, several South American countries engaged in liberal strategies that included opening up of key infrastructure sectors under public-private partnerships. The liberalizing reforms in several countries in South America during the 1990s attracted a relevant flow of foreign direct investment (FDI) in infrastructure activities. Specifically, in the sanitation sector (water supply and sewage collection and treatment), several multinational companies invested in the continent, in a relatively concentrated time frame while challenging old incumbents, mainly state-owned companies and public administration bodies which used to serve local markets. However, many of these newcomers did not stay in the South American market. From the end of the 1990s, there began a movement of the foreign capital out of this sector, having most of the multinationals that entered the South American market to make foreign direct divestment (FDD).

Some of the largest multinational water companies that have invested in a number of Latin American countries by the 1990s have left by the end of that decade or throughout the subsequent decade. In some cases contracts were ended unilaterally and in others the concessionaire simply sold off its stake to return capital. In Brazil, the latter situation was the rule when foreign operators decided to exit the country's water and sewerage markets.

This paper is an investigation of the causes that led to the Foreign Divestment Decision (FD) in Brazilian Basic Sanitation sector. The theoretical background combines economic theory of natural monopolies, which provides an account of the economic characteristics of water and sewerage services; with the economic approaches to FDI, namely the so called OLI - Ownership-Location-Internalisation paradigm, and the conversely stated theory of FDD which deals with similar factors taken by the reverse side. In addition, literature has been active in recognizing the role of institutions in explaining FDI flows, while there is also a growing literature incorporating the role of institutions into FDD flows.

### **Hypotheses**

Based on the literature review, we proposed the following hypotheses:

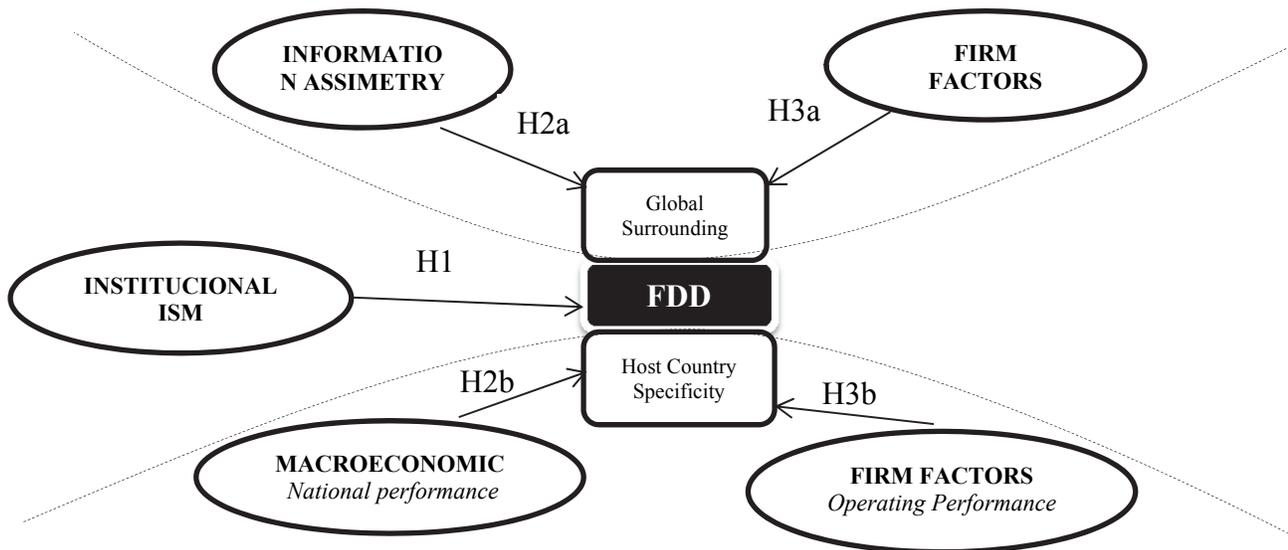
**H1:** *The more there is the political fragmentation, i.e., the degree of subnational responsibility (versus central national coordination) of water and sewerage services, the greater the likelihood of the FDD decisions.*

**H2a:** *The greater the amount municipalities show high wealth and willingness to pay of customers lower the probability of the FDD decision.*

**H3a:** *The higher the economic stability less MNC probability of FDD.*

**H3b:** *The level of operating performance of the Brazilian subsidiary is negatively correlated with the probability of FDD decisions.*

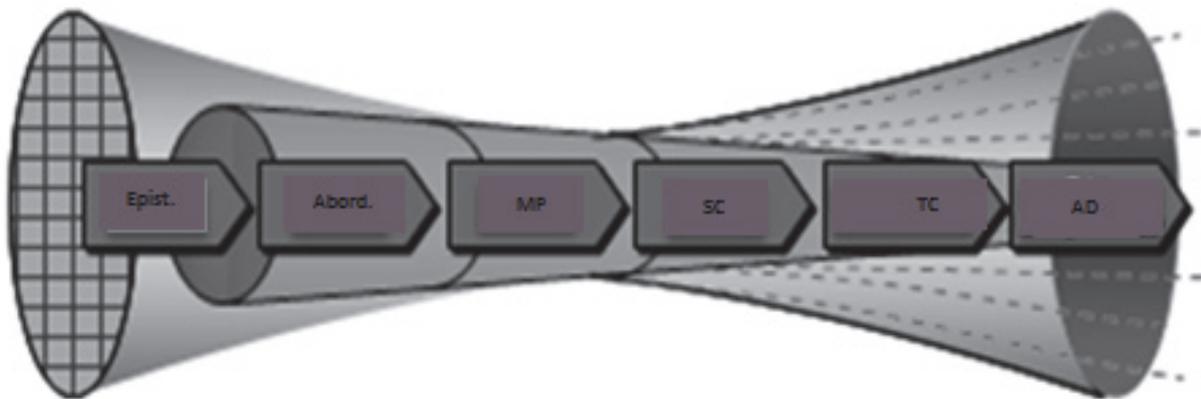
The following figure (FIG.1) presents a structure of the analysis.



Source: Elaborated by the authors

Notes: – FDD = Foreign Divestment Decision

FIG. 2 – PROPOSED MODEL OF FOREIGN DIVESTMENT SANITATION IN BRAZIL



Source – Elaborated by the authors

Notes: **Abord.** – approach; **MP** – research method; **SC** – corpus assortment; **TC** – gathering; **AD** – qualitative data analysis.

FIG. 2 – METHODOLOGY REPLICATOR FUNNEL  
**Methodology**

Based on a qualitative in-depth research, this study identifies the FD phenomenon through semi-structured interviews with experts who were in decision-making positions in the international investment maturation period. We conduct eleven in-depth interviews (see details on TABLE 1) and used Computer-Assisted Qualitative Data Analysis Software – CAQDAS (Atlas-ti) for content analysis.

**TABLE 1 – OVERVIEW OF THE INTERVIEWERS**

ID	Group	Interviewed	Hermeneutics Units	Famyls	Codes	Quotes	Comments	Duration of Interviews	Number of	
					Registers/Total				Words	Pages
1	Academy	A1	Academy	6	20/23	57	1	61'23"	8.511	21
2		A2				26	2	37'51"	4.580	12
3	Class Entities	EC1	Classist	5	15/15	6	0	37'09"	5.509	15
4		EC2				36	1	in writing	743	2
5	Government	G1	Government	6	18/18	4	1	11'10"	741	2
6		G2				80	1	60'08"	8.495	23
7	Executives	EI1	Officers In	6	23/28	21	0	59'22"	8.895	21
8		EI2				42	0	31'51"	4.033	11
9		EI3				37	1	41'28"	6.007	15
10	Executives	EO1	Officers Out	6	23/30	21	3	57'08"	4.835	13
11		EO2				45	2	58'16"	7.786	18
			<b>TOTALIZATION</b>	<b>6</b>	<b>99</b>	<b>375</b>	<b>12</b>	<b>7h35'46"</b>	<b>60.135</b>	<b>153</b>

Source – Authors

## Conclusion

The findings show that the divestments in foreign subsidiaries of MNCs in the Brazilian market had a strong correlation with global macroeconomic aspects of business economic viability in Brazil and competition rules imposed by sectorial idiosyncrasies. In terms of business economic viability, the firm internal factors influence the divestment decision, particularly due to the high fixed operational cost and a not favorable profit margin for a long period. Since these MNCs could not get improvement on the productivity, profit margin and reduction of cost, these internal aspects contribute to FDD. Furthermore, MNCs suffer from the institutional aspects related to the sector corporatism with large Brazilian construction firms. These firms created entry barriers for MNCs since they have interest to internalize these services. In regards to regulations, the MNCs complained about it, but in fact, there were no case of contract broken in the sector or involuntary FDD.

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## *Analysis Of Foreign Direct Investment In The Water Industry And Sanitation Between 1990 And 2010 In Latin America*

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### **Abstract**

*During the 1990s, several South American countries engaged in modernization of their savings strategies. Specifically, in the sanitation sector, several multinational companies prospectaram and effectively invested in the continent. However, many of these newcomers did not stay in the South American market. This work deals with the departure of multinational infrastructure sector in basic sanitation in South America. The research object is the contracts of public-private partnerships (PPP), with participation of the foreign private sector, in which private international partner canceled his participate somehow in the period between 1990 and 2010. This is a relatively concentrated movement in time of cases Divestment Foreign Direct (DDE) across the continent. This paper analyzes the motivations to occur such dissolutions by foreign multinational companies in this industry. The overall objective is to build a conceptual model with the idiosyncrasies of the institutional environment that resulted in DDE. The methodological strategy is qualitative, through a multiple case study from document analysis and semi-structured interviews. Disinvestment in the region may have been caused by contractual issues, economic imbalance, social and political conflict, a strategy of the firm and or due to sectoral policy.*

**Keywords:** infrastructure, disinvestment, partnership, public -private, basic sanitation.

### **Introduction**

During the 1990s, several South American countries engaged in modernization of their savings strategies. At that time, the predominant orientation in many of the largest countries in the continent to privatize public enterprises and to establish public-private partnerships (PPP) for the provision of public services. The liberalizing reforms in several countries in South America during the 1990s attracted significant foreign direct investment (FDI) in infrastructure activities. Specifically, in the sanitation sector (water supply and sewage collection and treatment), several multinational companies prospectaram and effectively invested in the continent, in a relatively concentrated input in time, public incumbents challenging old who worked in the local markets.

However, many of these newcomers did not stay in the South American market. From the end of the 1990s, it began a movement out of the capital of this sector and most of the multinationals that entered the South American market left its operations on the continent. The largest multinational companies that have invested in a number of Latin American countries, especially between 1990 and 2010, there remained during the contract period.

The object of research are PPP contracts with participation of foreign private sector, in which private international partner canceled his appearance in some way, in the period between 1990 and 2010. It is long-term contracts in which the output of investor can be achieved through the sale of its stake or the cancellation of the

contract itself. In general, the output of a multinational company of a public private partnership contract (PPP) in progress can be called Divestment Foreign Direct (DDE), so the analysis of this article concerns the dissolutions in this industry. The DDE is defined as the available firm's decision to a significant portion of its assets abroad.

The particular characteristics of the infrastructure sector are relevant to the analysis of the DDE. This industry is mainly characterized by the presence of high fixed costs in specific capital that produce an economic dilemma between productive and allocative efficiency. The infrastructure sector selected for the study is the basic sanitation, which comprises the activities of drinking water and the collection and treatment of sewage. The overall objective is to build a conceptual model from the identification of the institutional environment idiosyncrasies that resulted in foreign direct disinvestment. The methodological strategy is qualitative, through a multiple case study from the data identified via document analysis. The cases relate, therefore, the performance of contracts involving the largest global companies in the water and sanitation sector. The case analysis was supported by semi-structured interviews with players of this economic segment.

Selected categories of analysis of the literature could be identified in the statements of the respondents. With this disinvestment in the region may have been caused by contractual issues, economic imbalance, social and political conflict, a strategy of the firm and due to sectoral policy.

On cases of disinvestment in the region there are some points of agreement between the players in the industry interviewed for this search. The first point concerns the main factor in attracting foreign firm to South America, from the 1990s, was the market opening of the sector in its various formats. The second point is that the opening occurred with concomitant with the strategic plans of the largest multinationals in the sector, seeking to grow through access to new markets. The third point is that there was, by the multinational, the expectation that the Latin American programs would resemble the Europeans, which did not occur in practice. And finally, that global and regional macroeconomic changes also contributed to the decision to divest.

However, players differ on the predominant factor in the decision of divestment by these foreign firms. Thus, firms would not have remained to maturity of contracts due to the economic and financial imbalance in them, in the process participant observer vision, a former executive of the multinational. As for a legislator, the disinvestment view held by these firms shows the regulatory framework as the main cause of the decision to not allow the ownership of the assets under concession in general and not benefit, except in Chile. And the understanding of the industry associations, prevails that the growth of the firm's strategy has not been achieved since the Latin American programs do not tendered market opportunities within expectations regarding the volume and profitability of operations.

### **Market failures and transaction costs**

The sanitation sector is an economic activity typically monopoly, monopoly exercised by this State, which is responsible for delegating to companies the right to operate these services, through public concessions or other forms of public-private partnership. Theories of Transaction Costs and New Economic institutionalism are useful for understanding the contractual dilemma of industry, which is characterized as a natural monopoly.

Investment in this sector is high even by demand constant investments in improvement works, because of this the public private partnership contracts are long-term tipicamanente. This industry offers a service with a high degree of essentiality, features a typically inelástica demand with respect to price and externalities (MADEIRA, 2002 SOUZA, 2012).

The Economics of Transaction Costs introduced important elements of the public-private relationship in the case of award of sanitation infrastructure services by the state. According to Williamson (1985), technical skills are

important, but are not usually sufficient for an operator to get the win in a concession award procedure or privatization of public service infrastructure.

Transaction costs are divided into two types: 1) ex ante: related to the collection of information - mainly the preparation of the contract, the mechanisms that provide the performance of the contract, and safeguards; 2) ex post: related to poor adjustment to contractual conditions. The presence of transaction costs is a key both vertical integration, known in the literature as hierarchical governance, as the internationalization of firms that would avoid thus transaction costs on the market (Williamson, 1985).

The infraestutura market in sanitation is typically monopoly, does not address the competition that generates productive efficiency, economic and allocative. Therefore, the market is characterized by market failures in the form of market power, externalities and information asymmetry.

The most relevant market failure is market power, that is, only one firm offer that good or service. In this segment from the economic point of view competition is ineffective because it would require duplication of networks and even the desverticaliação sector is indicated (Wood, 2000). To Jouravlev (2004) the industry is vertically integrated given the impossibility of competition at any stage of supply and exhaust process, the integration allows economies of scope and the impossibility of charges for the processes of the service in parts.

Turolla (2002) points out that the positive and negative externalities, form a second market failures set associated with the sanitation sector, they focus on environment, water resources and public health. The technical regulation on these externalities include a package with minimum requirements to ensure regular supply and quality of water for the population, including the wastewater disposal, properly treated with recognized environmental criteria.

The information asymmetry is more an industry characteristic which constitutes a market failure is related to commercial and technical ducts is especially refers to dependence on other actors of technical and economic information provided by firms in the sector, exemplified by the difficulty of get a technical body able to properly identify and measure the monopoly costs (Wood, 2000), or the inability of consumers' assessment about the quality of incoming water and its return to the ecosystem (Turolla, 2002).

Market failures should be alleviated with state intervention. From the Washington Consensus the role of the interventionist state evolved into a model of intervention in the economy called regulation. A control system is necessary in this market to minimize these market failures. The use of this new pattern of intervention is justified when the industry is a natural monopoly, on which it seeks to mitigate the risks of abusive charges, poor quality and insufficient provision of service (Madeira, 2000).

### **Investment Foreign Direct**

The decision to disinvest and the management of this process is a challenge to executives of multinational corporations (MNCs). This challenge has been boosted by the growing number and diversity of economies of host and the fact that MNCs are present in all types of industrial activity (Boddewyn, 1983).

The World Bank (2014) is the DDE as cancellation or distress, so are considered canceled projects for which the private sector came out in one of the following: a) sold or transferred his economic interest back to the government before fulfilling the terms of the contract; removing all the management and staff; ceasing operation, service or construction of 15% or more of the license period or concession, following the revocation of the license or rejection of the contract b) distress are those projects in difficulty, in which the government or the operator has requested the contract termination or international arbitration. The DDE can also be defined as the decision of a company to have a significant portion of its assets (Duhaime and Grant, 2006).

The DDE can be quite rational, especially when there is time pressure and specialized organizational units in monitoring existing investments, in this scenario the disinvestment is a standardized and strategic response (Boddewyn, 1983).

The research of Guasch, Laffont and Straub (2005) has its object the infrastructure industry in South America. With regard to the infrastructure sector as a whole, the survey pointed out as a cause of alienation and whether or not the quality of social variables: regulatory, award of concessions; price limit, regulatory schemes and variables related to corruption. The authors conclude that a good regulatory framework is especially important in contexts where there is poor governance and political opportunism (GUASCH et al, 2005).

Specifically in the sanitation industry are typical scenarios of alienation, the situation in which a government or a mayor in the case of water concessions (mayors have exclusive jurisdiction over water operations) decides unilaterally by the reduction of tariffs or to honor increases tariffs agreed during the re-election campaign to ensure popular support. Another common decision is the situation of a new administration decides not to honor the increase in tariffs (Guash et al., 2005).

For the authors of the concession model in South America is fragile due to a combination of factors are: the contract design, inadequate regulatory frameworks, the shortcomings of the institutional environment and the impact of macroeconomic shocks. Mitigating these weaknesses of the concession model would be achieved by the presence of a regulator when the award of the concession, which was sensitive to the ceiling prices and shocks.

The causes and consequences of the operator out of the sanitation industry were the subject of research Ducci (2007). In this study were analyzed 14 cases in five Latin American countries including Argentina, Bolivia, Chile, Uruguay and Venezuela. Although broadly assessed the situation of these operators in Brazil, Colombia and Mexico. The study Ducci (2007) identified as the output causes the large multinationals in the sanitation sector of countries in South America as: strategic decisions worldwide; social and political conflicts and the breakdown of economic and financial equilibrium.

### **The sanitation industry**

In 1992, the companies that formed the "Big Five" were: Suez, Veolia, RWE, SAUR and Agbar, together accounted for 72% of water and wastewater universe in terms of population covered. In 2013, it has been the other approximate 30% of the world are attended by other 22 companies. In this reading, companies include internationalized and non-internationalized (Pinsent Mansons, 2013).

Until 1994 most of the PPP activities in the sanitation sector was concentrated in OECD countries. Given the flexibility for admission of this contract modalidade in countries like the UK, Italy, Germany and Chile the participation of OECD in these concession contracts via PPP dropped to around 10 to 20% market share of the industry (Pinsent Mansons, 2013).

By 1995 countries such as China (361 million of atendidas people), Brazil (64 million people served), India and Russia (18 million each) were considered peripheral in a global context, the past 20 years are the main drivers of the market in this segment (Pinsent Mansons, 2013).

The ranking of the 10 largest internationalized companies of this industry is composed of: Veolia, Suez, Agbar, FCC, United Utilities, ACEA, RWE, Saur, Cascal and Biwater, representing the care of approximate 370 million customers worldwide in 2010.

Among the world's largest companies in the sanitation sector, Veolia, Suez and Agbar stand out by the high level of investment in South America and the Caribbean and have closed their operations in these countries before the end of the contract. Following is a brief presentation of these companies in order to exemplify the divestment of context.

The French Veolia Water was founded in 1853 under the name *Compagnie Générale des Eaux*, in May 1998 was renamed Vivendi. In several Veolia contracts in Argentina was renegotiations and subsequent contractual breach. For example, in 2006, the operating contract of Veolia in Argentina was terminated. The company Proactive Medio Ambiente is a 50/50 joint venture between Veolia and FCC (*Fomento Construcciones Y Contratas SA*) for water and waste contracts in South America, was awarded the Catamarca contract in April 2000 for management water supply for departments (parts of the city) Capital, Vallejo Viejo and Fray Mamerto Esquiú in the province of Catamarca, to the northwest of the country (Guash, 2007).

The French SUEZ Environment SA is a global company of water and sewage services. In the water sector, SUEZ's operations include: the collection, treatment of drinking water, collection and treatment of domestic and industrial waste water, biological development and energy waste resulting from the purification. The growth strategy was consolidated in a development plan for the period 2005 to 2012, called the expansion "highly selective" out of its main markets, which are identified as Europe, USA and China. For debt restructuring, the company chose to massive withdrawal of South America and reduction of 1/3 of its investments, return contracts including one in EUAs and Canada (SUEZ, s / d)

Pinsent Mansons, (2010), the Suez left some developing countries such as Vietnam, Brazil, Colombia, Argentina and Bolivia. The agreement with Vietnam ended after perceived a strategic change in the government of that country. Suez partially sold its stake in Northumbrian Water (Ondeo Services UK) in two stages in order to deconsolidate a debt of 3.1 billion euros with NWL and sold its activities in Brazil (Guaratingueta-SP, Limeira- SP and Manaus - AM) to a local investor and Bogota unilaterally ended the Saltire contract.

Suez ended the contract of La Paz / El Alto (Bolivia) due to local political pressure, and in Buenos Aires and Aguas de Santa Fe (Argentina) concessions were left behind by macroeconomic issues mainly (Pinsent Mansons, 2010). The Agbar was founded in 1867 under the name *Compagnie des Eaux de Barcelone* and incorporated in Paris as *La Société Générale des Eaux de Barcelone* in 1881. Until 1985, the Agbar together with FCC enjoyed an effective duopoly of private sector contracts water and sewage network throughout Spain. The international presence in the water and sewage network services in countries spans: United Kingdom, Chile, Colombia, Cuba, Mexico, Algeria and China. The presence in South America has been revised with the output of Argentina, Brazil and Uruguay. As for the Cuban and Chilean operations remained (Pinsent Mansons, 2010).

## **Methodology**

This research is a multiple case study constructed from documentary research, literature and semi-structured interviews. The adopted research technique was the semi-structured interview to aid in the treatment task of qualitative data support the Atlas-TI software, characterized as a tool for the development of content analysis, which facilitates the organization of information as the registration drives, enabling the visualization of the categorizations.

Data on canceled contracts are secondary and removed documents originated mostly by the World Bank (2013) and national and regional governments and the Ministry of Cities (2008), for the period between 1990 and 2010 for the region of suldo America South.

The research problem that arises here is: what are the determinants of the institutional environment that culminate in disruption or failure of FDI contracts in the sanitation sector, carried out by multinationals of this economic sector?

This question still unfolds in the following complementary: 1) To what extent the political decision on the setting mode and the setting of maximum prices in the region, is a weakness that leads to renegotiation and consequent contractual disruption? 2) What are the risks deriving from the ex ante and ex post costs that can point to as responsible for compliance or breaches of contracts? 3) What are the differences between the institutional settings of the federal entity that allow a single operator to fulfill the contract in a relevant unit in the country and disinvest in another?

The overall guiding objective of this work is to build a conceptual model that relates the characteristics of the institutional environment to the cancellation of FDI contracts in sanitation infrastructure sector, in order to understand the causes of the output of these companies. The specific objectives are: 1) To describe the importance of the government's decision to impose maximum prices in this industry, 2) Differentiate the federal entities in accordance with institutional environments built from the social variables described by Guasch et al (2005).

For the construction of the cases selected companies are: Suez, Veolia and Agbar, which account for over 70% of operations in the world and have significant presence in South America (Pinsent Mansons, 2010)

### **Discussion of interviews**

This section discusses the interviews in the second half of 2015 with 01 executive of the multinational SUEZ for South America, 01 Brazilian political active in the regulatory framework and the sector 01 class representative of Brazil.

For Interviewed 1, a former executive of this multinational, the output of the firm these concession contracts in the PPP model during the term in South America, was due to the loss of economic balance in some cases and in others by a strategy firm. According to him, factors such as price adjustment under the contract, contractual change of political, informational asymmetry and profitability of contracts caused the DDEs. In some cases, such as Limeira (SP) there was no contractual economic imbalance, but the city was not the target for the planned growth, so the decision to desinvestir. Esta city represented the firm only one way to enter the market Brazil, the goal was the big capitals, for this disinvest in Limeira (SP) was related to the firm's strategy, since the profitability did not meet the strategic plan of the multinational.

The case of Manaus reflected the information asymmetry, the number of attended told the contract was not real. The illegal water connection was part of the city's routine. There was no possibility to include sewer rate at all, because the poor could not afford such an attractive main pagamento. Manaus (AM) was the fact that the only available capital. The following table highlights some of the 11 interviews interpretation in the categories.

In some contracts the contractual economic imbalance could be corrected by means of the tariff increase, but the people would not have to absorb such increase, the price restriction inviabilizou operation. Another issue hampering the progress of the concession in Brazil were the political and social conflicts. The respondent refers to the difficulty to convince mayors and elected during the term of the agreement to maintain the pre-established rules, a cost renegotiate, although in Brazil the contracts are respected. In some cities the ruling backed the PPP decision harming the multinational's strategy in the country, is what is reflected in the speech of the interviewee regarding the Bahia governor.

The output of Brazil's firm, Limeira (SP) specifically, as well as the south that includes Colombia America, Chile and Argentina due to a global firm strategy given the economic changes that have reduced the economic viability of the contracts.

Given the endogenous crisis in destination countries and the global economic environment, financial analysts assessed as being high risk of the firm given the level of exposure of it in emerging countries, this caused a reduction in the share price of this firm.

So the strategic decision to leave was motivated by issues of economic balance, which were also motivated by political actions that trousseeram uncertainty for the environment.

The second respondent is the Lawgiver 1, a politician active in the landmark building regulário in basic sanitation in Brazil. For this interview, the output decision of the companies in the South American countries as a whole is related to the colonialist attitude of European companies. Companies were aimed almost always the ownership of assets and the strategic knowledge of sale. They sought a regulatory framework that could influence when it came out in March to regulate the Brazilian market was not enough to fix these companies in these environments, as in Brazil, for example, possession of assets in this industry is not allowed by the 1988 Constitution. For the respondent, the multinational firm's strategy in the sector ran into the various types of political and social conflict. In Brazil, the enormous difficulty of proposing privatization for governors and therefore, the alternative to negotiations with mayors. The need to negotiate with local governments, made the investment of multinationals in Brazil marginal.

So initially the Suez accepted cities in the state of São Paulo and Limeira and Guaratingueta only as part of the entry strategy, the focus of the strategy were the capitals or major cities such as Guarulhos (SP), in the opinion of the interviewee the company does not atingu the its strategy to consolidate the regulatory framework. After all, the only capital was obtained Manaus (AM), but that was far from seeking the French company. The Manaus operation (AM), so it was also regarded as peripheral to the strategy of the firm.

For the interviewed 3, Entity member of Brazil, the main reason for the departure of the South American companies is the strategy of the firm. The multinational firm has an ownership interest based on asset growth and high profitability. So they had to interest the large municipal companies, but the Brazilian regulatory framework does not allow sale. In order to know the rules of the institutional environment some of the largest operators in the world settled here in Brazil. Some with only a small office and other purchasing transactions that were available as in the case of Suez in Brazil

## **Final Considerations**

In this article, we try to answer the question of what are the idiosyncrasies of the institutional environment of South American countries that culminated in the departure of multinational companies in the sanitation sector in the period between 1990 and 2010, during the term of the public partnership contract private.

On cases of disinvestment in the region there are some points of agreement between the players in the industry interviewed for this search. The first point concerns the main factor in attracting foreign firm to South America, from the 1990s have been the market opening of the sector in its various formats. The second point is that the opening occurred with concomitant with the strategic plans of the largest multinationals in the sector grow through new markets. The third point is that there was a part of the multinational expectation that Latin American programs would resemble the Europeans, which did not occur in practice. And finally, that global macroeconomic changes also contributed to the decision to divest

The cause of disinvestment factors identified in the literature can be identified in case of exit of multinational water sector and sanitation in South America. It is the factors: contractual issues, economic imbalance, social and political conflict, the firm's strategy and or sectoral policy. From the local idiosyncrasies identification, it is observed that there is variability in the DDE determinants in the region. So the sight of players in this market seems to differ on the relevance of each of these factors in cases of disinvestment analyzed.

Thus, so firms would not have been for the contracts due to the economic imbalance in contracts in the process participant observer vision, a former executive of the multinational. Already the disinvestment view held by these firms, as the legislator, says the regulatory framework as the main cause of the decision to not allow the ownership of the assets under concession in general and not benefit, except in Chile. And the understanding of the industry associations, the prevailing idea that the growth of the firm's strategy has not been achieved since the Latin American programs do not tendered market opportunities within expectations regarding the volume and profitability of operations.

With this it is observed that instances of divesting in Brazil are the characteristics of the resulting institutional environment which promote the outlet of the company. These variables represented by the categories of analysis imply that the economic imbalance is not necessarily the result of a macroeconomic factor, but ex post cost of contracts generated by disagreements during the term of the contract, exemplified with municipal election, change the Mayor during contractual term, indicating that Brazil's output was one of the firm strategy.

The cases of cancellation in Argentina distinguished the Brazilian, especially for granting be federal and not local and also a macroeconomic factor, characterized by the devaluation of the currency, so there predominated the output decision of firm given the economic imbalance generated for the contract.

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## *The Impact of Institutional Distance on Survival of Foreign Subsidiaries*

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### **Abstract**

*Survival of overseas subsidiary is an important success indicator of foreign investments. Many studies applied efforts to investigate the survival analysis. Research on institutional approach has been undertaken in this way. However, these studies are generally restricted to low numbers of institutional distance (ID). This research aims at examining the impact of nine ID and local experience on survival subsidiary. Moreover, we investigate possible effects of moderating local experience to reduce ID between countries. The sample comprises of 1.650 observations of foreign subsidiaries established in 36 European countries, applying a longitudinal study for the period of 2007-2014. We implemented the hazard ratio with the Cox Regression in a panel data. The findings indicate that the ID significantly affects subsidiary survival. Out of nine distances, three increase the risk of mortality, while three reduced the longevity. Local experience also plays an important role for continuity of operation in the local market. However, we did not find support that local experience moderates the ID on subsidiary survival.*

**Keywords:** Foreign Subsidiary. Internationalization. Institutional distance. Survival.

### **Introduction**

In the firm internationalization process, the market selection to establish a foreign subsidiary presents challenges that can influence on the success of the international investment. There are some differences involved between home market and the host-country that receives foreign investment. This scenario has led researchers from the international business field to devote attention to institutional distance (hereafter as ID) (Berry et al., 2010) and the subsidiary survival (Gaur & Lu, 2007). Thus, analyzing the differences between countries taking into consideration the institutional perspective (Jackson & Deeg, 2008) may represent a productive field for investigation.

By observing the liability of foreignness in a foreign market, Hymer (1960) indicated the importance for MNEs taking into account the differences between countries. Later, John Dunning (1988, 2001) indicated that countries face objections beyond geographical boundaries to achieve success in another market. This paper proposes that differences exist in terms of cultural, economic, political and social aspects of the countries where the MNEs operate, and consequently, these differences might have impact on subsidiary performance.

Hennart and Larimo (1998) stated that the cultural difference is only one of the distances that influence transaction costs. Henisz (2000) affirms that the economic differences can foster the growth of MNE. While Goerzen and Beamish (2003) consider that geography meets obstacles to MNEs prosper. Kogut and Singh (1988) refer to cultural characteristics of the foreign market to measure distance between countries involved in the establishment of activities in that country.

Thus, analyzing the differences between countries based on the institutional perspective (Jackson & Deeg, 2008) can help firms to overcome difficulties in another country (Kostova, 1999), increase the likelihood of survival (Kostova et al., 2008), and confirm that the selected strategies should maximize the success of MNE investments (Gaur & Lu, 2007; Geringer & Hebert, 1991; Peng & Beamish, 2014).

Berry et al., (2010) provided a definition and measurement for nine cross-national distances. These sets of institutional difference include distances related to administrative, geographic, demographic, knowledge, political, financial, global access, economic, and cultural connectivity. By analyzing the diversity among countries, it helps MNEs to understand the environment that their face (Bae & Salomon, 2010) for both aspects, either for new investments or for its maintenance (Gaur & Lu, 2007).

Therefore, it arises the opportunity to investigate the ID influence to the continued existence of the subsidiary. Prior studies took into consideration for analyses only a few dimensions of this ID approach. In this way, this paper intends to investigate how institutional distance affects the foreign subsidiary survival. We expect that the findings of this research could contribute to the scope of each construct and its relevance to the international business literature on subsidiary survival. Furthermore, we intend to test other effects in order to see, for instance, if local experience moderates the institutional distance on subsidiary survival.

This paper applies nine institutional distances proposed by Berry et al., (2010) and run a survival analysis using Cox Regression (Cox & Oakes, 1984) to see whether these distances really affect the survival of foreign subsidiaries that operate in European countries during the period of 2007 to 2014.

This paper intend to contribute to the international business area by identifying which institutional distance affects the subsidiary performance, and whether these distances could be moderated by local experience in order to reduce the impact of ID in subsidiary survival. For managerial contribution, this study could provide important information for companies that intend to invest internationally and take into consideration institutional distance as a way to select better their market entry and strategies, and consequently, survive in these markets.

## **Literature review and hypotheses**

The company becomes a MNE when decides to expand its activities beyond national boundaries and reach foreign markets, starting the internationalization process. The international operation includes a simple international trade through exports to another country or the establishment of a subsidiary in that country. In this way, internationalization is the process by which the company ceases to operate only in the limits of the domestic market and begins to explore foreign markets (Borini et al., 2006).

The efficiency of investment allocation can find support in examining the MNE survival. In the firm internationalization literature and strategic management, survival is treated as the continuation of the activities of a MNE subsidiary. Thus, examining the subsidiary survival in foreign countries is an important indicator of success of investments (Gaur & Lu, 2007). However, this concept is still rather vague and inconsistent (Wang & Larimo, 2015).

The survival approach focuses on three different perspectives. First is the economic theories including transaction costs analysis (TCA), second is the resource-based view (RBV), and finally institution-based view (IBV). These theoretical perspectives, two of them have been widely used in the international business literature: transaction costs (Hennart, 2010; Williamson, 1981) and institutional theories (Kogut & Singh 1998; Kostova, 1999; North, 1991).

The organization needs to consider institutional multidimensionality when entering into a new country (Dimaggio & Powell, 1983). There is a need to look beyond cultural differences, behavior, values, standards, principles and social influences, in order to indicate the necessary adjustments to the successful expansion of MNEs and their existence (Berry et al., 2010). Thus, researching firm internationalization based on institutional perspective can increase the probability of survival (Kostova et al, 2008).

Furthermore, understanding institutional distance between countries is important for companies whose operations cross national borders (Bae & Solomon, 2010). This institutional approach supports structuring constructs that analyze the dimensions of the differences between countries (Berry et al., 2010; Ghemawat, 2001). Consequently, previous research has contributed to the understanding of diversity among nations to analyze these dimensions and affect the decision on the internationalization process. We expect that this institutional distance could also affect the survival of subsidiaries. In this way, we explore nine institutional distance and propose hypotheses for each of them.

The first distance comprises the comparison between national business systems, which is defined as administrative distance. There are asymmetrical features in several aspects, including administrative standards (La Porta et al., 1998). For instance, nations are different when examining bureaucratic systems, colonizer-colonized relationship, common language, religion and legislative systems (Ghemawat, 2001; Guler & Guillén, 2010; Heinsz, 2000). Administrative distance is not considered in the cultural and political measures despite its conceptual proximity.

Formal and informal institutional arrangements that go beyond the purely political nature of the nation-state (Berry et al., 2010) could offer threatens to MNEs stay in the country. Thus, the administrative aspects hold the strategy operation and selection of the country receiving foreign investment (Belderbos & Zou, 2007; Goerzen, 2007; Goerzen & Beamish, 2005; Lu & Beamish, 2004; Xu & Shenkar, 2002). The existence of differences serves as a source of knowledge for gradualism and the formation of a network (Johanson & Vahlne, 2009). Examining the administrative distance can help to elucidate the effectiveness of internationalization, and consequently, its survival. Therefore:

***H1a: The greater the administrative distance between countries, the smaller the subsidiary survival.***

Geographical distance has a direct influence on business between countries the impact on logistics and communication costs of information between headquarters and subsidiaries (Chan & Makino, 2007; Dai et al., 2013; Goerzen & Beamish, 2003; Zaheer, 1995). Accessibility, distance, infrastructure, physical extension, time zone, logistics, climate, topography are attributes associated with geographical distance. For instance, different types of businesses might impact directly by geographical issues in their costs of access to new countries (Ghemawat, 2001).

Based on gravitational theory, similar countries in terms of size and proximity tend to attracting greater flow of trade. The opposite is also true, those countries that have larger geographical distance, tends to present a smaller trade flow between them (Frankel & Rose, 2002). Some studies advance in the analysis of geographical distances with different methods. For instance, using latitude and longitude in the study of trade and its impact (Chen, 2004), with the use of a large circle (Berry et al., 2010) or straight lines (Krishna, 2003) to determine the distance between countries. Therefore, geographical aspects can affect the performance and profitability of the subsidiary (Delios & Beamish, 2001). It leads to expect that this geographical distance also affect survival of foreign subsidiaries, thus:

***H1b: The greater the geographical distance between countries, the lower the subsidiary survival.***

Demographic aspects can identify the attractiveness of a country for MNEs internationalization. Indicators allow examine differences between countries over the population and characteristics such as size, growth, age distribution, and social classes of each nation. The examination of the demographics of each country is an important aspect to capture the differences between nations and its dimensions (Whitley, 1992).

Some indicators are used to determine the market attractiveness and growth potential. The analysis of the indexes of life expectancy, fertility and population stratification attests fundamental characteristics of countries and highlights the differences between them (Berry et al., 2010). In international business area, the study of demographic

indexes has been related to the selection of investments (Williams & Grégoire, 2014; Zhou & Guillén, 2014), but could be related to the success of the international investment. Hence,

***H1c: The higher the demographic gap between countries, the lower the subsidiary survival.***

Different government systems are the basis for the political distance (Henisz, 2000). The analysis of government influence on the economy, political stability, democracy, trade agreements impact the country selection destination for foreign investments. Researchers have advanced in studies of political differences comparing government systems and political instability for foreign markets selection, sequential investments and entry mode (Dai et al., 2013; Garcia-Canal & Guillén, 2008; Ma & Delios, 2007; Wan, 2008).

By capturing the political vulnerability, multinational companies reduce the legitimacy with local industries (Ogasavara, 2014; Peng, 2012). It is natural that MNEs select countries with greater political stability (Chan & Makino, 2007). Thus, the subsidiary survival might affect the political distance, hence:

***H1d: The greater political distance between countries, the lower the subsidiary survival.***

The financial distance relates to national economic development. The institutional literature addresses this issue in studies related to the levels of development of financial systems, access to credit, and the way companies finance their operations (La Porta et al., 1998). Differences in financial sector development level reflect the indicators of private credit systems, capital market, and the accessibility and financial openness of a particular nation. Thus, the indicators have their use in combination with corporate governance, foreign investment and acquisitions (Cassidy & O'Callaghan, 2006; Chung & Beamish, 2005; Fang et al., 2013; Jung & Suh, 2013; Somlev & Hoshino, 2005; Ushijima, 2008). By analyzing the financial differences on this perspective, it could provide evidence of relationship to subsidiary survival, thus:

***H1e: The greater the financial distance, the lower the subsidiary survival.***

Researchers have examined the knowledge distance between countries in association with location choice of foreign investment (Berry, 2006; Guler & Guillén, 2010). Previous studies examine the influence of levels of knowledge transfer on firm performance (Makino & Delios, 1996), organizational behavior (Sohn, 1994), and the relationship between knowledge and experience (Powell & Rhee, 2013). Furthermore, it also investigates the integration and knowledge transfer (Ando & Kim, 2006; Fang et al., 2013), local knowledge levels and the influence of expatriates (Peng, 2012). We expect that knowledge distance also influence the subsidiary survival, thus:

***H1f - The greater the knowledge distance between countries, the lower subsidiary survival.***

The ability to connect tourism or over the Internet with other countries gives meaning to the global access and connectivity distance (Berry et al., 2010). The environment facilitates certain nation to have access and disseminate information (Guillén & Suarez, 2005) to other countries and contributes as an inheritance to the company network (Berry et al., 2014).

The examination of the global distance can provide clues about the reduction of uncertainty, probability of exit, irreversibility of investments (Song, 2014) and its relationship to the development of experience (Berry, 2015; Wang & Larimo, 2015). Therefore:

***H1g: The greater the distance of access and global connectivity, the lower the subsidiary survival.***

Considering the existence of economic differences between countries are important indicators for foreign investment. The economic distance relates to the economic development and macroeconomic characteristics,

including inflation, income, trade balance - imports versus exports, as measurement indicators of such distance (Chung et al., 2008; Henisz & Williamson, 1999; Peng, 2001). Therefore, by aggregating these indicators could express the economic potential and wealth of a nation. The economic distance between countries focuses on the levels of trade and the types of partners that each country can attract (Ghemawat, 2001). The country selection from this perspective can present challenges for the maintenance of international activities. It is possible that MNE find the economic distance as an indicator that supports the adoption of strategic decisions and to increase the likelihood of survival, thus:

***H1h – The greater the economic distance between countries, the lower the subsidiary survival.***

Finally, cultural distance has attracted attention in international business field as the most researchers have already used it in empirical investigation (Ferreira et al., 2009), particularly with contributions for the strategic selection of markets and locations, managerial decisions, and entry mode. Examining cultural distance could provide a better understanding of the differences between parent company and its affiliates. In addition, it can contribute to reduce uncertainty and expansion costs in firm internationalization (Barkema et al., 1996; Hennart & Larimo, 1998; Johanson & Vahlne, 1977; Kogut & Singh, 1988).

Moreover, the investigation of cultural distance can provide the understanding of the differences between particular countries and their relationship parent company-subsidiary to assist strategic aspects of MNEs. For instance, a Japanese company selects a European country to establish a subsidiary considering cultural differences between the parent firm and subsidiary. French employees working at Citibank Company in France take into account the French culture. Americans who work at Toyota take the American culture in the U.S. subsidiary of the Japanese company (Caprar, 2011). Thus, the relationship between cultural distance and the subsidiary survival might reveal important indicators for managerial aspects to understand the longevity of its international operations, therefore:

***H1i: The greater the cultural distance, the lower the subsidiary survival.***

Multinational firms can properly exploit the capabilities and resources of its subsidiaries to transfer knowledge (Berry, 2015). The local experience of the subsidiary has an important role as an indicator of multinational capabilities (Gaur & Lu, 2007; Makino & Delios, 1996). Local experience provides an informational advantage (Oliveira-Júnior et al., 2009) on the transfer of resources into organizational practices (Delios & Beamish, 1999; Kostova, 1999), knowledge (Berry, 2015; Sohn, 1994) and obtains local legitimacy. The local experience can help firms to elucidate the subsidiary longevity and the practice of business in another country with the challenge of liability of knowledge of the local market (Hennart, 1991). The development of local experience plays an important role on the company's survival established in another country (Makino & Delios, 2001; Wang & Larimo, 2015; Yiu & Makino, 2002). In this way, we proposed the following hypothesis:

***H2: The greater the local experience, the greater the subsidiary survival.***

In addition, local experience could provide important ownership advantages such as management practices, patents, technology, management skills, (Dunning & Lundan, 2008). Thus, it expects that the local experience could moderate the impact of institutional aspects on the subsidiary longevity, thus:

***H3: The local experience plays a moderating effect on institutional distances for increasing subsidiary survival.***

## Methodology

The scope of this research is to examine the survival of foreign MNEs subsidiaries established in European countries applying the perspective of institutional distance, local experience and its moderating effect. The investigation of subsidiary longevity with institutional approach to ID may indicate a important field for international business field (Gaur & Lu, 2007).

We used Japanese subsidiaries as a background to test our hypotheses based on the following aspects. First, Japan is the fifth largest foreign investor in the period 1970-2012 (UNCTAD, 2015) after the U.S., the U.K., France and Germany. Moreover, Japan is the only Asian country to be among the top 5 in outflow foreign direct investment (FDI). Second, Japanese companies are considered in the ranking of Fortune Global 500, which listed 62 firms among the 500 largest in the world and 5 companies among Top 10 Asia (CNN Money, 2013). Third, the availability of data at the subsidiary level is very limited. Most of the available data comprises on firm level and aggregate data. Thus, it is an opportunity to use a dataset of Japanese subsidiaries to test empirically many important issues on international business literature such as institutional distance. Finally, Japanese MNEs serve as an object of research for a number of studies in the international business field (Ando & Endo, 2013; Belderbous & Zou, 2009; Dai, et al., 2013; Delios & Henisz, 2003; Goerzen & Makino, 2007; Lu & Beamish 2004; Ogasavara, 2014; Sohn, 1994; Wan, 2008).

While the selection to analyze foreign investment in European countries during the period of 2007-2014 is motivated by the following reasons. This period of analysis, cover recent transformation that the European continent has experienced in terms of economic aspects with regard to the crisis, and political and institutional changes. Based on these arguments, it would be an appropriate time and context to investigate the institutional effects on survival of these international operations.

We collected secondary data based on information published by Toyo Keizai (Kaigai Shinshutsu Kigyou Souran). The publication is the dissemination of data on investments of Japanese companies in other countries since 1970.

We applied the survival analysis implementing Cox Regression (Cox & Oakes, 1984). Our dependent variable is subsidiary survival (1=mortality and 0=survival). The analyzed event is failure, while survival is the continuity of data. There is another important concept in survival analysis, the hazard ratio. This is a risk assessment that is considered essential to perform the survival analysis. The focus is to investigate the probability of influence of the independent variables on the subsidiary survival (Ogasavara & Hoshino, 2008). The model has its description as follows:

$$h(t) = [h_0(t)] \exp(\beta_1 x_1 + \dots + \beta_k x_k) \quad (1)$$

where  $h_0(t)$  is a function of survival time baseline, and only depend on the time as  $\beta_1 x_1 + \dots + \beta_k x_k + 1$  is dependent on the contents of the independent variables, and the coefficients obtained with the regression. As some variables in the model have influence variation in time, the variables were introduced in the formula  $z_i(t) = z_{ig}(t)$ .

$$h(t) = [h_0(t)] \exp\{\beta_1 x_1 + \dots + \beta_k x_k + g(t)(\gamma_1 z_1 + \dots + \gamma_m z_m)\} \quad (2)$$

where  $(z_1, \dots, z_m)$  are time-dependent variables and the estimate has the net effect a regression coefficient estimated  $\gamma_i$  for a covariate  $g(t) z_i$ , which is a function of the time limit of examination, the year of 2014.

The regression analysis shows variables that positively or negatively contribute to the subsidiary survival. The advantage that the hazard ratio has any relationship to not only considers the total number of subsidiaries linearly, but also addresses the observation time. This technique demonstrates effectiveness in cases where there is no uniformity of time, a characteristic found in the survival analysis.

The independent variables are nine institutional distance bases on Berry et al., (2010), except for the cultural distance index. Thus, eight ID data were collected through CIBER - Center for International Business Education and Research of Wharton Business School. Berry et al., (2010) considered the Mahalanobis calculation more consistent for the purpose of institutional distance instead of Euclidean measure. While cultural distance data were collected through the website of the Institute Hofstede.

We selected 36 European countries that include Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Montenegro, Netherlands, Norway, Poland, Portugal, Principality of Monaco, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom.

The other independent variable is Local Experience, which measures total experience (in years) of the subsidiary in the local market. Experience plays an important role in the development of multinational capabilities (Gaur & Lu, 2007). For this information, we considered the year of entry declared in the country in the Toyo Keizai dataset, which is the beginning of activities of that particular subsidiary. The control variable used was the size of the subsidiary. To determine the size of the subsidiary, it considers the number of employees reported in the directory of Toyo Keizai data. The size of the subsidiary has analogy the proportion of investments in the country of destination, a great demand size subsidiary a greater commitment of mother with that unit (Ogasavara & Hoshino, 2008).

## **Empirical analysis and discussion**

The results confirm the existence of a relationship between six out of nine institutional distance and subsidiary survival. All models present a high significant degree ( $p < 0.001$ ). There are 748 failures in a sample of more than 14,670 observations. The results highlight that six distances were significant ( $p < 0.10$ ). Three distances have not reached the expected level of significance.

The findings show that institutional distance related to economic, global and cultural aspects positively influences the survival subsidiary. While the distances of administrative, demographic and political, the impact on survival is negative. Thus, countries that do not resemble, or gather greater distinction of indices between them, also represent an objection to the success of survival.

The observation indicated a hazard ratio (HR) for administrative distance of 0.0065. This is that the 748 observations in eight years analyzed along with 93.5 year-mortality, 4.9 cases of non-survival may stem from the Administrative distance ( $p < 0.10$ ). Therefore, we find support for H1a. This indicates that administratively distant countries hinder the permanence of companies in that country, in accordance with Chung & Beamish (2005) and Gaur & Lu (2007).

The demographic distance ( $p < 0.05$ ) could be the explanation for 12.5 instances of mortality with risk rate 0.0167. The result supports H1c. Demographic characteristics, such as population size and growth, age and social distribution, can highlight the existing challenge between different nations that the company should consider for its effectiveness. Thus, companies from countries with major demographic differences may consider large differences in demographics elements. In this way, it may not be enough considering aspects restricted to the attractiveness of the country as to its size, but as an important indicator for survival strategies. The result is consistent with Demirbag et al., (2010), Gaur & Lu (2007) and Ma & Delios (2007).

The political distance also poses a threat to survival. Despite the low risk rate (0.0002), the explanation for the failure events can focus on political aspects ( $p < 0.01$ ). The result supports H1d. This implies that very politically distant countries tend to cause greater threat to their adaptation. The findings corroborate to the findings of Dai et al., (2013), who emphasize the severe impact of the political differences for survival in different country for the home market. In addition, Delios and Henisz (2003) state that the political distance can pose a problem for the multinational company to adapt and objection to its continuity.

**TABLE 1: RESULTS OF COX REGRESSION**

Results of Cox Regression (+ = higher survival)		
Variables	Final Model	
<b><u>Independent Variables</u></b>		
<i>Experience (exp)</i>	+ 2.74***	(1.0039)
Administrative (adm)	- 1.69*	(0.9935)
Geographic (geo)	-	-
Demographic (dem)	- 2.04**	(0.9833)
Political (pol)	- 7.37***	(0.9998)
Financial (fin)	-	-
Knowledge (knw)	-	-
Global (glo)	+ 1.93**	(1.0886)
Economic (eco)	+ 2.42**	(1.0225)
Cultural (cul)	+ 3.10**	(1.0744)
<b><u>Control Variable</u></b>		
<i>Subsidiary size (size)</i>	- 0.19	(0.9961)
<b>Number observations</b>	14.670	
<b>Number of failures</b>	748	
<b>Log likelihood</b>	-7082.12	
<b>LR chi square</b>	114.60	
<b>Significância do modelo</b>	0.0000	
Notes: Hazard ratio in parenthesis		
*Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level.		

The justification for 66.3 instances of no survival has probable reason ( $p < 0.10$ ) for global distance. Its risk rate was (hazard ratio) of 0.0886. The hypothesis depicted in H1g, although conversely to the expectation, confirms the relationship between this distance and survival. The result is similar to Oxley & Yeung (2001), which indicate when divergent indicators of this distance are institutional obstacles to the subsidiary survival.

The findings show that subsidiary fails when more economically distant countries are involved. Thus, the distance can sustain economic justification for 16.3 cases of closure ( $p < 0.05$ ), their risk rate was 0.0225. However, the relationship is divergent to the proposed hypothesis H1f. The greater economic distance raises the probability of

survival. This validates the warning character of ID. Thus, it is important to consider the economic distance to top up the likelihood of continuation of the subsidiary.

Cultural distance presented directly inverse implication that expected in H1i hypothesis. This implies the validity of their examination to the field of MNEs strategies. The results indicate a risk rate of 0.0744 could be the likely cause of 55.6 cases of non-survival ( $p < 0.05$ ) of 748 observations. Examination of this distance states that the more culturally distant countries involved the greater the chance of subsidiary survival. Thus, nations that differ culturally offer less risk to maintaining the subsidiary of MNE. Cultural distance research focuses on reducing the probability of failure of the subsidiary (Mata & Portugal, 1995).

In addition, Barkema et al., (1997) found that companies that have ventured into more culturally distant countries had a lower incidence of continued failure. This is in agreement with our findings. His explanation may be located on learning strategies and knowledge transfer (Kostova, 1999), property and international experience (Delios & Beamish, 2001; Gaur & Lu, 2013), or use of expatriates (Colakoglu & Caligiuri, 2008). Examining the cultural distance between parent firm and the failure of the subsidiary may provide the increased incidence of successful selection of appropriate strategies.

The findings confirm the relationship between six ID and subsidiary survival. The analyses reveal that the Administrative distances (H1a), Demographic (H1c), Political (H1D), Global (H1g), Economic (H1h) and Cultural (H1i) concentrate most likely risk to survival. While distances related to Geographic (H1b), Financial (H1E) and Knowledge (H1f) aspects did not have significant impact on the subsidiary longevity.

Moreover, the results demonstrate the relationship between local experience and survival. Experiential knowledge has a positive impact on subsidiary longevity. Thus, more local experience, the greater probability of the subsidiary to survive. It leads to the support H2. This provides opportunities for accumulated local experience to be transferred to its knowledge to deal with the business operation, and consequently, increase the likelihood to survive. This is consistent with the findings of Gaur & Lu (2007), Powell & Rhee (2013) and Delios & Beamish (2001).

We also tested for the moderating effect of local experience on ID. Although, it is not depicted in this paper, the outcome of the results did not support H3. Therefore, the local experience has no moderating effect in relation to ID for increased subsidiary survival. We did not find support that local experience would moderate institutional distance to increase the longevity of subsidiary. Thus, there is no support for H3.

## **Conclusions**

This paper investigates the relationship of institutional distance and local experience on the subsidiary longevity. The findings contribute to understand how subsidiaries are impacted by institutional distance among countries involved in the relationship between the parent firm and its subsidiary. Some points need to be highlighted on the contribution to the international business field.

First, the empirical nature of this research broadens the investigation of survival with a number of institutional distance aspects. It shows the existence of a promising field of research on the action of institutional distance and survival analysis.

Second, the local experience concentrates another important point. Although prominent invested in the examination of survival, no prior study expands the local experience in many constructs on the field of institutional distance. It shows the possibility of taking examination with this perspective. This research contributes in this direction.

Third, the findings indicate that six institutional distances play an important role in understanding the subsidiary longevity. It implies the similarities analysis decision and inequalities between countries involved in the internationalization process. It is necessary that MNEs better analyze the difference between countries. Take into consideration how far are the range of institutional distance as individual observation of its elements. In this way, MNEs can strategically advance an understanding of these distances and the confrontation scenario for firm survival.

As a managerial contribution, the results show important evidence of institutional distance and may provide relevant information to managers to the strategic and decision-making processes. Survive in the market exceeds financial performance barriers, there are constructs related to institutional distance that can contribute to the success in operating internationally. Therefore, institutional distance has been considered due to the risk of investment in the selection of countries for the establishment of foreign subsidiaries.

For the academic implications, it expects that these findings encourage the development of more research on institutional approaches. We need to understand more how institutional distance relates among them and between other variables, and not only restricted to the subsidiary survival. It indicates that future research investigate the relationship with expatriates, entry mode, and the ability to adapt, learn, and transfer knowledge among MNEs networks. For future studies, we suggest that new proposals may look different regions, country of origin of the MNEs, and time management. A number of challenges could be exploited in further research.

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## ***Revisiting Ownership Advantages of Resources Seeking MNEs: Evidence from Chinese Firms Operating in Emerging Market***

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### **Abstract:**

*The internationalization of Chinese firms has been attracting attention recently and it has led to emergence of study into the business strategies of Chinese firms in their cross border activities. Many researchers identify the supporting roles of Chinese government to Chinese firms cross border operations. They are noted to possess limited established brands and disadvantages in technology and managerial resources. They also identified Chinese firm's disadvantages, in their lack of technology and managerial resources as reasons why Chinese firms initially enter emerging markets. This strategic choice is preferred to avoid direct confrontation with established firms from developed countries endowed with superior ownership advantages. This occurs because Chinese firms are characterized with numerous ownership disadvantages.*

### **Purpose:**

*This present research is investigating resources seeking Chinese firms' ownership advantages that provide the opportunity for them to excel in emerging markets. Therefore, the extension of OLI theory is the fundamental reason for this paper. We sought to find the relevance of firm's specific advantages of traditional Western MNEs by John Dunning to resources seeking MNEs from emerging markets.*

### **Design Methodology and Approach:**

*The study applied two-stage qualitative methodology to revisit the specific ownership advantages of resources seeking Chinese firms operating in Nigeria. The first stage includes a preliminary study encompassing exploratory interviews while the second stage includes a multiple interviews based case study research methodology*

### **Findings:**

*We based our findings on the analysis of three solid resources seeking mining and three soft resources seeking Chinese MNEs operating in Nigeria. The findings confirm that there were similarities and differences in Dunning lists of Ownership advantages of Capital, technology, and access to markets, complementary assets and size and negotiating strengths.*

**Key words:** Resources seeking MNEs, Emerging Markets, Ownership Advantages, OLI theory and Chinese firms

### **Introduction**

Ownership advantages are firm-specific competitive advantages that the firm possesses (Porter, 1980 and Brouthers, Brouthers and Werner, 1996). It is the *why* of MNEs activity (Dunning, 2002) which are created through firm international experience, size, product differentiation and product adaptability (Dunning, 1993). These intangible advantages create an added value to the firms and also aids the decision making process of these firms because it assists a firm to determine when these variables are transferable at reasonable cost and to answer the

questions of why it should operate in another country. When firms have these advantages, they help to overcome the costs of cross border production and increase the firm's revenue. It is seen as providing competitive or monopolistic advantage to the firm when they derive economic rent (Fletcher and Brown, 2008). These advantages are otherwise known as 'competitive' or 'monopolistic' advantages that compensate for the additional costs associate with setting up and operating abroad.

John Dunning identified several firm specific advantages that give resource seeking MNEs advantage over the existing competitors in the host country. They are identified in Table 3.1, below. These superior resources or managerial capabilities (Child and Rodrigues, 2005) include factors such as Capital, technology, access to markets, complementary assets, and size and negotiating strengths.

**Table 3.1** Ownership Advantages (Dunning, 2002)

<b>Ownership Advantages of Resource-Seeking MNEs</b>	
-Capital, Technology, -Access to market; -Complementary Assets; -Size and Negotiating Strengths; -Information, Management, -Marketing and Organizational Skills;	-Surplus R&D Capacity -Economies of Scale and Scope -Ability to generate brand loyalty -Firm Size and Experience -Know-How- Capability -Product Differentiation

Source: Multinational enterprises and Global Economy by John Dunning, 2002

### **Ownership Advantages of Resources Seeking Chinese Firms**

As mentioned, John Dunning OLI paradigm is among the leading theoretical approach to explain the internationalization of activities of Western multinationals corporations. But this standard explanation did not take into consideration the element of firms in recent emerging and developing countries. The success of Chinese firms internalization activity was not based entirely on the same ownership advantages as the classic Europeans and American Multinational Enterprises (Shapiro, Gedajlovic and Erdener, 2003) because majority of ownership factors are missing (Mathew, 2006 and Peng, 2012) It therefore has limited traction in explaining the compositions of ownership advantages in developing countries (Athreye, and Kapur, 2009). However, it provides an ideal framework from which to build an analytical framework to explain the internalization activity of resources seeking Chinese firms in the developing country.

Resources seeking Chinese firms may not possess the same Ownership advantages as American and Western companies which may be due to institutional factors compounded by liabilities of foreignness and liabilities of newness in a new environment (Li, 2003). But they possess some ownership advantages that compensate for their resources deficiency in order to invest in emerging markets known for unfriendly business environment. Chinese firms enjoy strong support from the Chinese government (Alden and Davies, 2006) because they are resources seeking with limited experience and international or established brands (Alden, and Davies, 2006 and Athreye et. al. 2009). Other advantages are sales channel power (monopolistic positioning), size and monetary resources, human capital, and technology.

In Table 3.1, Dunning (2002) classified resources seeking firm's ownership advantages which are capital, technology, access to markets, complementary assets, and size and negotiating strengths. Dunning's ownership advantages for resources-seeking multinational enterprises and Chinese firm's specific advantages are combined to simplify the complexity associated with developing a simple model to achieve specific purpose of this study. Chinese firms' specific advantages are specified along with MNEs in Table 3.2 below. Resources seeking Chinese ownership advantages (RSCOA) are discussed in the following sub-sessions.

**Table 3.2:** Ownership Advantages of Resources Seeking Firms

Resources Seeking MNEs	Chinese Resources Seeking MNEs
-Capital	-Government Support
-Technology	-Supporting network (Guanxi)
-Access to Markets	-Sales Channel Power
-Complementary Assets	-Size and monetary resources
-Size and Negotiating Strengths	-Technology

Source: Extracted from *Multinational Enterprises and the Global Economy* by John Dunning (2000), Alden, and Davies, (2006), Athreye et. al. (2009), Morck and Zhao, (2008)

### Government Relationship

The ownership structure of Chinese firms distinguishes them from MNEs from developed countries. The widespread involvement of state apparatus in their international activities helps them to maintain an interdependent relationship with the government. The relationship is a symbiotic and of mutual interest beyond commercial activities (Liu, and Scott-Kannel, 2011). It is entangle with many facets of interest (Chen, Lee and Li. 2003). For example the firms are economic tools in the hand of the Chinese government to control its domestic economy. It is also to enhance state stability and as a vehicle to carry out its drive to attain economic power in global arena. Because of these government objectives, companies such as China National Offshore Oil Corporation enjoy monopolistic privileges to operate in certain sensitive industries (Chen, Lee and Li. 2003).

The relationship between the Chinese firms and the government is the core of China's economic reform (Liu, et. al. 2011). The reform accommodated the emergence of 120 Chinese firms to engage in international markets. Besides this, Chinese government played a positive role by using series of policy tools and State owned financial institutions to support Chinese firms (Buckley, Peter, Adam, Hui, Liu, and Hinrich, 2008). For example, the control of major and largest corporations and financial institutions by Chinese government were deployed to provide resources seeking Chinese firm's financial resources (Morck and Zhao, 2008). Preferential arrangements provided are in form of financial aids, management autonomy, profit retention, low-interest financing, favourable use of home currency for exchange and reduced taxation (Wu, 2005). Preferential arrangements provide a specific advantage to Chinese firms over their competitors because it allows them access to cheap capital and to be flexible in the use of their resources.

### Supporting Network

There has been growing interest among researchers about the influence of networking on operations of resources seeking Chinese firms in emerging markets (Santos and Ruffin, 2010). Recently, Lee, Abosag and Kwak's, (2011) study addresses the role of business networking and resources commitment to local market when MNEs enter an emerging market. Supporting network is a key strategic instrument of Chinese firms' activities that links Chinese investors from home to host countries to promote professional *esprit de corps*. They earn support through the linking of individuals and institutions in a knowledge and experience sharing type of framework (Ajayi, 2006). One of the ownership advantages specific to Chinese firm is the development of core competence in relational/supporting network termed *Guanxi* (Shapiro, et. al. 2009 and Liu and Scott-Kannel, 2011). It is the system of social networks and influential relationships in Chinese society. It plays important roles such as the business relationship development and supports the growth of MNEs operations home and abroad.

Before the opening of the Chinese economy and transformation of the recent political and economic status of Mainland China government, Hong Kong and Taiwan were investment routes of investors from China mainland to other parts of the world. A good number of these investments were established in Nigeria and other emerging markets. As soon as China embraced the market economic system and joined the WTO, the established Hong Kong

and Taiwanese business links in Nigeria assisted new Chinese investors to establish and settle for business in Nigeria (Chen, 2006) and Elango, (2009). Chinese firms' interest in cross border activity is highly encouraged by their extensive networking with their counterparts in other parts of the world (Klossek, Linke, and Nippa, 2012). The activity of Chinese neighbors (Taiwanese and Hong Kong businessmen) with identical heritage and cultural links are positively related to resources seeking Chinese firm's investment behavior in Nigeria. Hong Kong and Taiwanese investors are vast in understanding the business terrain in Nigeria. The understandings of Nigeria business terrain help Chinese firms who are new but with enormous financial resources to bridge the competition gaps with existing competitors. Peng and Luo, (2000) and Mathew (2006) are of opinion that Chinese firms from Mainland China are widely known to engage in extensive networking in search of opportunities to achieve corporate goals. This form of personal connection and special relationship are used as the substitutes for formal institution arrangements and are also employed to compensate for ownership and location disadvantages (Liu, et. al. 2011). Chinese firms may be lacking in experience and established brands but supporting network and guanxi factor play a major role in internalization drive of these companies.

### **Sales Channel Power**

This is the ability of a channel member to control marketing variables of any other member in a channel at a different level of distribution (Hollensen, 2007). Channel members in China depend on the ownership structure and there are considerable unequal distributions of power among the different actors (Polsa. 2002). The actors tend to be state owned, collective and private and very important in China distribution system. Out of these actors, State owned actors are recognized and powerful. Resource seeking Chinese firm's relationship with Channel's actors is positively linked to the concept of guanxi (Dickson, (1996). Network actors do most of the distribution within their network. The source of their power is based on the value of respective relationships in China. According to Polsa, (2002), Chinese state owned actors tend to have management freedom, experience, financial and social resources to operate more expensively than the other two actors. State owned actors tend to dominate the distribution of material sources abroad. They are in sort of monopolistic position as against the other actors most especially in private sector.

### **Size and Enormous Resources**

One of the important features of Chinese firms is their size and the resources at their disposal in term of monetary strengths (Cheng and Lo, 2004, Morck and Zhao, 2008). The firm ownership structure and state government reform strategy *to grasp the big state owned Enterprises and let go of the small SOE* (Cheng and Lo, 2004) gives Chinese firms advantage of access to large pool of capital. Morck and Zhao, (2008) found that Chinese government used its control power on state owned financial institutions to provide resources seeking Chinese firm's adequate sources of financial resources. Examples of preferential financial arrangement provided to these firms include financial aids, profit retention, low-interest financing and reduced taxation (Wu, 2005). Chinese firms possess access to special financing channels such as state allocation, state owned national banks and national government financial sources for international market.

The size and financial channels provide strong advantage to resources seeking Chinese firms to accumulate large amount of assets and capital available for investment. Dunning (1988) has noted that such large firms are endowed with resources such as skilled labour, monetary resources and suitable investment opportunities have greater tendency to move abroad. In this case, Chinese firms are no exceptions. Their size is related to their resources which is a strong determinant of their growth through foreign direct investments (Cheng and Lo, 2004). The implications of this attribute play a significant role in all their internalization decisions.

### **Technology**

The standard requirement expected of multinational enterprises is that they should possess a superior technology (Peng, 2012) needed to engage in cross border activities. In China, Chinese technology based on local

technology has been found to be unreliable and of low quality compared to foreign technology made in China (David and Hongyu 2004). The low level of innovation (Von Zedtwitz, Ikeda, Li, Carpenter and Hämäläinen, (2007) of Chinese technology will be a case of relative or comparative advantage to Chinese Multinationals operating in emerging markets (Gao, Woetzel and Wu (2003). The firm's level of technology may not be adequate to compete favourably with their Western counterparts but it gives them a unique leverage in developing countries. Chinese technology is what developing countries need because of its cost advantage. The accessories are readily available (Giovannetti and Sanfilippo, 2009) and *unsophisticated* (Kiley, 2007; Javorcik and Saggi, 2010) and less expensive (Wai-sum and Chan, 1997, Shi, 2010 and Rangasamy and Swanepoel 2011).

Also, emerging markets provide a good ground for Chinese firms to launch their brand of technology (Gao, Woetzel, and Wu, (2003). Recently, Nigerian market is flooded with Chinese product with 100% Chinese technology. Chinese heavy-duty mining equipment such as dump truck, China Hono truck and Keno tractors are readily available in Nigeria. Others are electronic technology such as television, air conditioner, refrigerators and mobile phones are everywhere in Nigeria. These products are relatively cheaper than those from countries with advanced technology and they come with inexpensive spare parts. Also, a good number of government and private contracts were won and successively carried out by Chinese firm using their level of technology. One that readily comes to mind is Dangote Cement plant in Ibesse, Ogun State was built by Sinoma, a Chinese firm using state-of-the-art Chinese (Maxwell-Cook, 2012).

## **Methods**

The study on resources seeking Chinese firms' ownership advantages applied two-stage qualitative methodology (Perry, 2001) to revisit the specific ownership advantages of resources seeking Chinese firms operating in Nigeria. The first stage includes a preliminary study encompassing exploratory interviews for the first part of the investigation (Connell and Farrington, 1996). The second stage includes a multiple interviews based case study research methodology as discussed below.

### **Preliminary Study**

The first stage of the present research applied preliminary exploratory interviews method based on its richness in developing new theory (Doz, 2011; Welch, Piekkari, Plakoyiannaki and Paavilainen-Mantymaki, 2011). Its contribution to in-depth understanding of context in real world (Denzin and Lincoln, 2003) and solving practical research Parkhe (1993)

Exploratory research interview method is also acknowledged for its effectiveness to justify the appropriateness of the resources seeking Chinese firms ownership advantages constructs assembled in the research. Besides justifying and validating the relevance of the constructs, it also led to identification of new concepts in the final development of the list of ownership advantages specific to Chinese resources seeking firms in emerging markets.

### **Case Research Methodology**

The second stage of this theory research uses case study research method (Perry, 2001; Patton, 2002; Yin, 2009, 2012) to collect data necessary to address all the issues identified in the exploratory stage of the research. Using exploratory research interviews alone is not sufficient for research of this nature. The ownership advantages were developed into five concepts identified in exploratory stage of the research to study ownership advantages of resources seeking Chinese firms operating in emerging markets. Case study research method was used to substantiate the final part of the inductive processes because it offers detail investigation in terms of data analysis, vis-à-vis the application of preliminary interviews.

The used of these methods of data collection was due to difficulties associated with using quantitative survey instruments with Chinese firms operating in emerging markets. A total of 27 in-depth preliminary exploratory interviews with Chinese firms home and abroad were used as the main tool to conduct the first stage of this present research. The exploratory interviews focused assisting the present study to strengthen and fulfill the purpose of formulation and revision of the research concepts.

The second phase of confirmatory/disconfirmatory of the research began with 6 in-depth cases, which included 12 main case interviews. The stage included the results of the preliminary exploratory interviews with Nigerians and Chinese doing business in China and Nigeria. These cases interviews across the industry were utilized to support and enrich information into whether the resources seeking Chinese firm's constructs should be considered as firm's specific advantage. The interviews and discussions involved top management personnel of resources Chinese firms in Nigeria and Beijing, government officials and domestic resources firms in Nigeria. The data collected were guided by the concepts analyzed.

### **Preliminary Study Findings on Firm's Specific Advantages**

The exploratory/preliminary study provided the avenue to validate Ownership advantages concepts found in the reviewed literature, and they were all considered to be appropriate for this research. Few modifications that were made involved the combination of 'supporting network' and 'sales channel power' as supporting network, and technology as 'Chinese technology' to differentiate it from other technologies in advanced markets. Also, supporting infrastructures was categorized as an important part of Ownership advantages of Chinese MNEs in Nigeria. There were general indications that supporting infrastructures are inadequate for resources seeking Chinese firms to achieve their goals. The fact that resources seeking Chinese firms generate power, provide water and build roads is clear indications that they are important supporting facilities required to achieve their goals. The common consensus is that it is a sort of advantage to Chinese MNEs operating in Nigeria.

### **Case Study Research Findings on Firm's Specific Advantages**

The cross-case and cross-cluster analysis of this case research focus on the confirmation and disconfirmation of the five ownership advantages constructs which include government relationship, supporting network, Chinese technology, size and enormous resources and supporting infrastructures. Findings and contributions of each of the five ownership advantages identified within the analysis of five specific concepts are discussed below.

#### **Government Relationship**

This finding provides empirical confirmation that Chinese government-firms relation manifested under the soft provisions from the parent body. For instance, financial support (Gilroy, Gries, and Naude, 2005, Alden and Davies, 2006, Broadman, 2007 and Luo and Han, 2010) preferential treatments (Morck and Zhao, 2008) and management autonomy (McDonald et. al.,(2008), Takeuchi et. al.,2008 and Schüler-Zhou, 2012) provided resources seeking Chinese firms additional advantages over their competitors in emerging market. It was noted that the relationship between Chinese firms and their government is the core of China's economic reform (Liu, et. al. 2011). This was due to long years of ownership structure between them, a strategic tool to achieve political and economic gains. On this ground, series of policy tools and state owned financial institutions were used to financially support Chinese firms (Morck and Zhao, 2008). Financial support, management autonomy and preferential treatment vividly reflected in resources seeking Chinese firm's performance in Nigeria.

## **Supporting Network**

The research further expanded the values associated to foreign supporting networks by Chinese firms operating outside their domain to demonstrate the development of core competence in relational/supporting network termed *Guanxi* as an important form of Chinese firm's specific advantages (Shapiro, et. al., 2003; Liu and Scott-Kannel, 2011 and Lee, Abosag and Kwak, 2011). The research confirmed that institution distance and liabilities of foreignness phenomenon was addressed by the role of business networking because Chinese firms earn support through the linking of individuals and institutions in a knowledge and experience sharing type of framework (Ajayi, 2006). The support of Chinese network is a cultural phenomenon in China. It is seen as system of social networks and influential relationships in Chinese society and it plays important roles such as the business relationship development and support the growth of firms' operations both home and abroad. The research confirmed that Chinese firms are widely known to engage in extensive networking in search of opportunities and performance (Peng and Luo, 2000; Mathew, 2006).

## **Technology**

The research also found that availability (Giovannetti, and Sanfilippo, 2009), affordability (Keilberger, 2003; Shi, 2010 and Rangasamy and Swanepoel, 2011) and maintainability of Chinese technology in emerging market make their substandard technology relevant. Chinese substandard technologies in this regards is a case of relative or comparative advantage for Chinese Multinationals operating in emerging markets (Gao, Woetzel and Wu, 2003). The firm's level of technology may not be adequate to compete favourably with their Western counterparts but it gives them a unique leverage in developing countries. Chinese technology is what developing countries need because of its cost advantage. The spare parts are readily available (Giovannetti and Sanfilippo, 2009) and *unsophisticated* (Kiley, 2007; Javorcik and Saggi, 2010) and less expensive (Wai-sum and Chan, 1997; Shi, 2010; Rangasamy and Swanepoel, 2011).

## **Size and Enormous Resources**

Enormous resources such as skilled labour, monetary resources, technology and suitable investment opportunities (Dunning, 1988) are important features of Chinese firms (Morck and Zhao, 2008). The research found that Chinese government used its control power on state owned financial institutions to provide resources seeking Chinese firm's adequate sources of financial resources. Examples of preferential financial arrangement are financial aids, profit retention, low-interest financing, favourable exchange rate and reduced taxation (Wu, 2005). Other special financing channels are state allocation, state owned national banks and national government financial sources for international market. From these indications, without Chinese government implicit and explicit control over these firms, the financial structures would not have been erected. Therefore, the ownership structure gives Chinese firms advantage of access to large pool of capital (Cheng and Lo, 2004). It was rightly indicated that financial support in form of state allocation and low interest loans from State owned banks makes these Chinese firms super rich to the extent that they do not wait for foreign government assistance before they realize their objectives of accessing natural resources in Nigeria.

## **Supporting Infrastructures**

Availability or improved supporting infrastructures such as power, water, transportation, telecommunications and technology are critical for foreign direct investment into developing markets (Dunning, 1993, 2002; Luiz, et. al., 2001; Lydon, and Williams, 2005; Kirkpatrick et al., 2006; Nwankwo, 2006; Demirbag, Tatoglu, and Glaister, 2009). The research found that resources seeking Chinese firms made the inadequate resources adequate because inadequate infrastructures pose some form of complications in operating business in Nigeria. They also demonstrated their support with Nigeria government to improve the existing facilities.

Resources seeking Chinese firms recognize the importance of quality supporting infrastructures; they entered into agreements to upgrade basic infrastructural facilities to facilitate their investments and also reduce cost of operations. In reality, lack of quality supporting infrastructures in Nigeria should have discouraged Chinese firms from operating in solid mineral sector as most of the literature suggested, but the decision or agreement by resources seeking Chinese firms to join forces together with Nigeria government in order to improve the standard of supporting facilities was not confirmed from any literature. This effort to make the supporting infrastructures available at a better state categorized this element as resources seeking Chinese firm ownership advantage

## Conclusion

A total of five resources seeking Chinese firm's ownership advantages emerged from this present research. The analysis of each of the construct demonstrated the importance of revisiting ownership advantages as demonstrated by John Dunning. The evidences from data collected and examines showed that Chinese technology, supporting network, size and monetary resources, government-firm relationship and supporting infrastructures are specific attribute of Chinese firms seeking for resources in emerging market.

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## ***Foreign Subsidiaries' Attributes And The Location Strategy Of Multinational Firms In Global Cities In Emerging Markets***

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### **Abstract**

*Most international business studies have focused on the country as the unit of analysis, without providing a more nuanced differentiation of locational characteristics of narrower geographic levels. More recently, however, a growing interest has been given to study localization strategies of multinational companies in sub-regions, and inside, the global cities. This study aimed at investigating the interaction between specific attributes of ownership advantages, internalization advantages and its influence on the location decisions in global cities located in emerging markets. The sample comprises on 254 foreign subsidiaries of Japanese multinational firms established in 10 global cities located in Latin America during the period 2006-2012. Based on a binary logistic regression, the results showed that the ownership advantages related to firm size and subsidiary management, and internalization advantage in terms of equity level had influenced the location choice in global cities in these emerging markets. In addition, the findings reveal that non-manufacturing subsidiaries have a higher propensity to choose this special location. Some of the results are also associated to the period of economic crisis.*

**Keywords:** global cities; location strategies; firm-specific advantages; emerging markets; foreign subsidiaries; internationalization.

### **Introduction**

The analysis of the interaction between specific attributes of multinational companies and location decisions has received increasing attention in international business studies (Alcacer & Chung, 2007; Kravis & Lipsey, 1982). Some research found that companies have heterogeneous motivations (Chung & Alcácer, 2002; Shaver & Flyer, 2000) to assess location advantages aiming improvement or maintenance of its competitive position in the industry. Location advantages are not generalizable because they do not represent the same value for all multinationals: they vary according to different specific attributes of the firm and, consequently, this interaction influences their location choices (Nachum & Wymbs, 2002; 2007). The location of multinationals has become the focus of a growing area of research (Beugelsdijk & Mudambi, 2013). Nevertheless, the tradition in the study of international business, unlike the economic geography (Beugelsdijk, McCann, & Mudambi, 2010; Crescenzi, Pietrobelli, & Rabellotti, 2015; McCann & Mudambi, 2005), has been to use the country and its national borders as the unit of analysis, without providing a more precise differentiation of existing nuances in locational characteristics in a smaller geographical scope. More recently, however, attention is turning towards a regional or subnational level for studies involving location decisions, strategies and performance of multinational enterprises (Chadee, Qiu, & Rose, 2003; Chan, Makino, & Isobe, 2010; Ricart, Enright, Ghemawat, Hart, & Khanna, 2004; Rugman & Verbeke, 2003).

In line with this perspective, this study was directed to global cities. Exemplified by cities like London, New York, Tokyo, Paris, Chicago, Frankfurt, Hong Kong, Singapore, Mexico City, Buenos Aires and São Paulo (GaWC Research network, 2012), these sites are important centers of decision, coordination and economic

concentration situated in a global hierarchy of cities that emerged with globalization and the development of post-industrial economy. Global cities are strategic places for the formation and reproduction of the international economic system based on the status of their position within transnational networks (Sheppard, 2002). These are metropolitan areas characterized by high levels of interconnection to local and global markets; a cosmopolitan cultural environment and the agglomeration of corporate services companies or Advanced Producer Services (APS) such as consulting, advertising, accounting, law and finance (Goerzen, Asmussen, & Nielsen, 2013; Sassen, 2001, 2004). Studies conducted from year 2000 emphasize the advantages of location of global cities, relating them to specific attributes of the firm (Nachum & Wymbs, 2002, 2005), ability of reducing cost of LOF - liability of foreignness (Goerzen, Asmussen, & Nielsen, 2013).

The power of global connectivity of these regions and the presence of regional multinational headquarters – RHQ (Belderbos, Du, & Goerzen, 2015) and the attractiveness of investments in R & D (Belderbos, Du, & Sommers, 2014).

However, no study has examined the behavior of these interactions in global cities of emerging economies. Emerging markets are important not only for contributing to a significant outflows volume of foreign direct investment (FDI) but also by the direct investment inflows. According to the UNCTAD report (2015), the stock of FDI annual output of developing countries has grown faster than that of developed countries since the 1990s. FDI received by developing countries increased from US \$ 510 billion in 1990 to \$ 1.67 trillion in 2000 and \$ 8.3 trillion in 2014. In 2014, FDI from developing countries was 32% of global FDI inflows and 19% of outflows (UNCTAD, 2015). Despite the opportunities and challenges posed by the rise of emerging economies to the strategies of multinational companies and researchers (Xu & Meyer, 2013), and even highlights from initiatives of some scholars (Hoskisson, Eden, Lau, & Wright, 2000; Meyer & Peng, 2005; Wright, Filatotchev, Hoskisson, & Peng, 2005), yet little attention has been devoted to this field (Singh, 2012). Researches about the multinational location decisions in global emerging market cities are simply non-existent.

Previous studies focused on the influence of firm specific attributes on location choices have highlighted the importance of performance of different types of factors such as the strength of technological competence (Shaver & Flyer, 2000), the company's size and the intensity of production factors (Kravis & Lipsey, 1982), technical and technological capabilities (Alcacer & Chung, 2007), geographic scope of the company, innovation, international experience and differentiation (Nachum & Wymbs, 2002). However, another gap in the empirical literature is the question of how companies' attributes influencing location choices in specific regions of the emerging markets, particularly in global cities in Latin America.

The present study aimed to investigate the interaction between specific attributes of ownership advantages, advantages of internalization and its influence on the location decisions in global cities of emerging markets in Latin America.

The study contributes to international business literature in three ways: First, by adding new approach to increasing research on the location of foreign direct investment in sub-regions (Chan, Makino, & Isobe, 2010; Meyer & Nguyen, 2005). The narrow geographic scope, to enable location analysis at the micro level is very relevant today, especially because of the important role cities play in the world economy (Beaverstock, 2002; Beaverstock, Doel, Hubbard, & Taylor, 2002; Belderbos, Du, & Goerzen, 2015; Sassen, 2001), apart from that, ultimately, companies choose a specific place within a country as the location for their investments (Goerzen, Asmussen, & Nielsen, 2013). Second, in contrast to the vast majority of research on multinationals, this study examined a sample of Japanese subsidiaries due to their importance to the world economy. Third, focusing on the business location decisions in global cities of the emerging markets of Latin America, the research reinforces the growing interest of researchers (Khanna, Palepu, & Sinha, 2005; London & Hart, 2004; Meyer, 2004; Pillania, 2009) about the role of multinationals in emerging economies.

We conducted a longitudinal study of 254 subsidiaries established in 10 global cities in Latin America from 2006 to 2012. In order to estimate the main effects of attributes of ownership advantages and attributes of internalization advantages on location choices, we run a binomial logistic regression. It was found that the size of the subsidiaries, the business sector, the subsidiary management and the equity level have influence on the location choice in global cities.

Next section presents a literature review examining theoretical foundations that led to the proposed hypotheses. Then are described the methodology used, the criteria for variables' operationalization, the statistical technique and discussed the results of data modeling. The article concludes with the main contributions to the international business literature, study limitations and suggestions for future research.

## **Literature Review and Hypothesis**

### **Interaction among specific attributes of the firm, internalization and locational advantages**

Specific attributes of the firm refers to internal characteristics that can provide competitive advantage to companies in foreign markets compared to local competitors and other international competitors, allowing to overcome the operating costs in a distant environment (Dunning, 1980). Since these attributes vary according to different assets, skills and strategic objectives, location advantages also have different values for them (Nachum & Wymbs, 2002).

The eclectic paradigm of international production, based on OLI model (Dunning, 1980, 1988), sought to explain the reasons for internationalization of companies. It postulates that a firm would engage in FDI if three conditions were fulfilled:

First, the company must have specific *ownership advantages* - not available to its competitors. These advantages arise from the exclusive possession or privileged access to tangible and intangible assets such as production technologies or processes, better sources of raw material, brand, expertise, product differentiation, management and marketing skills that multinational may transfer to its operations in foreign markets. The larger is the ownership advantages of the company the greater will be its propensity to internalize them (Dunning, 1980).

Research has suggested that the ownership advantages can be considered advantages that enterprise develops in their home country, revealing the influence of national characteristics have on the creation and maintenance of specific advantages of multinational companies (Dunning, 1993; Erramilli, Agarwal, & Kim, 1997; Nachum & Rolle, 1999; Yip, Johansson, & Roos, 1997).

Ownership advantage is consistent with the resource-based view (Sun, Peng, Ren, & Yan, 2012) that emphasizes the strategic importance of ownership of valuable resources and capabilities. Barney (1991) considers that the company consists of tangible and intangible resources and capabilities. They include features and physical capabilities such as technology used, equipments, plant and geographic location; human and resources such as knowledge, experience, confidence, innovation, talent and competence of managers and employees; and resources and organizational capabilities such as systems, structures planning, control and coordination, culture and reputation. In order to create sustainable competitive advantage in implementing their strategies, resources must meet four conditions: value, rarity, imperfect imitability and organization, known as VRIO model (Barney & Hesterly, 2008).

Second, there must be some *internalization advantages* leading the company to consider that their specific ownership advantages will be better used internally rather than through market transactions such as its sale to foreign companies, contractual or constitution partnerships through joint ventures (Dunning, 1988).

This theoretical trend suggests that in order to exploit its competitive superiority, companies transfer their specific advantages to host markets through FDI (Erramilli, Agarwal, & Kim, 1997). This transfer is made within an internalized governance structure, ie, with full ownership control of the parent company on its subsidiaries.

Third, the foreign market should offer *location advantages* that make it more profitable to serve a client through local production instead of export. The location advantages represent attractive features for investments of MNEs and consist of specific advantages of host country (Dunning, 1988). Location advantages include natural resources of host country, market size, education system, political stability and governance structures, and formal and informal institutional factors such as culture, regulation and tariff and non-tariff barriers. Study results developed by Goerzen, Asmussen, & Nielsen (2013) demonstrated that specific location advantages sub-national level, i.e., global cities help reduce liability of foreignness (LOF).

For the purposes of this study, we used the eclectic paradigm as the model proposed in Figure 1 (after the following hypotheses section).

### **Specific attributes of ownership advantage** ***Subsidiary management***

Qualified professionals must manage subsidiaries, and, therefore, multinational enterprises use expatriates to coordinate more effectively the activities of knowledge transfer, control and coordination (Harzing, 2001; Hocking, Brown, & Harzing, 2004). The expatriation can be understood as sending headquarters staff of a multinational company to a subsidiary that operates in the host country in order to represent the parent (Collings, Morley, & Gunnigle, 2008) and to ensure the effectiveness of corporate governance in its subsidiaries (Pirožek & Komárková, 2015). Studies have shown that global cities are attractive locations for transnational companies and therefore they host a large number of skilled expatriates of these companies (Findlay, Li, Jowett, & Skeldon, 1996).

The need to operate capital transfer, information and knowledge through complex relationships at local and global levels, makes the presence of expatriates and international migration of skilled workers in global cities an important factor for these cities dynamics and to its process of economic globalization (Beaverstock, 2002). An advantage in the use of expatriates is that they are familiar with the organization, with the strategy of multinational and are integrated into the company's corporate culture. Therefore, they may be able to maintain the objectives of foreign subsidiary better aligned with the headquarter, helping to prevent the risk of some form of a local partner's opportunistic behavior (Bassino, DAVIS, & van der Eng, 2015)

To the extent that the number of its subsidiaries increases, it becomes more difficult for managers to process information about them and control their operations throughout the world (Baliga & Jaeger, 1984). Thus, skilled expatriate staff allow, directly or indirectly, control and coordinate subsidiaries geographically and culturally dispersed (Edström & Galbraith, 1977; Martinez & Jarillo, 1989), serving to replace or complement the centralization of decision-making and direct supervision of subsidiaries by the head office managers (Harzing, 2001).

Baliga and Jaeger (1984) distinguishes two types of multinational control over its subsidiaries: bureaucratic and cultural control. Bureaucratic control uses a set of rules, regulations and procedures that clearly delimit the role and autonomy of the subsidiaries whilst cultural control uses common values and standards when information about work processes, behaviors and environmental contingencies are quite uncertain (Baliga & Jaeger, 1984).

In subsidiaries in culturally distant locations, the need for cultural control is higher, due to greater asymmetry of information between headquarters and its subsidiary (Gong, 2003). The use of expatriate staff in these locations can improve the performance of the subsidiary due to the cultural control that allows the transfer of company specific resources to subsidiaries through these expatriates (Gong, 2003).

The number of expatriates present in subsidiaries reflects the cultural control level that a multinational company wants to carry on its subsidiary (Konopaske, Werner, & Neupert, 2002). In fact, studies have shown that the cultural distance increases propensity of subsidiaries to enlarge the use of expatriates (Boyacigiller, 1990; Colakoglu & Caligiuri, 2008; Gong, 2003; Harzing, 2001).

The use of expatriates by multinationals in global cities expands the meaning of the control, coordination and knowledge transferring that are not restricted to the conventional relationship between headquarters and subsidiaries only at the organizational level. The migration of foreign skilled workers has become a key mechanism of increasing the coordination capacity of these cities insofar as it is performed within a complex relationship between local and global interconnected cities.

It is possible due to a network of qualified workforce as has already been observed in studies on migration processes and use of elite expatriates in industrial sectors, financial services and other activities in global cities (Beaverstock, 2002; Beaverstock, Doel, Hubbard, & Taylor, 2002; Findlay, Li, Jowett, & Skeldon, 1996). The new international labour brought by economic globalization is one reason companies need to transfer management skills and techniques around the world, making the formation of a community of expatriates both prerequisite as well as a result of global cities (Beaverstock, 2002; Findlay, Li, Jowett, & Skeldon, 1996). Multinational companies that choose to locate in global cities may be using expatriates in subsidiaries due to the better management that this strategy enables them. Consistent with the explanation made, we proposed that:

***H1:** The proportion of subsidiary expatriates has a positive effect on the propensity of multinational to locate in global cities.*

### ***Industry Sector and size of subsidiary***

In his theory on global cities model, (Sassen, 2004) explained that the geographical dispersion of economic activities and their simultaneous integration that marks globalization contributes to growth and importance of a number of complex and non-standard functions that require service of highly specialized skills such as finance, investment, telecommunications, advertising, information technology, which tend to cluster in global cities. The fact that companies increasingly buy such services or components from other companies rather than producing them at its headquarters leads to be less subject to uncertainty of the markets, enabling them to select any location (Sassen, 2004). Therefore, global cities offer advantages for multinational companies to provide for specialized services (APS - Advanced Producer Services) connected to local and global networks.

These companies are characterized as critical specialized producers that help optimize the production networks of enterprises, geographically dispersed. The production of these specialized services requires skills and experience. From this perspective, global cities are "ties" of command and control of global economy. APS tend to agglomerate in global cities (Taylor, Derudder, Faulconbridge, Hoyler, & Ni, 2014) creating knowledge clusters (Porter, 2000) of firms engaged in similar activities that can help multinationals to reduce LOF (Goerzen, Asmussen, & Nielsen, 2013).

By combining the main features of global cities - international connectivity, advanced services to producers and cosmopolitan atmosphere - with the components of LOF, Goerzen, Asmussen, & Nielsen (2013) consider that the presence of APS in global cities benefits the multinational company to reduce costs related to uncertainty, discrimination and complexity: 1) accelerates learning by providing multinational consultancy and advice and facilitates access to partners with local knowledge and global; 2) legitimizes foreign companies face global service providers that also generate local credibility for the multinational; 3) reduces the need to import basic services, allowing multinational can work with the same service providers across borders, reducing coordination costs (Goerzen, Asmussen, & Nielsen, 2013).

The concentration of advanced services companies in global cities also assumes the use of smaller contingent of employees, a measure of company size. Manufacturing industry companies use more employees and tend to be located in non-global cities. Building from our above discussion, we propose the following hypothesis:

*H2: Size of the foreign subsidiary has a negative effect on the propensity of MNE to locate in global cities.*

### **Specific attributes of Internalization advantages**

The decision on the allocation of equity level is a key issue for the multinational company when dealing with the creation of a foreign subsidiary (Raff, Ryan, & Stähler, 2009). Traditionally, studies on the choice of entry mode argue that the choice of equity level is related to the question of how much control the company wants (Agarwal & Ramaswami, 1992; Anderson & Gatignon, 1986). The stronger is the control desired by the corporate headquarters for their foreign operations, the higher will be the equity level on the subsidiary.

As equity level represents the degree of control that the multinational headquarters exerts on its subsidiary activities, it shows strong implications on strategic behavior and corporate performance (Gedajlovic & Shapiro, 1998, 2002). From a hierarchical perspective on decisions involving the selection of entry strategy (Pan & Tse, 2000), after deciding to use own capital as its mode of entry, the multinational will decide whether it will establish a wholly owned subsidiary (WOS) or share ownership with partners, forming a JV - Joint Venture. This decision involves defining the percentage of equity of the parent company. Therefore, there is an intrinsic relationship between the equity level chosen and the possibility of partnerships. In this case, it is expected that a multinational choose the entry mode that offers the highest return for the risk of its investment (Hennart, 1989; Luo, 2001; Madhok, 1997).

WOS are controlled in another country in which the parent company has full and exclusive property of the responsibility for managing the operation. In the other hand JV, in its conventional structure, involve a local partner and a foreigner who share the ownership, management, risks and rewards of the incorporated organization (Ogasavara & Hoshino, 2007).

As generally mentioned in other studies, the greater the equity level on foreign subsidiary the greater is the operational control by the parent company, however, it also tends to have a greater commitment of resources, investment and risk (Agarwal & Ramaswami, 1992; Barkema, Bell, & Pennings, 1996; Luo, 2001; Parola, Satta, Persico, & Bella, 2013). On the other hand, if a multinational company enters into foreign markets through JV, it will not only need to control their national managers and protect their intellectual property, but also will have to manage potential conflicts of interest between different partners.

MNE's choice of ownership structure of their foreign subsidiaries is defined by setting the equity percentage of headquarters participation. Thus, the lower the shareholding of the parent company in subsidiary constitution, the greater is participation of one or more partners.

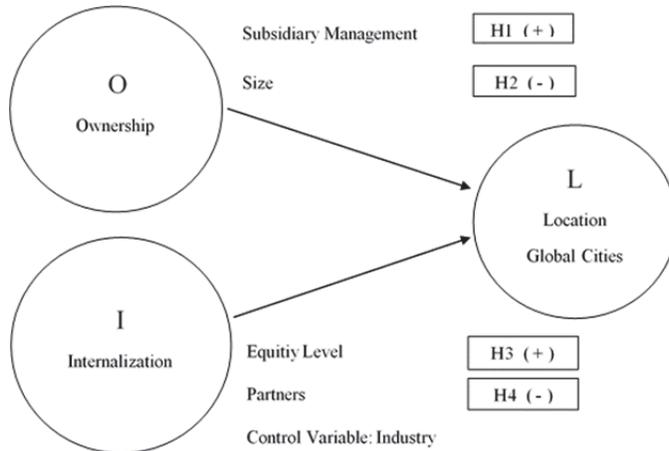
Literature suggests that some cultures are more distant than others are (Hofstede, 1984), justifying the JV ownership structure proposed by Makino and Beamish (1998), which considers nationality (country) partner origin and affiliation (capital share) between partners. JVs formed between partners of different nationalities incur in higher-level management complexity compared to those between partners of the same nationality. JVs formed between partners who share a national or corporate similar culture tend to have a higher possibility to achieve superior financial performance (Makino & Beamish, 1998).

Previous studies indicate that conventional JV is more susceptible to cultural distance than WOS due to difficulties of company having to deal simultaneously with the differences in corporate culture of partner and

differences of host country's culture: a condition of "double-layered acculturation" (Barkema, Bell, & Pennings, 1996). Based on these arguments, we offer the following two hypotheses:

**H3:** *The equity level of the parent company has a positive effect on the propensity of MNE to locate in global cities.*

**H4:** *The number of foreign subsidiary partners has a negative effect on the propensity of MNE to locate in global cities.*



**Figure 1** Conceptual model and hypotheses

## Methods

### Sample

In this study, hypotheses were tested using a sample of Japanese multinational subsidiaries operating in Latin America. Japanese companies were chosen due to size of this country economy (world's second largest economy during study period), for having a secondary database with information from investments of Japanese companies in Latin America, which in this case was chosen as a way to represent companies in emerging markets and also because there are few studies in emerging markets that have investigated this region (Ogasavara & Hoshino, 2007).

Secondary data from Japanese subsidiaries installed in Latin America were obtained from the analysis of databases Kaigai Shinshutsu Kigyō Souran - Kuni Betsu, years 2006 to 2012 (Japanese Overseas Investments - by Country) a publication of Toyo Keizai company (Oriental Economist). This report, published annually since 1970, provides extensive information on the overseas activities of Japanese subsidiaries and has received increasing acceptance among international business researchers. This research has raised basic issues such as founding date, sector (industry), number of employees, number of Japanese officials, and participation of Japanese capital, among others.

Researchers, companies and institutes with their respective methodologies and criteria developed different alternatives ratings and global cities lists. In 1998, Beaverstock, Taylor and Smith, researchers at Loughborough University and founder of GaWC - Globalization and World Cities Research Network, a research network on the external relations of global cities, organized a list of cities based on their ability to supply global corporate services. The study was based on presence in multiple locations of offices of four types of advanced services companies: accounting, advertising, financial and legal services (Beaverstock, Smith, & Taylor, 1999). From year 2000, GaWC

started to adopt connectivity between advanced service companies present on global cities as a measure of global connectivity among them, recognizing the role of these companies in the formation of global city networks. GaWC list identifies three levels of world cities (Alpha, Beta and Gamma) and several sublevels. This classification was updated in 2004, 2008, 2010 and 2012 (GaWC, 2012).

Management consulting firm Kearney (2012) organized an index of global cities based on the performance of 125 cities global measured by 27 metrics grouped into five dimensions: business activity, human capital, information exchange, cultural experience and political engagement. Mastercard (2008) developed a ranking of 75 global cities based on seven dimensions that, as a whole, characterized the cities for their role in global trade centers: legal and political framework, economic stability, easiness of doing business, financial flow, business center, knowledge creation and information and livability flow.

### Dependent and Independent variables

We defined location of global cities as the dependent variable in the study of foreign subsidiaries. This variable was coded as 1 for dummy subsidiaries located in global cities and 0 for subsidiaries located in cities considered not global. In this case, GaWC classification (2012) was used, as it is considered a theoretically transparent and empirically rigorous rating for GC. This classification considers the following cities as a Global city in Latin America: Mexico City, São Paulo, Caracas, Santiago, Buenos Aires, Rio de Janeiro, Bogota, Lima, Montevideo, and Brasília. Sample of non-global cities of this study consists only of cities present in the Toyo Keizai database from the eight countries with selected global cities (Mexico, Brazil, Venezuela, Chile, Argentina, Colombia, Peru and Uruguay).

Table 1 shows summary of dependent and independent variables (including control), its operation (description), and the expected sign of the hypotheses (positive or negative).

**Table 1** Variables Descriptions

Variable	Description	Estimated sign	Hypothesis
LOCATION			
<i>Global City</i>	Dummy 1= Global City ; 0= Non Global City		
OWNERSHIP			
<i>Subsidiary management</i>	Number of expatriates in subsidiaries divided by number of employees	+	H1
<i>Size<sup>1</sup></i>	Number of employee (dummy). 1= Large (non manufacturing >100 ; manufacturing >500) ; 0= Small and Medium (non manufacturing <=100 ; manufacturing <=500)	-	H2
INTERNALIZATION			
<i>Equity Level</i>	Percentage of Japanese control in the subsidiary	+	H3
<i>Partners</i>	Total number of partners, considering Japanese partners and local partners	-	H4
CONTROL VARIABLE <sup>2</sup>			
<i>Industry</i>	Dummy: 1= Manufacturing; 0= Non Manufacturing		

Source: elaborated by authors

## Statistical analysis

In order to estimate the main effect of each independent variable, we used binary logistic regression. This method such as multiple linear regressions, studying the relationship between a dependent variable and one or more independent variables and the logistic regression is presented as a method for determining the probability of occurrence of the predicted values of a dichotomous variable. This regression is the most recommended statistical analytical tool when the dependent variable is binary (in this case the dummy Global City), independent variables are qualitative or quantitative, and multivariate normality assumptions are not met (Ball & Tschogl, 1982; Cox, 1972). Thus data collected from Toyo Keizai database were tabulated through binary logistic regression which was measured the contribution of each of the independent variables in the subsidiary location in a Global City (GC) or in a Non Global City (NGC). The regression model including five independent variables in order to observe the impact of the subsidiary location in relation to global (GC) or non global cities (NGC) will be achieved through below modeling:

$$Y = \beta_0 + \beta_1 (\text{Subsidiary Management}) + \beta_2 (\text{Size}) + \beta_3 (\text{Equity Level}) + \beta_4 (\text{Partners}) + \beta_5 (\text{Industry})$$

Initially we analyzed the data for the existing subsidiaries in 25 countries in Latin America that presented data from 2006 to 2012, a total of 11655 observations. By eliminating the 18 countries that do not have global cities remaining 7945 observations (eight countries with GC; 7-year period). This total number was modified after exclusion of companies that had missing values with potential to undermine results of analysis in relation to the dependent variable. Thus, a total of 1,012 observations were left, referring to 254 Japanese subsidiaries operating in Latin America during the seven years analyzed. Table 2 summarizes the final figures regarding the observations (subsidiaries) in each year differentiating GC from NGC.

**Table 2** Sample - observations per year

Latin America			
Year	Global Cities <sup>3</sup>	Non Global Cities	N
2006	68	70	138
2007	48	50	98
2008	49	47	96
2009	61	78	139
2010	78	87	165
2011	82	99	181
2012	86	109	195
N	472	540	1012

Considering that, not all subsidiaries had data for every year of the period under study, authors decided to make separate analysis for each year from 2006 to 2012. In addition, we run the model analysis for the entire period from 2006 to 2012, including 1012 observations present in the database.

## Discussion and Data Analysis

Table 3 shows that all correlations between pairs of independent variables can be considered low. It is noteworthy that all independent variables have significant but low correlation with the dependent variable (GC) and all the results presented are significant at 1%.

**Table 3** Correlation Matrix -Independent and Dependent variables - 2006-2102

	Mean	Std. Deviation	Subsidiary Management	Equity Level	Partners	Size	Industry	Global city
Subsidiary Management	0.062	0.148	1					
Equity Level	0.930	0.202	.040	1				
Partners	1.680	1.035	-.097**	-.193**	1			
Size	0.280	0.450	-.240**	-.080*	.177**	1		
Industry	0.420	0.493	-.235**	.007	.135**	.082**	1	
Global city	0.470	0.499	.243**	.111**	-.180**	-.200**	-.475**	1

\*\* correlation significance level 0.01

\* correlation significance level 0.05

N 1012

It was also analyzed the correlation matrix for each year and the results were similar to Table 1. Furthermore, the correlation between the different pairs of independent variables was *not significant* in almost all regressions of annual data. These results demonstrate strong evidence of the absence of collinearity among the five independent variables of this model. Moreover, VIF test for the period 2006-2012 confirms the absence of multicollinearity, since the VIF was less than 1.2 for all variables (Hair, Black, Babin, Anderson, & Tatham, 2006). Table 4 shows results for the hypothesis analyzing the regression model that includes five independent variables in order to observe the impact of the subsidiary location in relation to global or non global cities.

For the period 2006-2012, we observed that all coefficients were significant at 1%, supporting the assumptions in the model. In this study the variable *Subsidiary Management* has shown significant results after the international financial crisis, i.e., years 2010 and 2012, demonstrating that in this period, companies have used qualified professionals to manage subsidiaries and this factor influenced the choice of location in global cities. Thus, this result provides partial support for H1.

The presence of expatriate communities is a prerequisite and a result of economic development of global cities (Beaverstock & Boardwell, 2000; Findlay, Li, Jowett, & Skeldon, 1996). Considering this workforce is necessary to offer companies the ability to coordinate activities transnationally while such transactions attract workers with specific skills to global cities (Findlay, Li, Jowett, & Skeldon, 1996).

Possibly, given the type of activity in global cities where the subsidiaries often have responsibility for regional or global operations (Nachum & Wymbs, 2002), the need for coordination has intensified in the post financial crisis period. This fact could justify the use of expatriates in global cities as a way of maintaining the global capacity of these companies in these spaces.

Firm *size* show significant effects on location choice in global cities in years 2006, 2007, 2011 and 2012, which supports H2. Its negative sign indicates that large subsidiaries tend to be located outside of global cities while smaller ones are located in global cities, which is consistent with the theoretical framework cited in this study.

The results demonstrates that for the *equity level*, the relationship with the lodcation in global cities was significant in the years 2006, 2008 and 2009, i.e., in the period before and during the international economic crisis,

providing partial support for H3. A non-conventional structure of the joint venture, an intrafirm JV (Makino & Beamish, 1998), formed between home-country-based partners without the involvement of local partners. Considering that non-conventional ways have occurred frequently (Ogasavara & Hoshino, 2007) and the fact that it is a sample of Japanese subsidiaries, it is possible that companies are forming joint venture between Japanese partners.

**Table 4** Binary Logistic Regression Model

Year	2006	2007	2008	2009	2010	2011	2012	2006-2012	
Variables	Coef	Coef	Coef	Coef	Coef	Coef	Coef	Coef	Wald
Constant	-1.031	-0.612	-2.328	-1.1852	-0.343	0.615	0.642	-0.031	0.005
Ownership Advantages									
								2.159**	
<i>Subsidiary Management</i>	1.54	0.407	0.96	5.164*	4.869**	1.685	2.878*	*	9.804
<i>Size</i>	1.342***	-1.306*	-0.877	-0.354	-0.234	-0.733*	-0.617*	0.706**	16.141
<i>Industry</i>	2.184***	-2.881***	-2.615***	-1.826***	-2.049***	-2.009***	-1.914***	2.081**	167.472
Internalization Advantages									
<i>Equity Level</i>	2.354*	1.813	4.150*	0.024*	0.01	0.06	0.435	***	9.26
<i>Partners</i>	-0.04	0.069	-0.22	-0.019	-0.46*	-0.328	-0.330*	0.244**	7.649
N - observation	138	98	96	139	165	181	195	1012	
R2 Cox & Snell	0.296	0.35	0.35	0.263	0.276	0.243	0.239	0.266	
R2 Nagelkerke	0.394	0.466	0.466	0.353	0.369	0.325	0.32	0.355	

\*\*\* p< 0.01 ; \*\* p<0.05; \* p<0.10

\*\*\* p< 0.01 ; \*\* p<0.05; \* p<0.10

As regards the model explanation capacity, it is noted that it has a Nagelkerke R coefficient of 0.41 for period of 7 years (and a variation from 0.36 to 0.52 in annual models). According to Hair, Black, Babin, Anderson, & Tatham (2006), this index can be considered as representative in social sciences. The findings reported in Table 4 were significant only for the years 2010 and 2012 not supporting H4.

Regarding *Industry* (Control variable), the negative sign indicates that subsidiaries of the industrial sector (manufacturing) tend to be located outside global cities and non-industrial enterprises (non-manufacturing) seek to locate in global cities. Non-manufacturing can mean prevalence of service sector in global cities in accordance with characterization made by several authors (Goerzen, Asmussen, & Nielsen, 2013; Sassen, 2001, 2004; Taylor, Derudder, Faulconbridge, Hoyler, & Ni, 2014). Advanced Producer Services tend to cluster in global cities forming knowledge *clusters* that can help multinationals reduce (Goerzen, Asmussen, & Nielsen, 2013). On the other hand, manufacturing companies tend to locate outside of global cities in attempt to obtain more competitive operating costs.

## Conclusions

This study investigated the level of influence of specific attributes of subsidiaries on location choices in global Latin American cities. They identified a set of attributes of ownership and internalization advantages that influence the location choices in the analyzed global cities. It was found that non-manufacturing companies have a higher propensity to locate these regions, indicating a possible tendency to activities agglomeration of the tertiary sector certain geographical areas. In addition, it was found that a higher level of ownership interest (advantage of internalization) was significantly related to the location in global cities in the years 2006, 2008 and 2009 (the period

before and during the international economic crisis). The fact that emerging countries have been less affected by the recession may be related to the increase of foreign direct investment in these regions during that period.

It was also observed that the increased presence of expatriate workers is related to the location in global cities after 2009 suggesting that, after the period of international recession, a greater concern for the coordination and transfer of knowledge within the multinational network.

This study has some limitations. For instance, the choice of explanatory variables in the empirical model used concentrated on a limited number of variables available in the database. There are many other possible variables for the approach of ownership advantages and internalization advantages. However, the study included variables widely used in empirical research of location drivers, allowing adequately establish the theoretical hypotheses.

Another limitation is that the model used emphasizes a set of specific characteristics of companies that may be dominant drivers of location in global cities, not considering specific attributes as location also possible determinants of decisions. Although this was not the purpose of this study, this possibility could provide insight into which characteristics of a particular set of global cities are related to location strategies.

Empirical research conducted with focus on global cities are still quite recent and few in international business studies. Analyses in levels of smaller geographical areas are considered increasingly important, since location characteristics have relative importance according to the firm specific attributes. This study contributed to the growing research that focuses on the regional geographic scope or sub-national, with a particularized view on the location choices within emerging markets.

According to the geographical context, global cities have own attributes. The complexity of connections established at local and global level constitutes new competitive tendering. Likewise, the heterogeneity in the role of multinational influences the location of direct investment based on the value represented by regional or international network connectivity (Belderbos, Du, & Goerzen, 2015). In this sense, it is assumed that the value of the interconnectivity of global emerging market cities is also distinct from other global cities due to the specificity of the interaction between the characteristics of operant multinationals in these regions and the advantages offered by the established networks, exercising different impact on the decisions of multinationals' location.

The above mentioned recommendations are promising agenda for further integrated perspectives of international business and economic geography.

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## Notes

<sup>1</sup> To test the size of subsidiary we used a dummy variable with the following code: (0) for small and medium companies and (1) for large companies. In this case authors used coding of Brazilian Service of Support for Micro and Small Enterprises (Sebrae, 2014). In manufacturing sector, company is considered small or medium when it has 500 or less employees and large when it exceeds this value. In the case of non-manufacturing, company is considered small or medium when it has 100 or less employees, and large when it has more than 100 employees (Sebrae, 2014).

<sup>2</sup> For the control variable, the types of subsidiary industry were coded numerically grouping the different sectors in two areas of activity: manufacturing and non-manufacturing. We analyzed the sectors to verify how the foreign subsidiary industry influences the location of Global city. For the classification of the sector a dummy variable was created, following the following code: (1) for the manufacturing sector and (0) Non-manufacturing sector.

<sup>3</sup> Global cities includes São Paulo, Rio de Janeiro, Bogotá, Caracas, Lima, Santiago, Buenos Aires and Mexico City.

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## ***Comparative Study on the “New Silk Road” Strategy Between China and the U.S.***

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### **Abstract**

*This article focuses on comparing the Sino-US “Silk Road” strategies, in order to comprehend the efficiencies of both plans. Also the paper analyzes how these two plans affect the China-U.S. relationship under the international context. Finally, the authors call for Sino-US strengthen strategic communication and cooperation in the future.*

**Key words:** New Silk Road; Political purposes; Economic Impact; Strategic Contrast

### **Preface**

The world’s pattern is rapidly changing. All countries are experiencing rise, prosperity and recession. Only by constantly making proper policies according to the changes in the situation and implementation of improvement, a country can continue to move forward, striving to super over. In the age of globalization, mid-Asia's geopolitical value has been replaced by the huge potential of China and the United States, and the two countries have separately proposed a plan called: the "New Silk Road".

In 2011, U.S. Secretary of state Hilary Clinton clearly put forward the “New Silk Road” plan, in order to strengthen the economic ties in South Asia, and the recovery of the relationship with Afghan. 2013, Chinese President Xi Jinping proposed to build the strategic idea of the “Silk Road Economic Zone” and “Maritime Silk Road” in the twenty-first Century. The “Silk Road Economic Belt and the 21st-Century Maritime Silk Road” initiative is the main content of the strategy, namely, China's “New Silk Road”.

In recent years, China's economic power strengthened, the international status gradually increased, but as the world's only superpower, the United States, in recent years, demonstrates its weaker domestic economic situation. She is trying to restore the economy through various measures, adjust the strategy in the Asia Europe region, and consolidating her existing position. The roles of China and the United States have attracted the world's attention in the world’s stage, especially when both countries have proposed the “New Silk Road” strategy almost at the same time. Due to their similar range, the two countries coexist in both competition and cooperation. From the aspect of intention, forms and attitude, what are the differences between these two countries on this strategy? What kind of cooperation between the two countries in the “New Silk Road” plan will be carried out? These are the questions the authors of this paper carry in mind.

### **Literature Review**

In 2014, Wang Zhuoyi has introduced the areas included in China's “New Silk Road”, which included across the Eurasian continent and more than 30 countries. Then Wang analyzed comprehensively the China’s “New Silk Road” plan from the economic, political, and cultural aspects, summarizing up the value of the plan is to transfer the pressure of current trade routes(Wang,2014). In 2012, Zhao Huasheng systematically expounds the concept of the “New Silk Road”, using facts to proof that the impacts of the “New Silk Road” strategy will be

brought to Afghanistan and neighboring countries, as well as United States itself, and clarifying the reality of the plan (Zhao,2012).

Other experts compares the China and U.S.' "New Silk Road" plan in three aspects—the strategic scope, intent and implementation of strategic advantages and disadvantages. In 2013, Zhu Feng introduced the scope of China's "New Silk Road" and its function from shallow to deep. Zhu illustrated that the Silk Road Economic Zone of China could be interpreted to the China's hope to establish the diplomatic ideas with the surrounding countries (Zhu,2013). In 2012, Zhao Zhen has analyzed the strategic intent of United States to establish a "New Silk Road", the first point is to consolidate the results of the counter-terrorism war in the past ten years; the second point is the development of the northern transport line (NDN); the third is to weaken Russia's influence in Central Asia, but also to curb the power of Iran and China (Zhao,2012). In 2013, He Maochun stated meaning of the revival of the Silk Road, as for our country, and compared it with Silk Road projects of the other countries, drawing the conclusion that China's Silk Road Project occupied more advantages(He and Zhang, 2013). In 2012, combining with the reality of the current situation to analysis, Wu Zhaoli has stated that the United States is having the time advantages in the implementation of the "New Silk Road" Project, but lack of funding and public support, also its strategy was a bit over-ambitious(Wu,2012).

In 2013, Xu Tingyu introduced the different demands between the two countries on the "New Silk Road" plan, both mainly through economic cooperation organization form, combined with the characteristics of the two countries plan to come to the forecast: China's "New Silk Road" plan is more successful due to its better political foundation, the more stable economic and trade cooperation, and possess more advantages than the United States' "New Silk Road" in situation (mainly because the situation in Afghanistan is not stable security)(Xu,2013). In 2007, Liu Fenghua has assessed the strategy through a positive and negative way, for short-term goals, the promotion of regional economic ties in the next few years is visible, but for the ultimate goal, the United States tries to expand the impact of the United States in Asia, it still need to break through tons of political barriers, which is a long process(Liu,2014).

Over the long run, due to the two countries' "New Silk Road" plan are related to Central Asia, so as for the two countries, there exists both cooperation and competition. Wang Tian stated that USA Silk plan is the replica of "Great Central Asia" strategy, Chinese suspects are excluded(Wang,2011).

According to the actual situation to analyze the Silk Road and the Maritime Silk Road's cooperation will encounter difficulties(Wang,2011) .In this situation, we must to understand China's response: in 2013 Feng Donghu has proposed four suggestions on China's measures to deal with in details, according to the offensive about U.S. "New Silk Road", mainly through the Shanghai Cooperation Organization's advantage and stable Pakistan and Kazakhstan relations. The whole article is clear, and the argument is very powerful(Feng,2013).

### **China's "New Silk Road" Plan The Belt and Road Strategy**

Along the way is the "Silk Road Economic Belt" and "21st Century World Maritime Silk Road" two strategies, the Silk Road Economic Zone strategy covers the Southeast Asian economy, Northeast Asia economy, and integrated together, and eventually integrated into Europe, the formation of the economic integration of Europe and Asia, the global economic belt strategy from the sea China Unicom three continents and Silk Road Economic Belt strategy to form a sea, land. Enough to combine the rapid development of China's economy with the interests of the country along the line.

## **Background of the Economic Belt of the “New Silk Road”**

The silk road began in ancient China, ancient trade route, from the rise and flourish to decline across more than 2000 years of history. In nearly a hundred years for the re development of the "Silk Road" has made unremitting efforts.2013 in September, General Secretary Xi Jinping at the University of Kazakhstan Tanner Zalba Jef for speech expounds the idea of the “New Silk Road” Economic Belt. This idea not only inherited the idea of the construction of the past of the Silk Road, and filled with the changing characteristics of the times. Silk Road Economic Belt covering the Northwest China, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang and other five provinces, southwest Chongqing, Sichuan, Yunnan, Guangxi And other four provinces in the urban area, the construction of this economic belt to narrow the economic ties between China and the Asian countries, political and cultural ties, for the future cooperation has laid the foundation(Feng,2013).

## **Background of the Silk Road on the Sea in 21st Century**

Ocean is a natural link between the economic and cultural exchanges among countries, has a long history of Maritime Silk Road starting from Qin and Han Dynasties is the cultural exchanges between China and the West produced great and profound changes. Since the reform and opening up, China and the Southeast Asia regional exchanges have become increasingly close, and an important part of Southeast Asia is 21st century maritime silk Lu, in the current global political and trade pattern changing situation, China Construction of new trade routes, thereby gradually to link up the various regions of the world, which the core value is the channel value and strategic security. Especially the in China become the world's second largest economy, the global political and economic pattern of vertical and horizontal In the context of the "21st Century World Maritime Silk Road" will undoubtedly greatly enhance China's strategic security.

## **Relationship with the Asian Infrastructure Investment Bank.**

Asian infrastructure Investment Bank, referred to as the Asian Investment Bank, is a government based Asian regional multilateral development agencies, focusing on supporting infrastructure construction.2014 in October, President Xi Jinping proposed to build the Investment Bank, as of April 2015, the Asian Investment Bank has reached 55 countries, including the major countries, such as the United States and Japan(Zhang,2014).

"The Belt and Road" initiative is to strengthen the cooperation between the European and Asian countries, to promote trade and trade, to achieve mutual benefit and win-win situation. Asian Investment Bank focused on solving the problem of infrastructure, while stimulating the rapid development of economy.

“The Belt and Road”, the Investment Bank will provide a strong financial support for the implementation of the "The Belt and Road", while the development of "The Belt and Road" will lead to more opportunities for the future development of the Asian Investment Bank and the development of the “New Silk Road”, the two plans will jointly promote the development of Asian and European countries and even the global economy, a broad prospect.

## **The United States’ “New Silk Road” Plan**

Strategy in order to make Afghanistan in after rehabilitation exercise after smooth transition, the United States government proposed the Eurasian version of the “New Silk Road” strategy, although mainly in Afghanistan, but it is for the United States itself has strategic significance." a safe, stable and prosperous Afghanistan needs a security, stability and prosperity of the region is the “New Silk Road” starting point. However, the focus is not limited to this. Ambon research team's findings, the United States government on the "new Silk Road" was conceived early in 2009 have been prototype, 2009 October 6th, the United States Department of state for Political Affairs William Burns had to the American Chamber of Commerce published a speech, the theme is "the Silk Road

trade and Investment: new path of the United States and Central Asia economic ties, he in his speech referred to the establishment and strengthening economic ties with Central Asia for several purposes: energy. The second is central Asia's economic and political modernization. The third is security issues, the United States hopes to keep partners together to maintain security in Central Asia. The fourth is linking local people and society(Zhao,2012).

### **Domestic background**

(1) The United States government in maintaining great economic expenditure of the war in Afghanistan the U.S. economic recovery more difficult, the expenditure of international studies, Watson, released in June 2011, the report, in 2011 dollars fixed value calculation, the federal government of the United States of America in the war in Afghanistan has spending war costs at about \$2.6 trillion, far higher than the official figures. If the tremendous pressure from the Obama administration together with the United States for veterans set of social security costs, expenditures will be as high as 3.7 trillion - \$4.4 trillion (Zhao,2012); (2) Due to the long war on terror brought miserably heavy casualties, and the domestic economy is not Boom, people weariness high, people started by a 88% support of troops to then only 39% support rate; (3) Obama to cash once the commitment, in order to obtain the reelection of the people support rate, in order to reflect their own political transcripts, strive to develop a strategic plan for the "New Silk Road".

### **External Environment**

Afghanistan after years of war, the economy has been severely damaged, a substantial decline in the gross national product, many people in exile. Although the United States has invest some resources in the economic reconstruction and humanitarian projects, but with anti-terrorism military input apart huge, that to the people of Afghanistan and the region of the left "only anti-terrorism is not people's livelihood, the negative image. And in adjusted its global strategy, since the "9.11", the United States has been concentrated energy to deal with the war in Iraq and Afghanistan war on terror that in a certain extent, ignored the development in the Asia Pacific region dealings. In the United States engaged in counterterrorism, Asia Pacific area quietly Jue On the two level of economic and political power, the world powers from the west to the East. In order to solve this situation, the United States should not immediately change strategy, the strategic focus shifted to the Asia Pacific region.

### **"New Silk Road" Strategic Contrast**

China and the United States as the world's superpower, chasing each other on the world stage, each of which has their own advantages, then on the plans to implement the "New Silk Road", the two countries have what advantages and disadvantages?

### **Strategic Scope**

China and the United States "Silk Road" strategy is involved in Central Asia

United States: Afghanistan has been the center of the Central Asian region and the South Asia region, plans to form a United States in Central Asia and South Asia to the United States as the leading geopolitical plate.

China: the scope of China's "New Silk Road" strategy than the scope of the Silk Road wider, land "Silk Road Economic Belt" relates to Central Asia, China, western provinces. And in the 21st century "maritime Silk Road", relying on the construction of China ASEAN Free Trade Area, the economic belt along the coast of China and Southeast Asia, South Asia and Africa port city relationship together.

## Strategic Intent

### The United States Introduced the “New Silk Road” Plan.

Primary purpose is to restore the economic situation in Afghanistan, through to Afghanistan as the center, building and the surrounding area and South Asia trade networks, improve infrastructure construction and the legal system, parties attract investment and construction to achieve transformation and upgrading of economic success, achieve national the smooth transition of economic sustainable development and social and consolidate its up to ten years of victories. To improve America's position in the minds of the people of the region, to enhance the prestige, so that it can better establish long-term dominance. Furthermore, weaken Russia in Central Asia, China in Southeast Asia's potential force. Finally, to strengthen the comprehensive national strength, enhance the international status, expanded in the United States in Southeast Asia and even the whole The influence of the Asia Europe region, "the New Silk Road" strategy is more like a foreign policy vision for Central Asia and South Asia.

### China Introduced “The New Silk Road” Plan

The establishment of land on the Silk Road Economic Belt and the maritime Silk Road Economic Zone, plans through economic and trade means to achieve economic exchanges, political union, the establishment of a peaceful environment for common development, is the heritage and development of the ancient Silk Road.

## Strategic Advantages and Disadvantages Contrast

### Time: the United States than in China earlier proposed the “New Silk Road” plan.

The United States in 2011 proposed the “New Silk Road” strategy, take advantage of the time, the development and implementation of the relevant agreement can go ahead.

### Area: China is close to Central Asia and Southeast Asia region, but also has the geographical advantage

The United States is far from Asia, and China is the Asian countries, the West and the southeast coast is the implementation of the economic open area. At the same time, the international voice pointed out that "the Silk Road should be the leading Asian, western countries should not be too much". This shows that China's implementation of "New Silk Road" plan than the United States more than<sup>31</sup>.

### Funding: China than the United States in the “New Silk Road” plan funding more advantages

**TABLE 1: COMPARISON OF CHINA AND THE U.S.”NEW SILK ROAD” PLAN FUNDS**

Country	U.S.A	China
<b>Funding Situation</b>	<ol style="list-style-type: none"><li>1. Dependent on Asian banks, foreign investors, private sector capital injection;</li><li>2. Domestic financial downturn;</li><li>3. Has invested a lot of money to the war in Afghanistan and Iraq, it is difficult to independently support the recovery of Afghanistan's economy;</li><li>4. A large number of national foreign exchange reserves.</li></ol>	<ol style="list-style-type: none"><li>1. Southeast Asia and Central Asia also have a lot of investment in Chinese enterprises, with a large economic complement;</li><li>2. China announced that the government will invest \$40000000000 to set up the Silk Road fund;</li><li>3. Using a large foreign exchange reserves, to inject \$62000000000 into the state-owned policy banks, to create a connection to the overseas market infrastructure projects;</li><li>4. Asian Investment Bank's financial support.</li></ol>

Source: The information is compiled by the author of the paper

### **Politics: China is Advantageous in political Aspects than the U.S.**

With the heart of Central Asia, has always been a strategic area of the Eurasian continental competitions in the world, China and the five Central Asian countries have united to form a strategic partnership of friend relationship, trust degree due to the good neighborly and friendly relations, non-interference in each other's foreign policy, has also been an unprecedented increase. This is after bilateral cooperation has laid a good foundation, achieve the win-win cooperation of the situation(Zhao,2012).

In the United States to Afghanistan for military war this ten years, its influence in the Asia Pacific region is also greatly enhanced; but under the situation compelled, the United States had to withdraw its troops in Afghanistan and Iraq, then through plans to use the "New Silk Road", continue to Afghan control, continuation of the interests of the occupation, it is conceivable that the Central Asian region know the actual intention, preparedness and vigilance is essential. Therefore for the U.S. version of the "New Silk Road" cannot completely open and equal were strategic cooperation.

**TABLE 2: COMPARISON OF OIL PRODUCTION AND IMPORT VOLUME IN 2014**

	Petroleum Production	2011 -2014 Annual rate of rise	Net Imports of Crude Oil	Compared to 2012
China	4300000 barrels / day	6%	28900 tons / day	Fall 20.6%
U.S.A	13000000 barrels / day	28%	33500 tons / day	Rise 7.5%

Source: (Liu Fenghua, 1994).

As can be seen from TABLE 2, the United States to reduce oil dependence on the Middle East at the same time, China's dependence on the region's oil is increasing, which will have a significant impact on the geopolitical.

### **Tolerance: the United States "New Silk Road" Strategy is Relatively Low**

America's "New Silk Road" in Afghanistan as the center, the scope exclude opponents of Russia and China, its essential purpose is to safeguard its own interests; and China's strategic plan for the "New Silk Road" open in most parts of Eurasia, with greater inclusiveness. The reason is that China occupies the center of the Asian continent, starting from the Chinese border, will run through the entire continent of Asia, so China's position determines China's "New Silk Road" strategy will have the biggest inclusion.

### **Strategies: China "New Silk Road" Strategy is More Feasible than the American's**

Under the cooperation and support to get the United States "New Silk Road" program of domestic public support rate is low, mainly military plans expected value is too high, the financial, to support Afghanistan's infrastructure construction plan to carry out power obviously insufficient, and Afghanistan and neighboring areas of the situation is not stable, the regime problem is severe, the environment is not conducive to economic development, but the United States did not pay attention to this, insist on not so clear, the complex relationship between the background of implementation of the silk road project, is undoubtedly overestimated their own strength and ignore the environment. Also, the United States "New Silk Road" strategy exclude Iran, Iran does not but Afghanistan's neighbors, and communication Very close trading partners, lack of participation in Iran, the United States of America's "New Silk Road" strategy is also more difficult to achieve(He and Zhang,2013).

China's "New Silk Road" line is clear, from easy to difficult, one by one, the planned economy and the foundation of a good political foundation, as well as the country's strong support for the plan to eliminate many

uncertainties, plus possible future cooperation mechanism, the Chinese version of the “New Silk Road”, a bright future.

### **Sino-US "New Silk Road" Strategy Implementation Forecast**

The propose and implementation of the “New Silk Road” strategy for both China and the United States demonstrated great economic, political and cultural development opportunities. But the implementation of the strategy needs to be carried out according to the comprehensive national strength and the status quo of the two countries.

### **China's "New Silk Road" Strategy Implementation Forecast**

Chinese version of the “New Silk Road” get the country's attention, the establishment of special funds to invest in the construction, and its strategy itself is in line with China's current national conditions.

From the following four aspects of China's "New Silk Road" strategy for the implementation of forecast:

#### **Geographical Advantages**

China aims to promote exchanges and cooperation in the political, economic and cultural aspects of the three aspects of political, economic and cultural exchanges, China and the “New Silk Road” along the country's good relations, deepen regional cooperation to achieve win-win results are willing to see each country.

#### **Existing Geographical Position and Transport Network Advantages**

Develop a good connection between countries, such as China and Central Asian railway facilities, in order to better implement the “New Silk Road” plan.

#### **Public Opinion Supports**

The development of China's West has been relatively backward areas. There, people live in poverty, the economy of a single source, the industry is relatively backward, and the implementation of the “New Silk Road” will greatly improve its regional environment, promote the positive development of various industries, increase employment rate, change the life of the region, there is a way to reduce terrorism, I believe people are very happy to accept.

#### **High Ethnic Tolerance**

China's "New Silk Road" strategy is the revival of the “Silk Road” in history, which is conducive to the integration of Chinese and Western culture, the high degree of national tolerance, the situation of economic globalization, a new way of regional cooperation will not only promote economic development, but also promote political exchanges between different ethnic groups, so that people can be expected to get the support of most countries in the region.

### **The United States "New Silk Road" Strategy Implementation Forecast.**

Although America's "New Silk Road" initiative surface won the response of the countries of Central Asia and South Asia, but due to various reasons, the development or to face a variety of difficulty. The strategic significance of the development with high-profile return to the United States in the Asia Pacific region Hongyuan

target, is conducive to the consolidation of the America's war effort in Afghanistan, but the strategy of high starting point, need to solve the problem.

From the following four aspects to analyze the implementation of the United States, the “New Silk Road” and the future implementation of the forecast:

### **Strategic plan was established earlier**

Some basic facilities have been completed, especially in the construction of Cross railway construction has made gratifying progress, which is conducive to the development of some of the plans.

### **Low level of Tolerance**

Strategy with its own interests as the center, the program is low, with the United States known as the "World Police" title, and most of the South Asian countries in a tense state, Afghanistan's neighbors, to connect good Central Asia to South Asia's economic and political channels, the establishment of regional cooperation organization, good relations with Pakistan, Iran, India and other countries is an additional important, foreign war is the first step in the United States to address the task(Wang,2011).

### **Afghanistan’s Domestic Instability**

Due to the withdrawal of NATO troops, Afghanistan's domestic environment is still in a period of turmoil, which makes investors prohibitive, economic development is blocked, so the short-term economic development in Afghanistan is impossible.

### **Public Support Low**

In the United States, the military is a major supporter of the strategy, the State Council the prospect to doubt that the attitude of the.2014 there are plenty of people who years later, America's interest in Central Asia will decline sharply, the United States, political will and economic strength and resources to implement this strategy, these problems are still unknown(Feng,2013).

### **"New Silk Road" Strategic Competitive Analysis**

Because of the “New Silk Road” between China and the United States involved in the Central Asian region, there is a certain degree of competition and conflict between the two sides.

### **Position and Attitude of the United States**

The recovery of the United States influence control strategy is actually dated from a very long time ago before the government launched the "Great Central Asia strategy". The U.S. version of "New Silk Road" program "Central Asia" plan of the remastery version, is in the name of reviving Afghanistan region economy with transformation. There is no clear pointed out that China in the U.S. version of the “New Silk Road” of the position Role play how, which also may indicate that the US intends to avoid the sensitivity of this topic. In recent years, according to the U. S. President Barrack Obama's diplomatic moves, there are some hidden high-profiles show that the U.S is returning to the Asia Pacific, and America's biggest rival is increasingly powerful China, the United States has always been like to the bottom line of military exercises to challenge the enemy, for example by in the southwest Pacific, to contain the coastal areas of China, through the Pacific Ocean and the Indian Ocean trade routes.

### **China's Attitude and Response Measures**

The face of the United States, China's attitude is friendly, should be correct attitude, active and positive, based on the long-term to deal with. The main energy through the following six ways:

### **Support Afghanistan become Shanghai Cooperation Organization member**

This is conducive to Chinese more involved in the process of revitalizing the country to go to Afghanistan.

### **Develop Good Sino-India and Sino- Kazakhstan Relationship**

China and India in the world stage to develop rapidly, economic strength has gradually improved, good Sino-Indian relations are conducive to the development of bilateral economic and political fields, India is the most important country in South Asia, its strategic position is not to be ignored, China and India to establish a good ally, deepening interoperability, India has always insisted on independent foreign policy, not to worry about its dependence on strategic measures. Location (after I owned two already built the railway, oil and Tim popularity pipeline also through this country), belong to our country on the west gate! Plus China has, for a long time and Kazakhstan relations more closely, with good political relations, trade turnover is the five Central Asian countries the highest, making it become the land Silk Road Economic Belt of the west a breakthrough, but the most suitable. If continued good momentum of development in bilateral relations, China's implementation of the "New Silk Road" program have a big advantage.

### **Take Advantage of China's Historical Influence**

China is one of the origins of the Silk Road in history, and she has a long history. China should seize this point and increase the history of reconstruction of the "New Silk Road".

### **Planning more Funds**

China should be called for more organizations establish Silk Road Fund, rely on bank and private units, obtain more funding, along the construction of the "New Silk Road", along the region's people and improve the strong financial backing.

### **Better Sino-Pakistan Relations**

China and Pakistan is the name of "good friends", Pakistan is one of the key points of America's "New Silk Road" breakthrough, just us Pakistan Relations in tension and historical issues seriously. Deepen the affairs of China and Pakistan cooperation, can effective against the United States in China in the Western military containment.

### **Strengthen Regional Cooperation with Shanghai Cooperation Organization**

America is not the Shanghai Cooperation Organization members, at present, the United States to weaken the influence of China in Central Asia, a series of threats to political security strategy deployment, so China should use wisely the Shanghai Cooperation Organization, clearly opposed to everything in the Middle East are likely to occur the threatened action and deepen the cooperation between the members of the Organization.

### **Conclusion**

All the signs indicate that the relationship between China and the United States need a profound strategic mutual trust. The question of "What kind of impact China's "New Silk Road" strategy will bring to the word?" will

be too early to put forward. China's "New Silk Road" plan will be promoted with China's future rise. Her influence in Asia and Europe is also expanding. By comparison, China's "New Silk Road" plan proposed earlier, but the implementation needs much more to be done, also it has not clear plan yet to address.

"the Belt and Road" plan has strong radiation and inclusive. The United States' "New Silk Road" strategic plan needs to cooperate and complementary to the Chinese one to reach win-win results. On the other hand, now in the United States strategic center has geared from the West to the East, under the background of countering terrorism, Chinese western regional security problem becomes particularly severe. The United States implement the "New Silk Road" plan in the south area of Asia, will affect the stability of China's western regional situation, economic and cultural development. And the government of the United States also understands China's influence in East Asia and Middle East; reduces the funds invested in the South Asia region. Thus seeking China's economic support and cooperation is essential. The Sino US strategic plan for the "New Silk Road" package development in the reconstruction of Afghanistan has formed a new area of cooperation, leading to the two countries to develop a new type of relations. The authors of this paper hope new fields, in addition to the traditional economic ties between the two countries, be paved to cooperate. Together the two countries will play the world a song.

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## ***Study on the Chinese Carbon Emission Trading Market Development under the Globalization***

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### **Abstract**

*This paper starts by describing China's carbon emissions trading market development history, reveals the existence of its development problems, then, analyzes the successful establishment of the European and American national carbon emissions trading market experiences. At last, this paper recommends for a call of unified effort to improve domestic carbon emissions trading market system.*

**Key words:** Carbon Emissions Trading Market; Kyoto Protocol; Emissions

### **Preface**

The relationships between climate and human beings are closely related. In recent year, climate situation becomes more and more serious. Excessive emissions of greenhouse gases, lead to global warming and seriously damage the normal circulation of the natural ecological system, which bring many unimaginable catastrophe to us. China as a responsible developing country, actively respond to the “Kyoto Protocol” in the face of severe problems of climate warming, try to reduce greenhouse gas emissions. And in November 2011, the State Council approved the "Twelfth Five working plan for controlling greenhouse gas emissions" clearly put forward to explore and establish carbon emissions trading market to further control of greenhouse gas emissions. Under the increasing pressure to reduce emissions, China as the world's first big country of carbon emissions, impels to develop a resource-saving and environment-friendly road. In fact, carbon emissions trading market is both opportunities and challenges.

The opportunities are that the low carbon economy has increasingly become a development road of various countries economic and China is committed to the development of carbon emissions trading market that is to cater to the trend of the development of the times. China early enter into this new market, which is conducive to China to get rid of "pollution first, treatment later", the old road of development and through technical exchanges between countries to reduce the cost of carbon emission reduction. China's resource gift of carbon emissions is superior and current carbon emissions reduction has been around the world's 1/3, only next to the United states. Beside, China timely access to carbon emissions trading market is conducive to better establish the relevant trading system, to standardize the relevant laws and regulations, to attract the relevant talent and to do a good job related to the supervision, which improve the entire carbon emissions trading market system. However, the challenge of building carbon emissions trading market should not be ignored. Due to the fact that China is a developing country, carbon emission reduction technology compares with Western European country that have a relatively large gap, which led to a higher cost of carbon emissions reducing in China and the carbon emissions trading market in the bargaining power is not high, so China's discourse power suffer a severer challenge in other countries(Wang and Sun, 2010).

## **Classification of Carbon Emissions Trading and Carbon Trading**

To understand the carbon emissions trading market, we must first understand the classification of carbon emissions trading and carbon trading. Only by understanding the classification, can we, according to the different types of carbon trading, make the correct methods to improve.

### **Carbon Emissions Trading**

#### **Analysis of carbon emissions trading in China based on the theory of property rights trading**

The specific content of the theory of property rights is: without property rights, society is a Society of low efficiency, absolute invalid resource allocation. Property right of ensuring high effective economy should include the following characteristics:

- (1) Clarity, it is a complete system including the rights of property owners and the punishment of restricting and breaking these rights.
- (2) Proprietary, it makes one kind of behavior produce all the rewards and losses which can be directly linked to the person who has the right to take action.
- (3) Negotiability, these rights can be lead to the worthiest value way.
- (4) Operability

The theoretical basis of the carbon emissions trading market is the property right theory, the property right theory illustrate that if one kind of resource use a specific way, such as the law and regulations set its ownership, which will make this resource is scarce. And in the trading market, the industry or enterprise with carbon emissions right can control the range of carbon emissions within the emission limitation and then can transfer its emissions right, so that the original value of resources (here refers to the emission right) is fully regulated by the market. Through the above elaboration, we know that carbon emission right is indeed consistent with four specific content of the property rights theory(Chen, 2004).

At present, in view of the status quo of China's carbon trading market system, I think how to solve the fair and efficiency of the distribution of carbon emissions is the key to change the status quo. There are two kinds of initial distribution in the western countries: (1) paid distribution (2) free distribution. Paid distribution reflects the effect of emission reduction and enterprises which in accordance with the emission standards can transfer excess emissions to other enterprises to obtain income. It also can encourage enterprises to better do emission reduction work to create greater value for the enterprise.

Free distribution has a strong policy, so that it loss the regulation of the markets and don't reflected the value of decentralization. But its advantage is quickly promoting carbon trading system. However, after nearly a few years of development, international gradually showing the main direction of the carbon trading market - paid distribution. Therefore, our country in carbon trading right should follow the international trend to adopt compensation distribution form and let enterprise mutual transfer of carbon trading right to get what they really need.

## **Carbon Trading**

There is a lot of classification of carbon trading. According to the different properties can be divided into various categories, I choose three main classifications to introduce carbon trading

### **1. Compulsory Carbon Trading and Voluntary Carbon Trading**

Compulsory carbon trading, which is commonly known as “compulsory emission reduction”, the most influential carbon trading system in the world today are mainly used in this form, such as the EU emissions trading system, Australia New South Wales greenhouse gas emissions reduction system and Tokyo, Japan, the total control and trading system, etc..( Zhen,2014)

Voluntary carbon trading is divided into two types: pure voluntary carbon trading and consultative carbon trading. Pure voluntary carbon trading can be summarized as “voluntary participation, voluntary emission reduction”, which requires the double parties should make voluntary as principle to participate in the emission reduction. Once involved in the reduction will be subject to legal constraints, and be punished according to the provisions of the law if you do not follow the law. Japan's emissions trading system is this typical form of carbon trading.

### **2. Multi Trade Carbon Trading and Single Trade Carbon Trading**

Multi trade carbon trading general includes many industries such as steel, paper pulp and metal, etc. the typical representative is the EU emissions trading system. Single trade carbon trading is just one industry, such as the United States of the regional greenhouse gas emissions reduction action (RGGI) which is mainly trade in the power industry. In general, the resistance of the single trade to carry out carbon trading is much less than the resistance of many industries carbon trading.

### **3. Regional Carbon Trading and Non-regional Carbon Trading**

Depending on the geographical range of carbon trading, it can be divided into regional carbon trading and non-regional carbon trading. Regional carbon trading is the carbon emissions trade conducted in a certain area, such as Australia's New South Wales greenhouse gas emission reduction system.

Non regional carbon trading refers the carbon emissions trading of a region area, a typical example are the EU emissions trading system.

## **International Carbon Trading Market Development for China's Reference**

### **1. General Situation of International Market**

Carbon emissions trading market is a new commodity market and has been rapid development after the “Kyoto protocol” in 2005. At present, the international carbon trading market is mainly conducted in the regional market, while the various financial institutions play an important role in this market. Due to the responsibility and the specific conditions of different regions, there is not yet a unified trading system in the world and all the regions are actively exploring their own carbon emissions trading patterns. According to the world bank's data report, during 2005-2011 years, the international carbon trading market turnover of account and trading volume of the average annual basic has maintained a good momentum which the total turnover respectively reached 1.08 billion, 3.12 billion, 6.4billion, 12.63billion, 14.37billion, 15.92billion and 17.6billion. Besides, the U.S. official data forecast that in 2020 the global carbon market transactions will reach \$2500 -3000 U.S. dollars and the market development gradually mature (Fu and Li, 2010).

## **2. Successful International Carbon Trading Market Model EU Carbon Emissions Trading System**

The EU carbon emissions trading system (EU ETS) plan is divided into two stages: the first three years of the system is the first phase of the system from 2005 to 2007. This stage achieves 45% of “the Kyoto Protocol” commitment to emission reduction targets. The second phase will achieve the Kyoto Protocol, the commitment of all the emission reduction targets of the Kyoto Protocol commitment during 2008 to 2012(Wang and Song, 2009).

The trading system is a decentralized governance model; the EU member has a great deal of autonomy on the setting of total emission, distribution and transaction registration. EU ETS adopt the "limited and trade" trading system that the EU Member States must submit to the country's total carbon emissions quota plan to the EU audit, in the total carbon emissions, the enterprises of each member should in strict accordance with the indicators after the total amount of carbon emissions. If the enterprise still has surplus total amount of carbon emissions under the premise of the total amount of carbon emissions restrictions, it can transfer their carbon trading rights in the carbon trading market. EU ETS's punishment system is that the relevant corporate will be punished by 40 Euros if its carbon dioxide emissions more than 1 tons per year. And from 2008 year the penalty upgrade to 100 Euros and the enterprise' emissions permit reduce by corresponding number in the following year (Qian and Yi, 2012).

### **Chicago Climate Exchange**

Under the Kyoto Protocol, Chicago Climate Exchange (CCX), the world's first legal emissions trading platform, came into being. CCX emission reduction plan divided into two stages: The first stage (2003 -2006) all commitment member annually reduce 1% based on the baseline emission level(Wilson,2006). The second stage all commitment members make emission level down to 6% of baseline. These commitments member can reduce emissions through internal, buy a license from other company, who has savings emission permit, or purchase credit line which is produced by specific quota emission reduction projects. In addition, it also developed an electronic trading platform for its members of commitment emission reduction make online transactions, which all transactions process information is not disclosed and supervised by the United States National Securities Dealers Association.

## **Current Situation of China's Carbon Trading Market**

### **1. Development of Carbon Trading Market in China**

The construction of carbon trading market is the new direction of the global economic development. In order to meet this challenge and opportunity, China has already actively promote the construction of domestic carbon trading platform, August 5, 2008, the Shanghai environmental and energy exchange and the Beijing Environmental Exchange was established on the same day; in September 25, 2008, Tianjin Emissions Exchange listing was set up(Yao and Chen, 2011). Despite China's positive response to the trend of carbon trading market of international construction, but the domestic carbon trading volume is small. This is because the international carbon trading market downturn in 2008 and the domestic intellectuals know little about carbon trading so this result. However, our country didn't give up the idea of building carbon trading market. In November 2011, the national development and Reform Commission issued "About the carbon emissions trading pilot working" that promised Tianjin City, Beijing City, Chongqing City, Guangdong Province, Hubei Province, Shenzhen city and other seven provinces and cities to carry out carbon emissions trading experimental unit which took a big step toward establish a unified carbon trading market system. June 18, 2013, Shenzhen carbon trading Gong opened; during November to December, Shanghai, Beijing, Guangdong, Tianjin have started carbon trading pilot work (Zhao and Zhang, 2011).

For the actual emission limits of various experimental unit of carbon emissions, China has also made the corresponding punishment mechanism. If the pilot place exceeds the agreed amount of emissions, we must accept the quota price of 3 to 5 times the fine. For example , when the quota price of 60 Yuan / ton, the fine is 300 Yuan / ton.

At present, the main form of domestic carbon trading is the quota transaction. The government set the corresponding emissions for the relevant industries or enterprises and enterprises can accord their own situation to sell or purchase the emission rights. All in all, the emissions of enterprises should meet the requirements of the country. Although, compared with the western countries, China's carbon trading market has a obvious gap, China is developing countries. According to the "Kyoto Protocol", we have not been forced to fulfill the obligations of emission reduction and the western developed countries have been constrained, so their emission reduction costs higher than China's, which will attract the developed countries to actively cooperate with us to save emission reduction cost under the premise in common to achieve emission reduction targets.

Around the world, China is already the world's second largest economy so developed countries have asked China to take greater responsibility on emission reduction work. In the international appeal, how can we do both to ensure the smooth development of the domestic carbon trading market and does not affect the growth of GDP, which has become a more important issue in our country. As China is in the process of industrialization and urbanization, many industries in China are second industries. Many domestic industries' development rely on raw materials which still produce a lot of greenhouse gas, such a soil, coal; which is a big problem to complete the international requirements of China's emission reduction work.

**TABLE 1: CHARACTERISTICS OF DOMESTIC CARBON TRADING PILOT IN CHINA**

	Beijing	Shanghai	Tianjin	Guangdong	Shenzhen
Performance date	Submitting the initial carbon emissions report before 31 March each year, before April 30 submitting last year's carbon emissions and verification report to the national development and Reform Commission and to completing the performance before June 25th	Submitting carbon emissions reports before March 31 each year, April 30 submitting verification report before April 30 <sup>th</sup> , completing during the June 1st -30th	Submitting last year's carbon emissions and verification report before April 30th each year and completing the performance before May 31th.	Submitting last year's carbon emissions and verification report before May 15th and completing the performance before June 20th.	Submitting last year's carbon emissions report before March 31th and Submitting verification report before April 30th completing the performance before June 30th.
Maximum CCER usage	The annual quota of 5%, of which 50%CCER from the project in Beijing	The annual quota of 5%	The annual quota of 10%	The annual quota of 10%, of which 70%CCER comes from Guangdong Province	The annual quota of 10%

( Data source: National Bureau of Statistics)

## **2. Problems in Development of Carbon Emissions Trading Market in China**

Carbon emissions trading market has many problem in Chinese development. In order to better integrate into the international carbon emissions trading market, we need to do enough attention. In general, I think there are six important problems in our country's carbon emissions trading market:

### **3. Carbon Financial System Development not Perfect, Transaction Risk**

A sound legal protection can regulate and restrict the orderly development of carbon emissions trading, the European Union and the United States of the trading system has a strict law as the guarantee of its development. Carbon emissions have a distinct characteristic of financial products and carbon index trading involves bank loans, Options and Future, etc. The subjects of carbon emissions trading abroad mainly deal by investment banks and other financial institutions and these institutions minutely understand the carbon trading. Due to fact that our country development of carbon trading market in is late, domestic enterprises is not clear about the value of carbon finance, the operation mode while the financial market is not perfect. There is a huge security risk in such a platform under the transaction.

### **4. Gas Emission Right Initial Distribution Unfair**

This situation is mainly due to two reasons: firstly, enterprises unwilling to premature undertaken many emission reduction work, therefore in the provisions of the total carbon emissions in the form of lease to borrow carbon emissions from other relevant enterprises, which leading to a more powerful enterprises can guarantee accord quantity to complete the emission reduction work ,meanwhile some small businesses just shell companies which just matching carbon emissions for large companies. So market regulatory role is not apparent. Secondly, the regulation of carbon emissions trading is regulated by the relevant departments of the country for managing the total carbon emissions, which may cause carbon emissions trading under the control of the relevant departments.

### **5. China's Cleaner Production Technology Restricted the Development**

Because our country's cleaner production technology than the European and American countries have a more obvious gap. Because our country's cleaner production technology has the obvious gap, compared to the European and American countries. Therefore, the higher cost of our country's production product make the price of carbon emissions right deviate the real price of the product and influence the market mechanism fully play the function. Clean production technology has a great impact on the efficiency and fairness of carbon emissions trading mechanism.

Carrying out carbon emissions trading involves many aspects, such as total amount, clearing and settlement system, market supervision system and so on, but our country has no unified regulations, policy disorders, which lead to the development of carbon trading market can not be smooth and fast, which seriously affect the implementation of carbon emissions trading.

### **6. Carbon Emission Pricing Mechanism Missing**

Price can reflect the value of the product; the real price can effectively promote the rational development of the market. In China, the value of the product is generally measured in accordance with the foreign pricing mechanism which ignores to establish our own pricing mechanism. In addition, due to the country's initial emissions share, under the interests of the government and enterprises, the price of carbon emissions trading is distorted by man-made, which result in the market transaction price not standardized,

### **Government's Supervision on Trading Market not Strict Enough**

At present, China's carbon emissions trading market trading mechanism is not perfect. There are still many problems in the environmental monitoring and monitoring facilities for technical development and how to establish a supervisory authority with prestige has become a guarantee for the development of carbon trading market in the future.

### **China's Carbon Emissions Trading Market Suggested Countermeasures**

This paper puts forward the following suggestions:

#### **1. Increasing Technical Input of CDM Project**

When foreign buyers of CDM project cooperate with China, most of case is that the funds instead of technical output. A large part of the reason is worried about their production technology has been stolen, even if the introduce production technology; the technology has been eliminated in foreign country. Therefore, improving the protection of domestic intellectual property rights ensure that foreign countries provide more technical assistance to China, so China's enterprises can improve production efficiency and increase economic benefits. However, this approach is not always the long-term plan, our country should get technical assistance and continue to develop their original production technology as far as possible to closer the foreign advanced production technology to develop belongs to the cleaner production technology of Chinese characteristics.

#### **2. Actively Chang the Position of China's Carbon Trading Industry Chain**

China is the world's largest supplier of CDM carbon emission. Due to the small number of words in the international carbon emissions market, our country has been in the lowest part of carbon trading industry chain in a long-term. And Chinese CER is usually purchased by developed countries with very low price, while developed countries sell it to in second market with a high price to get huge profits, which make our government lost a lot of economic interests. Therefore, our country strive to cultivate more talents of carbon trading market, accelerate the transformation of industrial structure and improve the clean production technology, to obtain the right to speak in the international carbon trading market and rid himself of the lowest part of the carbon trading industry chain.

#### **3. Improving Legal System of Carbon Trading Market**

The perfect legal system is an important measure for the smooth development of the carbon trading market. However, there are no clear legal provisions on the confirmation of the legal status of carbon emissions trading, and the settlement of the problems in the process of carbon trading. Therefore, China should expedite the construction of the legal system of carbon trading market, and make detailed provisions on the formulation, distribution, transaction and punishment rules in carbon trading process. In addition, it should clearly show that how to deal with the bankrupt enterprises in carbon trading market, so that domestic enterprises have laws to go by.

#### **4. Strengthening Carbon Trading Market Supervision**

The intangible nature of carbon trading rights makes the supervision of the domestic relevant departments of the carbon trading market have a relatively large loss. Because of the intangible nature of carbon trading, the relevant departments are difficult to accurately identify the different stages of corporations' carbon emissions, which affect the confirmation of the carbon volume and finally influence the normal operation of carbon trading market. In order to solve this problem, I think that the relevant departments should strictly audit the qualification of the emissions of carbon dioxide emissions market requirements and then to establish a compliance reporting system which the report includes the condition of carbon emissions, the condition of carbon trading, etc. finally, relevant

departments should set up a specific regulatory system to monitor whether the enterprise in accordance with the requirements of the carbon emissions quotas and to monitor the Legal compliance of domestic carbon trading market requirements.

#### **5. Establish a Carbon Emissions Trading Market based on "Limited and Trade"**

"Limited and trade" is an important factor for successful establishment of EU ETS, which reveals that we can accord the development of domestic enterprises to buy or sell carbon emissions right in carbon emissions trading market. According to the condition of our country and city, we can consider the mode of the separation of powers. The industrial structure of each province is different, which is destined to be different in the carbon emissions trading market. In the future development, I think that different provinces can report to the central provinces about its province's emission reduction targets and then the relevant departments in the province will be required to the corresponding carbon emissions to the enterprise, which is conducive to the full exercise of autonomous decision-making power, to reconcile the profits of the province and the province.

#### **6. Vigorously Promoting the Application of High and New Technology**

At present, when Chinese carbon emissions technology is relatively backward, we should actively learn from foreign advanced cleaner production technology and encourage enterprises to introduce advanced production technology, improve the utilization rate of fuel, which can reduce emissions and increase economic benefits. At the same time, China should actively call for industry restructuring, adjust the industrial structure and further improve China's carbon emissions trading market system, which achieve the goal of Chinese energy-saving emission reduction and sustainable development

#### **7. Establishment of the Market of Carbon Finance Mechanism**

Carbon emissions trading market is developing to the direction of the financial market, during the time, China needs to use financial markets to achieve the economic benefits of carbon industry, while China should strengthen the development of banking, securities, insurance and other financial institutions, forming a variety of carbon finance market.

#### **8. Establish Legal and Punishment System**

China should take into account the national conditions and formulate the laws and regulations, which the development of the total carbon trading market need to follow, and then let the provinces according to their own actual situation to add some of their own laws and regulations, at the same time, the government should set strict penalties

#### **Conclusion**

The development of carbon emissions trading market is a great impact on the development of China in the future. With the development of the times, people's awareness of environmental protection is gradually improving, and the development of low-carbon economy is imperative. In this opportunity and challenge coexist; China should intensify its own cleaner production technology, try hard to reduce the cost of production of carbon products, which make our own get higher international discourse to get rid of the lowest position of the carbon trading market. In addition, in the process of development, our country should try to learn from foreigner successful experience, develop a set of carbon trading market theory that accord our country specific condition and cultivate more talents of carbon trading, to enhance the competitiveness of our country in the international carbon trading market.

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## *Does FDI make the world more convergent or divergent?*

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### **Abstract**

*The theme of this paper is what affects emerging markets catch-up in technological innovation with advanced economies. Economic geographers fail to tease out the role of international business activities in locational technology development and most IB research neglects the mutually supporting relationship between inward FDI and outward FDI. Based on path dependency logic, technology development is an evolutionary process incorporating both continuity from historical tradition and transformation from selected variation. This paper argues that both FDI inflow to emerging market and FDI outflow from emerging market to technological frontier countries are integral part of the locational innovation capability configuration. While inward FDI functions as a historical event that builds local knowledge base and absorptive capacity to understand more sophisticated knowledge, outward FDI enhance learning outcome through local advanced resources and international connectivity. After frequent interaction via bidirectional FDI, are the emerging markets and advanced economies getting more convergent or divergent in terms of innovation capability and technological specialization? Innovation capability has two facets: level growth and field of specialization. Evidence from Chinese provinces are provided to examine the hypothesis. The result shows that in terms of level growth, Chinese provinces are converging with emerging markets. However, when it comes to technology field, bilateral FDI turned the world to be divergent.*

**Key Words:** FDI, emerging markets, innovation growth rate, technological specialization, path dependence.

### **Introduction**

Two major themes of this paper are Foreign Direct Investment (FDI) and national technology innovation. While innovation is the outcome, FDI serves as the explanatory factor. Why I care about these two themes and the connection between them? Even before the publication of *the Wealth of Nations*, economic development had been a topic in fever. The statement technology innovation is the key determinant of economic development receives least controversy among all the debatable arguments. Contemporary economists Grossman and Helpman (1994) agrees that technological innovation is central to economic growth. Technological innovation brings competitive advantage and sustainable growth momentum (Porter, 1985). Focusing on technology can generate important insights about the economic development process. Hence, instead of taking care of other national wealth related issues such as international trade and financial tools which have marginal contribution to wealth accumulation, this paper pays special attention to national technology development and its determinants. It has been addressed by Taylor (2006) that national innovation is not just a domestic issue. When the world was less interconnected, innovation could be viewed in isolation within national boundaries and attributed mostly to freedom in political and economic environment. Nevertheless, as the level of globalization increases, competitive advantage is assessed by taking into account of global competitors. It is no longer possible to depend only on domestic players to develop competitive advantage. Learning from abroad is essential in national technology innovation. In addition, the uneven distribution of technological specialization across the world requires cooperation in discovery and technological evolution. Therefore, international connectivity plays an important role in national innovation.

In the history of globalization, FDI is one of most important ways to connect world regions, especially in the second phase of globalization (O'Rourke and Williamson, 2002). Multinational corporations (MNCs) are the

frontiers and major carriers of innovative knowledge (Cantwell, 2000). Besides, the multinationality allows MNCs to access resources around the globe. A new definition of MNCs is the global production network coordinator (Cantwell, 2014, Ghoshal and Bartlett, 1990). Compared to other international strategies, namely international trade and cross-border licensing agreement, international production is the most effective in integrating nationality of origin, location advantages and internalization advantage (Dunning, 1993). In other words, it is FDI that facilitates the world to become a better-connected place. Hence, I chose FDI as a proxy to international connection which might have an impact on national innovation development.

A number of studies have addressed the relationship between FDI and national innovation performance, but looking at the effect of inward FDI and outward FDI separately. Inward FDI (IFDI) has a positive effect on host country innovation performance due to technology spillover and knowledge transfer in external network (Bertschek, 1995, Buckley *et al.*, 2002, Cheung and Ping, 2004, Girma *et al.*, 2009, Lipsey and Sjöholm, 2005) while outward FDI (OFDI) influences national innovation output through active learning and knowledge transfer in MNC internal network (Chen *et al.*, 2012, Ivarsson and Jonsson, 2003). Although inward and outward FDI have different mechanism promoting technology exchange, the two different mechanisms could be correlated as IFDI and OFDI are not fully isolated in nature. According to prior studies, inward investment is an important impetus to outward investment out of resource depend logic and path dependence logic (Gu and Lu, 2011, Xia *et al.*, 2014). Based on the argument that IFDI and OFDI are associated with each other, this paper attempts to test will IFDI and OFDI, of one country, jointly have an effect on national innovation performance.

This study is implemented with empirical evidence from emerging market considering the sequence and interaction between IFDI and OFDI are more evident in emerging market context. In the first half of 20<sup>th</sup> century, world majority of FDI flew from developed countries to developing countries, largely out of marketing seeking or efficiency seeking motives. However, starting 1980s with the emergence of Japanese FDI in the U.S., FDI from developing countries started to grow. The turn of 21<sup>st</sup> century witnessed a surge of OFDI from emerging markets, mainly developing Asia. According to World Investment Report 2015, developing Asia is the largest source of OFDI in 2014. With the active participation of developing countries, we therefore observe more bilateral FDI between unequally developed regions. OFDI from emerging markets have a strong motivation in strategic asset seeking (Deng, 2009, Luo and Tung, 2007). Along with the vast amount of OFDI from emerging markets, a parallel increasing activity is the offshoring R&D to targeted technologically advanced countries which antecedently have invested in the emerging markets during the 20<sup>th</sup> century. Mainland of China, regarding its domestic diversity and significant volume of both inward and outward FDI, is an ideal laboratory sample to study FDI related issues (Xia *et al.*, 2014). Based on 2012 Statistical Bulletin of China's outward FDI, more than 50% of the OFDI locates in developed Asia, North America and European Union. In addition, the growth rate of Chinese patents granted in U.S. Patent and Trade Mark Office (USPTO) exceeds any other developed countries, with an average annual rate of 35% since 2001 regardless its tiny base. OFDI from mainland of China perfectly fit into the emerging market knowledge sourcing model. The research question of this study, in a more specific sense, is how international connectivity affects the regional innovative capability catch up between emerging markets and technologically advanced countries.

In the next section, I will first introduce the theoretical framework for conjoining both inward and outward FDI as explanatory factor to national innovation performance. I then will elaborate on the hypotheses in the third section. In forth section, research design, including sample and empirical model in details, will be delivered. Quantitative results and discussion will be released in order to test hypothesis. Conclusion and future research direction are the last section to emphasize on the value of this research to both the academic and emerging market policy makers.

## **Theoretical Framework Evolutionary Perspective**

This research fits into the general theme of “what influences the technological development in a society?” Referring to Hegel’s dialectic view in social revolution, evolutionary economists regard the development of a location is subject to path dependency logic, a combination of both continuity and evolution (Martin and Sunley, 2006, Nelson and Winter, 2002, Nelson, Richard R, Winter, Sidney G, 1982). Nevertheless, the two key elements, continuity and evolution, stays in an abstract level. This study attempts to grant concrete constructs, inward and outward FDI, to represent the two facets of path dependency. A potential theoretical contribution of this paper is to apply evolutionary economics with incorporation of international elements. Prior economic geography literature only looks at path dependency with local endowments such as local science foundation, sudden technology shock and invention within a geography boundary but neglect that historical technology base which can be subject to international business activities and the infuse of technology could be from an outsider. By incorporating international elements, path dependency logic is more applicable in nowadays globalized world.

In evolutionary perspective, historical event has an influence on the development path of a location. No matter how far it departs from its origin, the technology development always has a manifestation of the historical tradition. In order words, historical event set the foundation of the technological development path. In our study, IFDI functions as the historical past. Inward FDI from developed countries to developing countries usually bring with them technological assistance and knowledge spillover, especially when locational cluster takes place (Cantwell, 1995, Dunning and Lundan, 2008). These multinational corporations from developed countries set up assembling plants in a foreign location with comparatively cheap skilled labor (Cantwell, 1989) to serve local and global customers. Inevitably, MNCs from developed countries have to offer local employee trainings, technological assistance by sending technicians and consultants, and even overseas exchange learning opportunities to local managers in order to facilitate the local plant operation. These activities infuse knowledge to local environment and gradually establish technology base of the less developed country as the IFDI activity increases.

The role of IFDI on locational technology development is necessary but insufficient. Learning and thus technology development attributed to IFDI effect could be restricted due to limited knowledge spillover and absorptive capacity of local actors. Foreign companies are reluctant to conduct cutting edge R&D in locations with weak intellectual property protection (Li *et al.*, 2012, Smeets and de Vaal, 2016). In addition, even with advanced international R&D activity in the location, local actors might fail to understand the spillover from the MNC (Zhao, 2006). As explained by evolutionary economists, path dependency is not past dependency. Except for historical knowledge background, technology development also requires variation and evolution. As random shock takes place along the path, the development process is ever changing and dynamism in nature. Instead of sticking to the old technology paradigm, the development path takes into account of external environment change. In order words, the turbulence in external environment affects the technological development path of a location. In this study, OFDI represents the element of change in learning and innovation process. OFDI from developing countries to developed countries has a knowledge seeking motive. Advancing past knowledge base which the location has been exposed through IFDI is a representation of change, namely moving from a lower level to a higher level of knowledge hierarchy. Besides, based on dynamism in market demand and institutional factors, the offshore learning has a propensity to enter related and complementary field of technology, instead of the same stream of knowledge. Hence, OFDI brings new possibilities for local technology development.

The two facets, historical past and evolution, not only influence locational development path separately but also interact with each other and create synergy that also have an impact on the path. Historical past provides absorptive capacity to choose an evolution direction from all the variations while dynamic evolution enriches the historical knowledge base to continue technology development path. In the story of FDI, IFDI brings fundamental knowledge for developing country MNCs to understand the sophisticated knowledge embedded in OFDI activity. Besides, knowledge acquired through OFDI also facilitates the building of absorptive capacity to better utilize the

knowledge spillover from foreign partners in the home region. If we view learning from IFDI as the sunk costs paid by local actors, OFDI is a process that can generate increasing returns from the previous devotion. In short, technology development is a complementary process between the continuity of historical past and evolution from selected variation. Learning from IFDI and from OFDI is mutually enhancing to each other and thus have a conjoint positive effect on locational technology development.

### **Resource dependence logic of diversification**

Evolutionary perspective explains knowledge base building is a cumulative process, which confirms the role of both IFDI and OFDI in local technology development. Nevertheless, it does not fully address how FDI affects innovation level and direction. Hence, resource dependence logic of diversification is introduced to continue the illustration.

Resource dependence logic of diversification basically tells interdependent partners diversifying choice sets in order to be less dependent on current partners (Pfeffer & Salancik, 1978, Xia et al., 2014). An assumption behind this logic is power imbalance. Once economic actors are constrained by powerful partners to access critical resources, they either adapt or avoid. Diversification belongs to avoidance strategy which is a way to eliminate mutual dependence and power imbalance at the same time.

In emerging markets context, foreign firms' ownership advantages are strong enough to offer them powerful position in local production system. Besides, production system usually contains competitive and cooperative relationship. In other words, foreign firms do not usually operate solely but rely or compete with local firms. Meanwhile, local firms are expecting technology spillover and management skills transfer from foreign firms. If they share the same source of supply or final consumer market, local firms and foreign firms form a competitive relationship. In either case, local firms and foreign firms are interconnected. Because of power imbalance, if in a cooperative relationship, local firms depend on foreign firms more than the other way around. Foreign firms usually control resources that are vital to the development of local firms. Therefore, the cooperative relationship is not balanced to some extent. For example, foreign firms can push down price of their local suppliers. If local firms adapt to the situation and choose adaptation strategy, it might lose of autonomy. In order to altering the power imbalance and gain control over its own development path, local firms seek alternative sources of resources.

### **Hypothesis**

Development can be understood in two ways: the level and the structure. I use rate of growth to represent level in technology development. By studying the level and the technology gap between unequally developed regions, I answer the question "is developing regions catching up with developed ones?" This question has already been touched upon in literatures dealing with international relationship and national innovation. More connections with technological frontiers benefit domestic innovation rates and catch-up process (Kim and Nelson, 2000, Taylor, 2006). To build on the current literature, I not only use the U.S. as frontier but all the other developed countries with strong technology specialization in certain fields. Besides, this study focuses on FDI as an international connection while controlling for international trade and licensing agreement as FDI has internalization advantage (Dunning, 1993) and thus more interaction with local actors which promotes learning and technology development.

Alternative sources of resources accumulation not only include domestic procedures but also international sourcing of resources. Local firms, in order to lessen reliance on foreign firm and its technology, attempt to develop its own knowledge by learning locally such as local technology leaders and local research institutes and universities. Once local resources cannot continuously satisfy its learning needs, local firms "escape" from home country constraints and leverage advanced resources abroad such as establishing international R&D facility. The more firm firms are located in an emerging markets, the more pressure is there to push local firms to develop its own innovative capabilities.

Following the logic of path dependency, the technological development path of a location is determined by both historical past and evolution from selected variation. Therefore, the feature of technology development in a certain point of time reveals features in both facets. In terms of FDI effect on local technological development, the location technology profile should reveal features related to both their IFDI and OFDI activities. IFDI set the background of the selection of knowledge base and OFDI activities are supposed to strengthen advantages in the selected domain. Besides, it is because IFDI brings pressure to local firms to alter power imbalance, local firms have the momentum to pursue internationalization strategy to stabilizing its position in order to access to critical resources which are beneficial for future development. The mutual enhancing mechanism of IFDI and OFDI are conducive for an emerging market location to cumulate innovative capabilities and have increased innovative performance.

*H1 The more bilateral FDI between unequally developed regions, the more likely the technology gap between the regions shrink.*

Another question “which direction is the developing region catching up with” is more detail oriented and has not been fully addressed in current literature. Economic historians have long regarded the uneven distribution of technological skills across the world (Landes, 1999) and international business activities intensified the locational cluster of fragmented production and specialization (Cantwell, 1995). This paper attempts to address how is specialization formed and changed overtime. Based on path dependency and diversification logic, the more the two **unequally-developed** regions communicate, the more likely their technology field will become divergent.

Foreign firms entering emerging markets might also compete with local firms which are less advantageous in terms of technology and management expertise (Xia et al., 2014). Local firms sharing industries, production techniques and consumer markets with foreign firms face fierce competition and have large propensity to be pushed out of the loop considering their weaker position in quality and cost control. Besides, once foreign firms have operated in the location, it is very difficult for emerging market entrepreneurship to growth in the exact domain as infants firms are even weaker than other local firms in competition with foreign MNCs. In other words, foreign firms push out local firms in the same industry and targeting markets which require same fields of technology. Emerging market locations might find very difficult to build advantage in the field of technology which is the competence of foreign firms of the location. In this case, IFDI still sets the historical background of local technology development, it is just the field of technology can be any but the competence of foreign regions which heavily invest in the location. The story of OFDI shares the similar mechanism. EMNEs is comparatively weak in the domain the local firms have advantages. Therefore, in order to survive and thrive, EMNEs have to avoid direct competition with local firms. EMNEs might gradually develop niche market or advantages that are complementary to advances country local firms. In order words, the field of technology competence of advanced country local firms is the area which EMNEs won't be able to development.

*H2 The more bilateral FDI between unequally developed regions, the more likely the pattern of technology specialization between the two regions diverges.*

## **Research Design Sample**

Mainland of China is a natural lab for this study regarding its significance in FDI volume and provincial level diversity. Besides, China is geographically large enough to compare with a continent such as Europe. Therefore, it is legitimate to compare a province in mainland of China to a global region containing several developed countries which are comparatively small in geographical area. Besides, it is not the area of a location that matters in this study, but the similarity in technological field specialization that affects learning and catching up

between regions. Data about yearly (2003-2014) provincial level IFDI and OFDI stock will be collected from Chinese Statistical Year book 2004-2015 and Statistical Bulletin of China's Outward Foreign Direct Investment 2003-2014. In order to gather information on provincial IFDI country profile, I leverage on Chinese Commercial Year Book and provincial statistical year book which disclose IFDI country source of a province each year. OFDI country profile is aggregated from firm level dataset published by China Ministry of Commerce, called lists of "go global" firms. Both IFDI and OFDI country profile data used in this paper are accumulated project counts instead of investment amount, yearly from 1983-2014. Patent data is compiled from USPTO. I recognize the first inventor place as the location of a patent. The first Chinese patent is granted in 1995. Only after 2000, USPTO reveals continuous Chinese patent record. So the year frame of Chinese patents is 2000-2014. 29 out of 34 provinces in China have patent granted record in USPTO, but only 13 of them have more than 100 patents. Based on US Class technology field, Chinese patents cover 362 out of 438 in USPTO, but only 64 fields have more than 100 patents. In order to avoid arbitrary distribution (Cantwell & Fai, 1999), patent count less than 100 can be ignored. In analyzing innovation growth rate, patent count less than 100 can still be used. However, when studying technology specialization, I only use provinces (13 provinces) and technology fields (64 fields) that have more than 100 patent counts in order to show a stable pattern and trend. Fortunately, those 64 out of 438 fields of technology counts for 52% of global patents across countries, which means the selected 64 fields could be the major ones to reveal technology specialization pattern. Besides, the 13 provinces are mostly in eastern coast of China which are the major players in IFDI and OFDI activities. This finding primarily proved the hypothetical relationship that more FDI interaction is correlated with more innovation performance.

Countries that have yearly large volume FDI activities with specific Chinese provinces based on provincial level FDI country profile are selected. They are the United States, Australia, Canada, Switzerland, Germany, Denmark, France, the United Kingdom, Italy, Japan, Korea, Netherland, Sweden and Singapore. I match Chinese provinces with countries and ends up with 88 pair which is the unit of analysis in technology specialization. Basically, I will test whether more bilateral FDI between the pair, the more correlate their revealed technological advantages (RTA) are.

## Measurement

A vast majority literature has been using patent to measure innovation. Regarding its knowledge complexity and commercial value, patent implies long term economic growth capacity and thus is a good proxy for technological development potential, compared to other innovation measures such as high-tech trade and licensing agreement. Two technological related constructs, namely technology gap and technology specialization, are both measured using information on patent granted to China (as first inventor location) from USPTO.

Technology gap is measured by difference between growth rates of a global region and a Chinese province. If the difference between growth rates shrinks, the less developed region is catching up with the developed one. Hypothetically, as the trend sustains, eventually the two lines will converge to one intersection.

Technology specialization is measured by revealed technological advantage (Cantwell, 1991). The revealed technological advantage (RTA) was originally created to measure country level advantages; nevertheless it can be extended to any unit of analysis (Cantwell, 2000). This study applies the RTA index in regional level. First of all, this research refers to the technology field grouping techniques that attributes all technological fields in USPTO into 56 categories (Cantwell and Fai, 1999). Second, based on the formula of reveal technological advantage (RTA)<sup>1</sup>, a region's RTA value in every field will be calculated. The technology specialization profile shows the RTA scores of 56 fields to each region and tells us in which field the region is good at and in which field the region has disadvantage. If a region's RTA value of a specific technology field is larger than 1, the region has an advantage in the field; otherwise has disadvantage. Regions are only compared with regions in the same development status. For example, a Chinese province only compares with other provinces, meaning how advantageous the province is within the country in a specific field. The pattern of technology specialization is shown in the correlation of RTA score

profile across technology field between regions. The stronger the correlation between a Chinese province and its corresponding global region, the more convergent their technological specializations are.

In order to count the innovation rate of FDI partners, I first aggregate the number of the patents granted to the all FDI partners and then calculates the aggregated patent number growth rate. When it comes to technology specialization, the RTA index is calculated in a regional level, measuring how advantageous in a specific field the global region is compared to all the other developed regions in the sample. The patent number granted to a technology field is calculated into regional level, namely how many patents in one specific field are granted to all the FDI partners in a given year. It is highly possible that a global region will show technology advantage in more than more fields but the Chinese province only captures a subset of them or even divergent from the set.

The measurement of FDI is FDI stock instead of flow as technology development requires accumulation in exchange and interaction. Another benefit of using stock volume is the exclusion of time lag problem. The general sequence is IFDI first, then OFDI and patent generation comes last. However, no one can really figure out what exactly is the time lag between IFDI and OFDI in order for both FDI to have an influence on technology development equally important. We also do not know how long the time lag between FDI and patent generation is. However, using stock data will include all the previous FDI activities and all the time lag effect is captured in the stock data. So the model is about how bilateral FDI stock in one year affects innovation outcome in that year.

### Empirical Model

$$Techcat_{it} = \beta_0 + \beta_1 * IFDI_{it} + \beta_2 * OFDI_{it} + \varepsilon_1 \quad (1)$$

Model (1) is to test Hypothesis 1: how does IFDI and OFDI jointly affect innovation rate catch up? This model basically tests how a Chinese province catches up with its FDI partners in patent, with a 11x 29 panel dataset. IFDI denotes to IFDI stock amount in a specific year of a specific province, same to independent variable OFDI. 29 Chinese provinces are included in this panel within which the time frame is 2004-2014. Technology cat is the patent count growth rate difference between a specific province and all its FDI partners' average. According to the data characteristics, Chinese provinces averagely have larger patent growth rate than partner countries. Therefore, the larger the value of dependent variable, the more revealed innovative capability convergence.

$$RTA\ Corr_j = \beta'_0 + \beta'_1 * IFDI\ Profile_j + \beta'_2 * OFDI\ Profile_j + \varepsilon_2 \quad (2)$$

Model (2) is designed to test hypothesis 2: how does bilateral FDI affects technological specialization convergence? This is a cross-sectional dataset whose unit of analysis is pairs between a Chinese province and a technological advanced country. 88 pairs are included, in the year of 2014. Since I use cumulated number, the cross-sectional data show affiliated information up to 2014 (from 2000), not just 2014 alone. FDI Profile denotes to the percentage of FDI projects of a specific Chinese province with a foreign country. RTA correlation is calculated with 64 US class patent fields. This model intends to test whether more FDI activities between two regions will lead to technological fields' convergence or divergence.

### Results and Discussion

Certain transformations are implemented to the initial model, based on data statistical summary. First, independent variables use log form to maintain better linear relationship. Besides, considering technology development is path dependent and has "stickiness" in feature, time lag of dependent variable should be included in the econometrics model. Furthermore, models incorporating FDI joint effect are also tested to see how bilateral FDI as a whole contributes to the outcome of innovation.

For panel data regression, since time lag variable is included, the regression adopts General Method of Moments to eliminate endogeneity problem. In terms of cross-sectional data for RTA correlation, I simply apply Ordinary Least Square method to test the hypothesis. Models incorporating different functional forms of variables are presented below. In general, variables with linear transformations reveal more significance than their original format.

The discussion mainly focuses on model 3 and model 4 as chi square of model 1 and model 2 are not significant at all. After linear transformation, we can see FDI stock volume do have a positive effect on enlarging patent growth rate difference between Chinese province and technologically advanced countries, which means the patent growth rate of Chinese provinces have been continuously increasing in the last decade when FDI activities are very vibrant. Chinese patent growth rate is always larger than advanced economies during 2000-2014. The gap of patent number count between Chinese provinces and their FDI partners are shrinking, implying Chinese innovative capability is catching up with advanced economies. Splitting the effect of IFDI and OFDI allows us to see that IFDI accounts for the major influence. It could be that the effect of OFDI has shown yet due to comparatively short history of OFDI and smaller amount relative to IFDI. It could also be the knowledge transfer problem between Chinese MNC subsidiaries and their parent firms, which deserves further research efforts. But in general, Hypothesis 1 is supported.

Table 1 Generalized Method of Moments regression on Chinese province Technological Catch-up

	Variable	Model 1	Model 2	Model 3	Model 4
1	Constant	23.05249 ** (2.22)	22.53829 * (1.94)	4.624622 (0.13)	-4.362393 (-0.25)
2	Techcat(-1)	-0.0064791 (-0.15)	-0.0070411 (-0.15)	-0.0194575 (-0.38)	-0.0197122 (-0.39)
3	FDI		0.1757413 (1.21)		
4	IFDI	0.0333351 (0.34)			
5	OFDI	0.0019873 (0.93)			
6	lnFDI				13.04527*** (2.59)
7	lnOFDI			-2.09421 (-0.49)	
8	lnIFDI			14.60949*** (4.19)	
	Prob > chi2	0.3150	0.2863	0.0002***	0.0269**

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

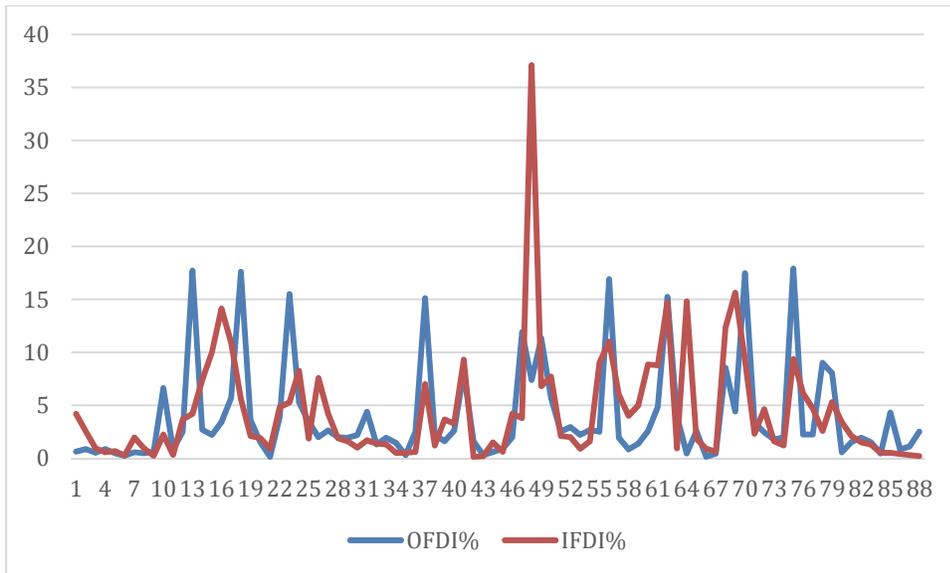
Table 2 OLS regression on RTA correlation between Chinese provinces and FDI partners

Variable	Model 1	Model 2	Model 3	Model 4
1 Constant	0.0444863 ** (2.08)	0.043214 ** (2.21)	0.0421679** (2.24)	0.0446821 (2.38)
2 FDI Profile		-0.00073265*** (-2.79)		
3 IFDI Profile	-0.0071325** (-2.56)			
4 OFDI Profile	-0.0005322 (-0.18)			
5 ln(FDI Profile)				-0.0395311*** (-3.43)
6 ln(OFDI Profile)			0.0008056 (0.48)	
7 ln(IFDI Profile)			-0.0440412*** (4.19)	
Mean VIF	1.20		1.55	
R <sup>2</sup>	0.0751	0.0751	0.1186	0.1159
Prob > F	0.0233**	0.0749*	0.004***	0.0009***

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

Hypothesis 2 is supported as the coefficient of FDI is significantly negative, with or without linear transformation. This means the more FDI activities between a country and a Chinese province, the less their technological specialization fields are correlated. As OFDI is not significant across models, I then report the Variance Inflation Factor to test the potential multicollinearity problem. It turns out that neither mean VIF value pass the threshold 10. This basically tells that the effect of OFDI is really not significant. IFDI mostly contributes to the technological fields' divergence between Chinese provinces and their FDI partners.

An interesting finding is that the trend between OFDI and IFDI do fluctuate together. Based on statistics of cumulated FDI project counts during 2000-2014, the more a country invests in a specific province, the more the province invests back to the country. This indirectly proves the business network theory. When seeking for general purpose R&D facilities, Chinese firms tend to rely on historical business ties to establish subsidiaries abroad.



**Figure 1** bilateral FDI trend among 88 pairs of unequally developed region

### Conclusion

So what is the answer to “Does FDI make the world more convergent or divergent?” It is not simply as “either-or.” In terms of innovation growth rate and innovative capabilities, the world is becoming convergent as developing regions are catching up with advanced economies. Meanwhile, the world is also becoming more diversified considering regional technological specialization. The more bilateral FDI between regions does not make more similar in technological advance. Instead, they are becoming more and more divergent. A concrete example would be those provinces in China that has foreign joint venture auto manufacturers do not develop local automobile brand. However, those provinces such as Anhui province and Zhejiang province where foreign automobile firms do not set up subsidiaries actually develop local innovation capability in auto industry and national even international reputable brand Chery and Jeely (which acquired Volvo).

Evolutionary perspective informs us about, once an initial technology field is set, how the technological development process is involving both continuity and gradual transformation. Meanwhile, resource dependence logic of diversification explains how initial technology field is determined. Emerging market local firms are eager to alter power imbalance and lessen the dependence on foreign firms. More foreign firms in a location provides pressure for the location to develop its own technological advantage. Although bilateral FDI tends to be mutually enhancing between two unequally developed regions, the two locations do not reveal technological specialization convergence. Instead, their technology specialization pattern tends to be negatively correlated, meaning the advantage of region A seldom becomes the advantage of its partnering region. This indirectly proves business network theory by identifying local actors tend to go back to their partners’ origin to seek resources. IFDI activity facilitate the cumulating of business ties. When Chinese firms go-global, they tend to leverage on this pre-established business ties and thus locate in places with familiar business partners. This also leads us to rethink how technology spillover take place between two unequally developed regions? This research uses 3 digit code of technology field to test hypothesis, which is comparatively specific in classification of technology. If technology field is defined in less specific category, will the convergence phenomenon show up? If spillover is not in the exact field of technology, will that happen in other related field? Such concerns guide the future research direction of using technology field relatedness measure to test which direction is the less developed region follow after frequent

FDI activities. One of the limitation of this research is it still does not address the direction of innovation. I only answer which direction it won't go to. In the future research, I will focus more on which fields EMNEs and developing regions head to, whether the fields that are complementary or divergent to its partners'. So that the reason of divergent can be figured out.

There are several policy implication based on the findings of the paper. By attempting to test the relationship between bilateral FDI among unequally developed regions and the technological catch up, this study reveals its main intention to raise attention to FDI as a whole rather than viewing inward and outward separately. The location choice of OFDI from an emerging market is not from vacuum but has a historical reason that largely attributable to IFDI. This might yields policy implications that while promoting "going global", attracting inward FDI is also important for sustainable innovation capability building of a location as IFDI is an integral and indispensable part of the global connectivity especially IFDI always show more significant result than OFDI. It is the on-going interaction between inward and outward FDI that better immerse a location into global knowledge network and thus promoting its position in national competence hierarchy.

Additionally, by analyzing competence in two facets, level and structure, this paper is intended to promote the idea that innovation growth is not only about how far a location has reached in total volume, but also about whether a location has an expertise that can distinguish it from other regions. After the opening and reform in 1978, we do see rapid increase in total GDP in every province of China, especially the 13 provinces in or adjacent to east coastal regions. In order to catalyze regional growth and have prominent political performance, each tenure governors tried their best to incorporate industries that bring temporary revenues. After 30 years growth, nearly every province has its own automobile plants and iron-works. But is every province compatible to any lucrative businesses? or should they leverage on their historical technology tradition in order to build regional competitive advantage? Why developed global regions have distinctive technology specialization profile? Why foreign firms with specific technological focus have a preference to locate and cluster their international production in specific regions rather than spreading all around Chinese provinces? Technology specialization matters in terms of productivity promotion. To conclude, while achieving overall growth in level is important, Chinese provinces also have to pay attention to knowledge accumulation in specialized fields which affects the long term competitive advantage of a location. And the selection of a technology field for development does not rely on how lucrative the field is the short term but depend on whether such industry and technology field fit the location characteristics, namely historical technology accumulation, local factor endowment and resources can be drawn from international connectivity, for long term competence building.

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$${}^1 \text{RTA} = \frac{\frac{P_{ij}}{\sum_i P_{ij}}}{\frac{\sum_i P_{ij}}{\sum_{ij} P_{ij}}}, \text{ Revealed Technology Advantage (RTA) index measures the degree of technology}$$

specialization of a region, compared to all the other regions in the same development status. “i” denotes to one of the 64 field of technology while “j” denotes region. RTA Index has a value from 0 to infinite. Once the value is above 1, it means the region has advantage in a specific technology field.

# ***Assessing Development Performance Of Urban Agglomeration Based On Malmquist-Luenberger Index: A Empirical Analysis Of The Urban Agglomeration Around Beijing, China***

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## **Abstract**

*Urban agglomeration plays a significant role in regional economic due to the close exchange of matter, energy and information among cities. Urban agglomeration also provides competitive benefits and opportunities for the cities suffering urbanization issues to overcome their challenges together. This paper attempts to employ the Malmquist-Luenberger (ML) index approach to evaluate the development of the urban agglomeration, considering desirable outputs and undesirable outputs. The ML index derived from the directional distance function is an acceptable and effective approach to calculate total factor productivity (TFP), which can increase desirable outputs while reduce undesirable outputs. Furthermore, this study discusses the potential feasibility of the regional coordinated development among cities in the urban agglomeration based on the game theory. This paper makes an empirical analysis of 13 major cities around Beijing, the capital of China, namely the Beijing-Tianjin-Hebei (Jing-Jin-Ji) urban agglomeration. Panel data covers the period from 2005 to 2014. The empirical analysis results indicate that the difference on development performance among 13 major cities is remarkable significant. Regional coordinated development is a necessary choice for the cities in the agglomeration to promote economic development and environmental protection.*

**Keywords:** Urban agglomeration; Malmquist-Luenberger index; Game theory; China

## **Introduction**

It is well known that the rapid development of the world economy is accompanied with the close exchange of matter, energy and information among cities and the dramatic growth in urban population. Hence, the cities in the same area are gathering as a cluster to take synergetic development strategy, namely urban agglomeration. Urban agglomeration refers to the certain region which contains at least one metropolis as the core and more than three cities as the component units (Fujita et al., 1999; Fujita and Thisse, 2002; Glazer et al., 2003). As a union, cities can participate in the process of regional public affairs decision-making through negotiation and focus on the cooperation in such field as public goods supply, economies of scale, common pool resources (CPR) administration, with following the institution for collective action (ICA) framework (Wallis, 1994; Feiock, 2004; Feiock and Scholz, 2010). Convenient infrastructure network, economic and administration integration, and considerable spatial correlation can be regarded as the most remarkable characteristics of urban agglomeration. Most of the well-known urban agglomeration become the omphalos in the country or continent, even the whole world, with exceptional geographical location and abundant natural resources. In combination of modern industry, business & finance, and culture & media, these areas usually spark new ideas and advanced technology as an incubator.

According to the performance of world economy and industrialization in the past several decades, urban agglomeration has played a significant role and two models can be classified: one is single-core model, the other is multi-centers model. New York, London, Tokyo metropolitan areas are typical samples of single-core model. The megacity, as the axis of urban agglomeration region, has vitally important radiant effect to promote the development and prosperity of every component city. Component cities in multi-centers urban agglomeration have a clear division of responsibilities and keep an appropriate balance without a specific megacity as the core. Rhine-Ruhr

metropolitan area, for instance, contains about 20 cities and makes use of these cities' respective advantages to focus on synergetic development in the field of energy, culture, finance, industry and infrastructure construction. Alongside with the German capital Berlin, Bonn located in the southernmost part of the Rhine-Ruhr metropolitan area is a political and cultural center in this region. Cologne, as the largest city in this region, benefits from a large market structure based on insurance and media industries and is home to many corporate headquarters. Düsseldorf is known as one of the top telecommunications centers in Germany and has become an international business and financial center. Essen and Dortmund both focus primarily on industry.

There are three main urban agglomerations in China, Beijing-Tianjin-Hebei (Jing-Jin-Ji), Yangtze River delta, Pearl River delta, which have accounted for 36% of China gross domestic product (GDP) at only cost of 2.8% of land area and 18% of China's population. Therefore, these three urban agglomerations stimulate the whole country's economic growth radically and turn into important participants that cannot be neglected in the international competition and cooperation. Taking Jing-Jin-Ji urban agglomeration as an example, 13 cities are located in this region with over one hundred million inhabitants, including Beijing, Tianjin, Shijiazhuang, Tangshan, Qinhuangdao, Handan, Xingtai, Baoding, Zhangjiakou, Chengde, Cangzhou, Langfang, Hengshui. The urbanization rate of Beijing and Tianjin is more than 80% while Hebei province's urbanization rate is less than 46.8%. 60.42% of the agglomeration's population crowd into Beijing and Tianjin and 77.06% of regional GDP is contributed by Beijing and Tianjin. We can discover that Jing-Jin-Ji urban agglomeration is a multi-centers model and exits a remarkable polarization in urbanization and economic growth.

The whole world, especially China, have witnessed rapid economic growth and urbanization during the past decades. A great number of factors, including manufacturing and infrastructure construction, energy consumption, provide the impetus for increasing people's income and raising living standard. However, harmful by-products of urbanization are gradually producing environmental problems and social dilemmas while urban residents enjoy the comfortable life in the cities. Climate change, smog disasters, water pollution, tragedy of the commons and other issues are sabotaging the world's development process and demolish the outcome of urbanization. As a result, making urbanization compatible with environmental protection and resources conversation has become a noticeable theme in the whole world for achieving a sustainable future. In line with this, less input consumption and more green products are the most important issues that the leadership ought to concern in the process of administration. Increasing international concerns for climate change and other social problems have induced global cooperation in sustainable development, such as Paris climate agreement.

The purpose of this study is to investigate the development of the urban agglomeration through the change in total factor productivity (TFP), considering desirable outputs and undesirable outputs. The total factor productivity is an index that mirrors shifts in technology resulting from output growth (Hulten, 2001). In fact, several studies have demonstrated that the increase of TFP has important implications for maintaining urbanization with limited resource and crucial environmental goals. Honma and HU (2009), Chang and Hu (2010) analyzed energy productivity growth, taking Japan and China as research subjects respectively. There exist various analysis methods to calculate TFP based mainly on three theories, including Solow residual method, stochastic frontier analysis (SFA) and data envelopment analysis (DEA). For the purpose of distinguishing the components of TFP index, a method which is growing in popularity in recent years is Malmquist index introduced by Caves et al. (1982). With considering the undesirable outputs, Chung et al. (1997) employ directional distance functions, instead of Shepherd distance functions, to analyze the productivity of Swedish paper and pulp mills and proposed Malmquist-Luenberger (ML) index. ML index has been widely used in a great number of researches. Yoruk et al. (2005) and Kumar (2006) focus on comparing the conventional Malmquist index and ML index, with investigating the determinants of several countries' total factor productivity. Oh (2010) incorporates group heterogeneities into a conventional ML index and computes the technological gap between regional and global frontier technologies. Zhou et al. (2012) make use of a non-radial directional distance function to study energy and CO<sub>2</sub> emission performance in electricity generation.

The remainder of the paper is organized as follows. Section 2 introduces the directional distance function and the Malmquist–Luenberger index. The panel data and empirical results related to TFP change and changes in technology and efficiency are discussed in Section 3. In Section 4 we utilize game theory and the results above to explore the synergetic development policy which Chinese government push local administrative departments to adopt. Finally, Section 5 presents the conclusions and policy implications derived from the study.

## Methodology

### 1. The underlying assumptions

A number of underlying assumptions and the production possibility set (PPS) should be defined to introduce Malmquist–Luenberger (ML) index, following Fare et al. (1994, 2007) and Chung et al. (1997). Suppose that decision making units (DMUs, cities, in this research), represented by output set  $\mathbf{P}(\mathbf{x})$ , produce  $M$  desirable outputs,  $\mathbf{y} \in R_+^M$ , and  $I$  undesirable outputs or by-products,  $\mathbf{b} \in R_+^I$ . Considering a vector of inputs  $\mathbf{x} \in R_+^N$ , the PPS containing both desirable and undesirable outputs can be expressed as follows:

$$\mathbf{P}(\mathbf{x}) = \{(\mathbf{y}, \mathbf{b}) \mid \mathbf{x} \text{ can produce } (\mathbf{y}, \mathbf{b})\} \quad (1)$$

To model the production frontier that consist of both desirable and undesirable outputs, the PPS should satisfy the following three underlying assumptions.

First of all, desirable outputs are assumed to be strongly or freely disposable. A certain desirable output vector will not change the feasibility if any desirable output vector larger than that is feasible, which means that DMUs can dispose of part of the desirable outputs without any additional cost, so that:

$$(\mathbf{y}, \mathbf{b}) \in \mathbf{P}(\mathbf{x}) \text{ and } \mathbf{y}' > \mathbf{y} \text{ imply } (\mathbf{y}', \mathbf{b}) \in \mathbf{P}(\mathbf{x}) \quad (2)$$

Second, both the desirable and undesirable outputs are null-joint. DMUs cannot produce desirable outputs separately with the absence of undesirable outputs, as follows:

$$(\mathbf{y}, \mathbf{b}) \in \mathbf{P}(\mathbf{x}) \text{ and } \mathbf{b} = 0 \text{ imply } \mathbf{y} = 0 \quad (3)$$

Third, a weak disposability is assumed. This assumption implies that the undesirable outputs, such as environmental pollution, greenhouse gases, social issues, could be abated costly, leading to lower desirable outputs.

$$(\mathbf{y}, \mathbf{b}) \in \mathbf{P}(\mathbf{x}) \text{ and } 0 < \theta < 1 \text{ imply } (\theta\mathbf{y}, \theta\mathbf{b}) \in \mathbf{P}(\mathbf{x}) \quad (4)$$

Based on the above definitions and assumptions, the PPS can be illustrated by the piece-wise linear solid line, as shown in Fig. 1.

### 2. Directional distance functions

In contrast to the Shephard distance function (Shephard et al., 1970), Chung et al. (1997) employed the direction distance function (DDF) to modify the conventional Malmquist index, which attempts to expand desirable outputs while reduce undesirable outputs simultaneously. The function is defined as:

$$\overline{D}_0(\mathbf{x}, \mathbf{y}, \mathbf{b}; \mathbf{g}) = \sup\{\beta : (\mathbf{y}, \mathbf{b}) + \beta\mathbf{g} \in \mathbf{P}(\mathbf{x})\} \quad (5)$$

where  $\mathbf{g}$  is the direction vector that determines the direction of outputs. To maximum desirable outputs and minimum undesirable outputs, the direction vector should be  $\mathbf{g} = (\mathbf{g}_y, -\mathbf{g}_b)$ . Fig. 1. visually depicts the advantages of the directional distance function compared with the Shephard distance function. In Shephard distance function, DMU improves its performance from point A to point C, increasing both desirable and undesirable outputs. Conversely DMU expand desirable outputs to attain a much more superior performance with shrinking undesirable outputs, which is illustrated as an arrow from point A towards northwest direction in Fig. 1.

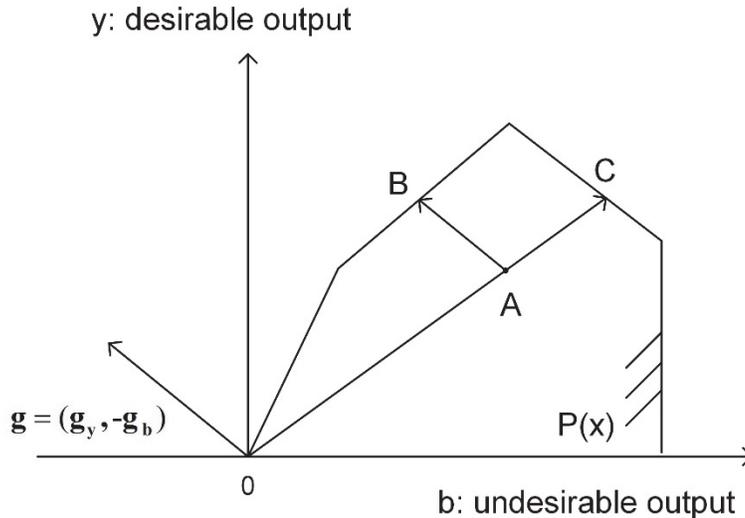


FIG. 1. DIRECTIONAL DISTANCE FUNCTION

According to Fare et al. (2001), the directional distance function can be modeled in a linear program which satisfies the above conditions as follows:

$$\overline{D}_0(\mathbf{x}, \mathbf{y}, \mathbf{b}; \mathbf{g}) = \text{Max } \beta \quad (6)$$

Subject to

$$\sum_{r=1}^R \mathbf{z}_r \mathbf{x}_{nr} \leq \mathbf{x}_{n0}; \quad n = 1, 2, \dots, N$$

$$\sum_{r=1}^R \mathbf{z}_r \mathbf{y}_{mr} \geq (1 + \beta) \mathbf{y}_{m0}; \quad m = 1, 2, \dots, M$$

$$\sum_{r=1}^R \mathbf{z}_r \mathbf{b}_{ir} = (1 - \beta) \mathbf{b}_{i0}; \quad i = 1, 2, \dots, I$$

$$\mathbf{z}_r \geq 0; \quad r = 1, 2, \dots, R$$

where  $\mathbf{z}_r$  are non-negative weights, assigned to  $r = 1, 2, \dots, R$  observations in setting the frontier of the PPS.

### 3. Malmquist-Luenberger (ML) index

By using the conception of the directional distance function, Malmquist-Luenberger (ML) index for a particular DMU<sub>0</sub> over  $t$  and  $t+1$  time period can be defined as follows (Chung et al., 1997):

$$ML_t^{t+1} = \left[ \frac{(1 + \bar{D}_0^t(\mathbf{x}^t, \mathbf{y}^t, \mathbf{b}^t; \mathbf{y}^t, -\mathbf{b}^t))}{(1 + \bar{D}_0^t(\mathbf{x}^{t+1}, \mathbf{y}^{t+1}, \mathbf{b}^{t+1}; \mathbf{y}^{t+1}, -\mathbf{b}^{t+1}))} \frac{(1 + \bar{D}_0^{t+1}(\mathbf{x}^t, \mathbf{y}^t, \mathbf{b}^t; \mathbf{y}^t, -\mathbf{b}^t))}{(1 + \bar{D}_0^{t+1}(\mathbf{x}^{t+1}, \mathbf{y}^{t+1}, \mathbf{b}^{t+1}; \mathbf{y}^{t+1}, -\mathbf{b}^{t+1}))} \right]^{\frac{1}{2}} \quad t = 1, 2, \dots, T \quad (7)$$

The ML index can be decomposed into two component measures. One is MLEFCH representing efficiency change and the other is MLTECH accounting for technical change:

$$MLEFCH_t^{t+1} = \frac{(1 + \bar{D}_0^t(\mathbf{x}^t, \mathbf{y}^t, \mathbf{b}^t; \mathbf{y}^t, -\mathbf{b}^t))}{(1 + \bar{D}_0^{t+1}(\mathbf{x}^{t+1}, \mathbf{y}^{t+1}, \mathbf{b}^{t+1}; \mathbf{y}^{t+1}, -\mathbf{b}^{t+1}))} \quad (8)$$

$$MLTECH_t^{t+1} = \left[ \frac{(1 + \bar{D}_0^{t+1}(\mathbf{x}^t, \mathbf{y}^t, \mathbf{b}^t; \mathbf{y}^t, -\mathbf{b}^t))}{(1 + \bar{D}_0^t(\mathbf{x}^t, \mathbf{y}^t, \mathbf{b}^t; \mathbf{y}^t, -\mathbf{b}^t))} \frac{(1 + \bar{D}_0^{t+1}(\mathbf{x}^{t+1}, \mathbf{y}^{t+1}, \mathbf{b}^{t+1}; \mathbf{y}^{t+1}, -\mathbf{b}^{t+1}))}{(1 + \bar{D}_0^t(\mathbf{x}^{t+1}, \mathbf{y}^{t+1}, \mathbf{b}^{t+1}; \mathbf{y}^{t+1}, -\mathbf{b}^{t+1}))} \right]^{\frac{1}{2}} \quad (9)$$

$$ML_t^{t+1} = MLEFCH_t^{t+1} \times MLTECH_t^{t+1} \quad (10)$$

If  $ML_t^{t+1} = 1$ , then both inputs and outputs maintain the same level during two time periods. If the productivity of a certain DMU has increased, then  $ML_t^{t+1} > 1$ . Whereas if  $ML_t^{t+1} < 1$ , then there has been a decrease.  $MLEFCH_t^{t+1}$  represents a ratio of the distance to the frontier. If  $MLEFCH_t^{t+1} > 1$ , then the distance has shrunk, which means that the observed DMU move towards its frontier over the period and has a better efficiency. If  $MLEFCH_t^{t+1} < 1$ , then the distance has been longer, which implies that the observed DMU is further away from its frontier. Fluctuations in technology are evaluated by  $MLTECH_t^{t+1}$ . If  $MLTECH_t^{t+1} > 1$ , then the observed DMU has produced more desirable outputs and fewer undesirable outputs by utilizing advanced technology. If  $MLTECH_t^{t+1} < 1$ , then the observed DMU suffered technical regression, with a shift of the frontier in the direction of fewer desirable outputs and more undesirable outputs.

## Data and Empirical results

### 1. Description of the data

Taking Jing-Jin-Ji urban agglomeration as an instance, this research considers 13 cities in this region as study subjects. Malmquist-Luenberger index requires the data with outstanding accuracy because it is very sensitive to the deviation. To meet demands of ML index, the panel data employed in this study is obtained from China city statistical yearbook, covering the period from 2004 to 2013. On account of the restriction between DMUs and variables (Friedman et al., 1998), four variables are selected to calculate the ML index of Jing-Jin-Ji urban agglomeration, namely, GDP, SO<sub>2</sub>, labor force, fixed investment. Out of these four variables the first two, GDP and SO<sub>2</sub> are considered as proxies of desirable and undesirable outputs respectively and the remaining two are taken as inputs for production process. Both GDP and fixed investment are measured in 100 million CNY. The measure units of SO<sub>2</sub> emissions and labor force are one thousand tons and ten thousand persons respectively.

As the most representative economic indicator, GDP is a common used desirable output in a large number of studies (e.g. Kumar, 2006; Oh, 2010; Yang et. al., 2013; Zhang, 2014; Choi et.al., 2015). SO<sub>2</sub> is a main contaminant as a by-product of urbanization and industrialization, and it has significant impacts on human health. In addition, there is a substantial correlation between the SO<sub>2</sub> emissions and other pollute indicators, such as NO<sub>2</sub>, CO, PM 10, and PM2.5. Instead of capital stock, which is a common input indicator in relevant literatures, this study chooses the fixed investment. The reason is that urbanization attaches importance to physical assets, including: installations, buildings, vehicles and so on. Different from the other three indicators, the data of the labor force cannot be fetched from China city statistical yearbook directly. To achieve the growth in the quality of life, blossoming of education and culture, avoidance of unemployment and quality of life, cities should focus on shifts from the primary, through the secondary and finally to the tertiary sector. The workers in both secondary sectors and tertiary sectors should be considered as considerable factors to urbanization. Hence, the labor force involved in this study is a sum of the workers in two sectors.

The descriptive statistics of all the sample data are presented in Table 2. Among all the variables, the mean value is remarkable larger than the median, indicating that the cities in Jing-Jin-Ji agglomeration have a significant level of positive skew in the dataset. Table 3 lists average value and average growth rate of the variables for each city. Beijing is the best city at economic performance as the only one with over one thousand billion CNY annual GDP. Although Tianjin takes the second place, the gap of GDP between Beijing and Tianjin is enormous. Chengde, Hengshui, Qinhuangdao and Zhangjiakou are ones suffering from underdevelopment. The value of the four cities far behind the average value of annual GDP of 13 cities, namely 280.944 billion CNY. Furthermore, the annual GDP growth rate of Jing-Jin-Ji agglomeration is 14.49% and it is larger than the growth rate of China during the same period. All the cities have achieved double-digit growth per year except Hengshui.

As regards SO<sub>2</sub> emissions, the highest value is observed in Tangshan (284.03 thousand tons), followed by Tianjin (214.53 thousand tons) and Handan (186.72 thousand tons). Cangzhou (31.65 thousand tons) is the smallest emitters but a more rapid rate of the production of SO<sub>2</sub> (8.35%). Its growth rate is almost ten times as much as the mean of 13 cities. Beijing, Hengshui, Xingtai and Zhangjiakou have seen negative growth over the period studied.

TABLE 1: DESCRIPTIVE STATISTICS OF VARIABLES

	Mean	SD	Median	Maximum	Minimum
<b>Outputs</b>					
GDP (100 million. CNY)	2890.44	3686.26	1447.15	19500.56	300.62
SO <sub>2</sub> (thousand Tons)	114.73	77.55	83.20	331.86	23.91
<b>Inputs</b>					
Labor force (10 thousand Persons)	108.59	171.28	45.21	815.80	20.87
Fixed investment (100 million. CNY)	1583.59	1803.73	927.68	10091.03	129.19

TABLE 2: AVERAGE VALUE AND AVERAGE GROWTH RATE OF VARIABLES

City	GDP		SO2		Labor force		Fixed investment	
	Mean	Growth	Mean	Growth	Mean	Growth	Mean	Growth
Baoding	1819.45	11.47	66.28	5.54	74.18	5.65	1102.08	17.41
Beijing	11877.97	19.14	74.34	-7.73	662.58	0.39	4614.48	12.23
Cangzhou	1878.31	16.82	31.65	8.35	45.37	3.78	1073.45	28.65
Chengde	756.47	17.70	75.36	3.97	24.68	3.51	557.67	26.31
Handan	2030.34	14.37	186.72	0.69	59.93	3.97	1343.60	25.97
Hengshui	717.69	9.65	46.97	-0.86	23.44	3.79	409.59	16.65
Langfang	1173.88	14.01	42.62	2.64	31.45	7.13	874.89	23.77
Qinhuangdao	810.24	11.34	57.10	5.55	29.51	2.27	409.39	20.96
Shijiazhuang	3049.48	12.99	178.55	0.97	86.48	0.76	2214.73	22.08
Tangshan	3806.39	16.13	284.03	1.02	78.89	3.70	1824.51	26.66
Tianjin	7771.11	19.42	214.53	1.10	224.39	5.45	4785.11	26.51
Xingtai	1082.10	10.93	110.55	-2.74	35.84	4.02	758.70	21.21
Zhangjiakou	802.27	14.35	122.85	-7.55	34.92	1.02	618.44	29.85
Average	2890.44	14.49	114.73	0.84	108.59	3.50	1583.59	22.94

## 2. Empirical results

Based on the above-described data and research methods specified in Eqs. (6), (7), (8), and (9), we employ a software, MaxDEA, to estimate urbanization level and its source. Table 4 presents the annual average values for Malmquist-Luenberger index and its components. The annual average values are geometric means, for example, the ninth root of the growth rates for the nine pairs of years (from 2004-2005 to 2012-2013). For comparative purposes, Table 4 also lists the results of conventional Malmquist index, which ignores undesirable outputs, and its decompositions based on the same input and output variables. All the results suggest that although Jing-Jin-Ji urban agglomeration has expanded rapidly with a high rate of GDP growth during 2004-2013, the urbanization appears somewhat unsatisfactory from a ML index viewpoint.

TABLE 3: DECOMPOSITION OF AVERAGE ANNUAL CHANGES

City	Incorporate undesirable outputs (ML index)			Ignore undesirable outputs (conventional M index)		
	ML	MLEFCH	MLTECH	M	MEFCH	MTECH
Baoding	0.992	0.979	1.013	0.968	1.006	0.963
Beijing	1.134	1.000	1.134	1.134	1.000	1.134
Cangzhou	0.865	1.000	0.865	1.015	1.001	1.013
Chengde	1.016	1.000	1.016	1.028	1.000	1.028
Handan	1.018	0.989	1.029	0.997	0.983	1.013
Hengshui	1.027	1.000	1.027	1.003	1.000	1.003
Langfang	0.964	0.990	0.974	1.007	0.984	1.023
Qinhuangdao	0.988	1.000	0.988	0.976	1.000	0.976
Shijiazhuang	1.090	0.990	1.100	1.094	0.989	1.107
Tangshan	1.026	1.000	1.026	1.029	1.000	1.029
Tianjin	1.104	1.000	1.104	1.109	1.000	1.109
Xingtai	1.010	0.985	1.025	1.003	0.979	1.025
Zhangjiakou	0.929	0.966	0.962	0.922	0.965	0.955
All	1.010	0.992	1.018	1.020	0.993	1.028

ML: Malmquist-Luenberger Index; MLEFCH: Malmquist-Luenberger Efficiency Change; MLTECH: Malmquist-Luenberger Technical Change; M: Malmquist Index; MEFCH: Malmquist Efficiency Change; MTECH: Malmquist Technical Change

From the holistic perspective, the results calculated by the ML index reveal that the whole region studied has witnessed an average annual increase in total factor productivity (TFP) of about 1%, which means that agglomeration's GDP has increased by 1% per year while SO<sub>2</sub> emissions are reduced by 1% per year with the fixed input consumption. Accordingly, agglomeration make a progress in productivity per year and the gap among cities is shrinking during 2004-2013 although the speed is really low. The decompositions result of the ML index indicates that technical change (MLTECH) is the primary source of the TFP movement (1.8%) while the value of efficiency change (MLEFCH) is negative. On the other hand, the average annual productivity of the whole region studied has increased by approximately 2.8% under the conventional Malmquist index, double the ML index result. Technical change also pushes the growth of the TFP in a larger degree. Efficiency change witnessed a very slight improvement although the value is still negative. In general, Table 4 depicts that the average annual growth in TFP and technical change is larger than that in the conventional Malmquist index, whereas the average annual growth in efficiency change reverses. This difference appears to originate from the obvious gap in technical change and the main reason is that the ignorance of environment sensitive factors, such as SO<sub>2</sub> emissions, and these externalities are not considered in the conventional Malmquist index yield the overestimated result.

As regards each city, Beijing has get the best score in both ML index and conventional Malmquist index, with the same value (13.4%), followed by Tianjin, which has taken the second place in both methods. Cangzhou and Langfang witness a shift in the results. The two cities' total factor productivity measured by conventional Malmquist index is greater than one, while TFP measured by ML index is lower than one. Cangzhou, especially, ranks last among 13 cities based on ML index. With incorporating undesirable outputs, insufficient technological progress concerning environmental factors generates a remarkable fall in MLTECH, which account for the different results. On the contrary, several cities, such as Baoding, Handan, Hengshui, Qinhuangdao, Xingtai, get a better score in productivity calculated by ML index, and technical change is the key point to the growth of TFP.

Fig. 2 reveals the annual trends of ML index and its two decompositions for the agglomeration. There is a strong relevance between TFP and technical change, which indicates technical change is the main reason for shifts in TFP. Because of economic globalization, Jing-Jin-Ji urban agglomeration cannot escape from the impact of the global economic crisis and distinct valleys can be seen in 2009 and 2012. However, productivity revives rapidly due to the outstanding potential of the economic growth and urbanization in Jing-Jin-Ji urban agglomeration. The efficiency change over the research period is lower than one in most of the years, which remains unsatisfactory level.

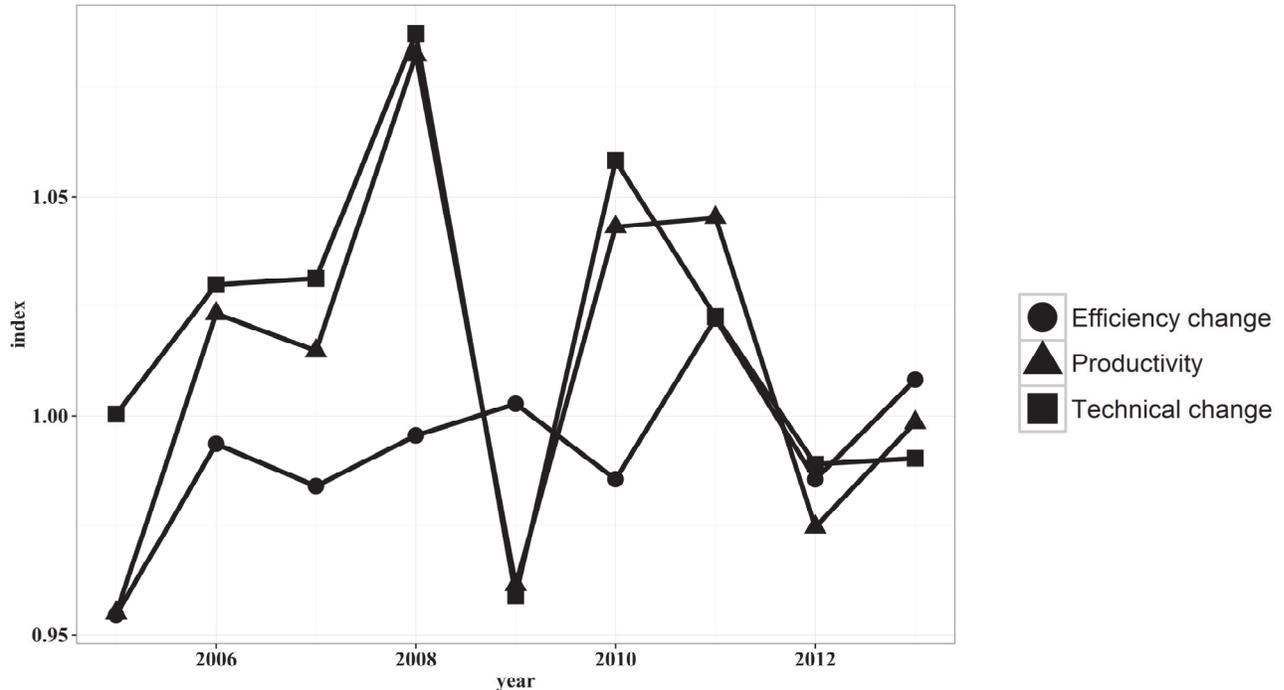


FIG. 2. PRODUCTIVITY, EFFICIENCY CHANGE, TECHNICAL CHANGE OF ML

### Further discussions with game theory

In section 3, we have obtained the results of ML index and evaluate cites in Jing-Jin-Ji urban agglomeration from productivity perspective. A number of development problems are witnessed during the ten years studied. To give a solution, this section employ game theory to explain synergetic development strategy is a necessary choose for cities to solve problems with effect. Resource and burden sharing is the foundation of synergetic development and win-win situation should be all the cities' destination. Additionally, cites may change their decisions depending on others'. The cost involved in the game process varies from one city to another because their resource endowment is distinct, for instance, Beijing and Tianjin are gathering different kinds of resources, especially human resources, from the other cities for their outstanding political and economic status in the agglomeration. Accordingly, we choose a kind of dynamic game with asymmetric information to conduct further discussions.

We suppose that there are two cities, A and B, involved in a  $2 \times 2$  matrix game and they are regard as the players with bounded rationality. Both of the two players can make an alternative decision as the other changes its own strategy. The increase in the number of the cities taking a certain pure strategy is proportional to the benefits that players obtain from the strategy. City A and B can obtain  $r_1$  and  $r_2$  benefits respectively, without regard for their cooperation. The cost of city A and B for resource sharing can be expressed as  $C_1$  and  $C_2$  respectively. R

represents the total benefits of resource sharing and  $\rho$  ( $0 \leq \rho \leq 1$ ) is the proportion of the allocation of the total benefits. Hence, the benefit that city A obtains is  $\rho R$  and city B can obtain  $(1 - \rho)R$ . Considering the players are rational, here are three condition as follows:  $R \geq C_1 + C_2$ ;  $\rho R \geq C_1$ ;  $(1 - \rho)R \geq C_2$

The probability of resource sharing chosen by city A is  $x$  ( $0 \leq x \leq 1$ ) and that of city B is  $y$  ( $0 \leq y \leq 1$ ). The value of  $x$  and  $y$  is determined by a function with respect to time, namely,  $x = x(t)$ ,  $y = y(t)$ . Based on the above assumptions, we can make a payoff matrix of the static game between the two cities, as follows:

TABLE 4: THE PAYOFF MATRIX OF THE STATIC GAME FOR RESOURCE SHARING

		City B	
		Cooperation for resource sharing	No cooperation for resource sharing
City A	Cooperation for resource sharing	$\rho R - C_1, (1 - \rho)R - C_2$	$r_1 - C_1, r_2$
	No cooperation for resource sharing	$r_1, r_2 - C_2$	$r_1, r_2$

If city A chooses to share their resources, the expected revenue is:

$$\bar{U}_1 = y(\rho R - C_1) + (1 - y)(r_1 - C_1) = y(\rho R - r_1) + r_1 - C_1$$

Whereas A's expected revenue considering no cooperation for resource sharing is:

$$\bar{U}_2 = yr_1 + (1 - y)r_1 = r_1$$

And the total expected revenue of city A is:

$$\bar{U}_{t-A} = x\bar{U}_1 + (1 - x)\bar{U}_2 = xy(\rho R - C_1) + r_1 - xC_1$$

We can construct replicated dynamic equation of city A, as follows:

$$F(x) = \frac{dx}{dt} = x(\bar{U}_1 - \bar{U}_{t-A}) = x(1 - x)(y\rho R - yr_1 - C_1)$$

According to the above formulas, we can have Theorem 1 as follows:

**Theorem 1**

- . When  $y = C_1 / (\rho R - r_1)$ ,  $F(x) = 0$  for any  $x \in [0, 1]$ . Then we can get the evolutionary stable strategy (ESS) of the above game, namely any  $x \in [0, 1]$ .
- . When  $y < C_1 / (\rho R - r_1)$ ,  $F'(0) < 0$ ,  $F'(1) > 0$ . Then  $x = 0$  is the ESS of the city's strategy selection.
- . When  $y > C_1 / (\rho R - r_1)$ ,  $F'(0) > 0$ ,  $F'(1) < 0$ . Then  $x = 1$  is the ESS of the city's strategy selection.

Using the same method, we can construct replicated dynamic equation of city A, as follows:

$$F(y) = \frac{dy}{dt} = y(1 - y)[x(1 - \rho)R - xr_2 - C_2]$$

And Theorem 2 as follows:

**Theorem 2**

- . When  $x = C_2 / [(1-\rho)R - r_2]$ ,  $F(y) = 0$  for any  $y \in [0,1]$ . Then we can get the evolutionary stable strategy (ESS) of the above game, namely any  $y \in [0,1]$ .
- . When  $x < C_2 / [(1-\rho)R - r_2]$ ,  $F'(0) < 0$ ,  $F'(1) > 0$ . Then  $y = 0$  is the ESS of the city's strategy selection.
- . When  $x > C_2 / [(1-\rho)R - r_2]$ ,  $F'(0) > 0$ ,  $F'(1) < 0$ . Then  $y = 1$  is the ESS of the city's strategy selection.

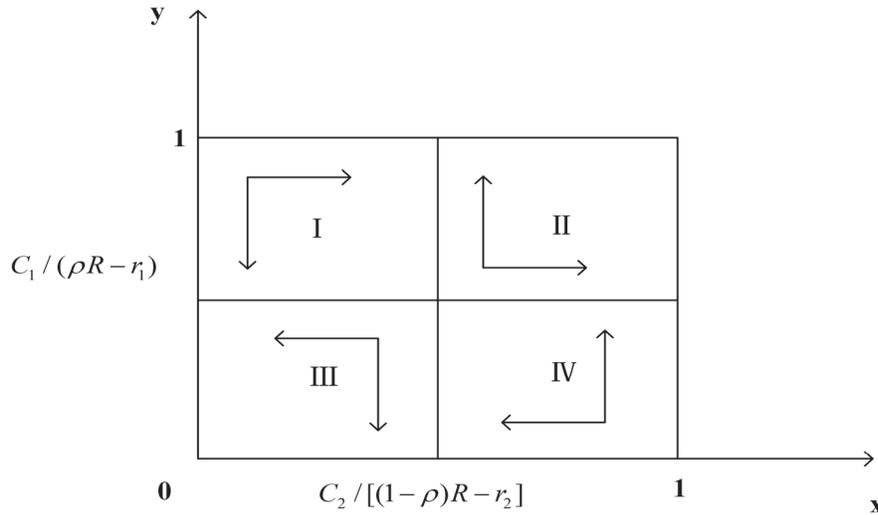


FIG. 3. REPLICATION DYNAMIC RELATIONSHIP BETWEEN CITY A AND B

Fig. 3. illustrates the replication dynamic relationship between city A and B. Area □ will expand and area □ will shrink if the total benefits are really considerable. When the initial point falls in area □, both of the two cities have a strong motivation to share their resources with each other. Whereas they tend to refuse the cooperation when the initial point falls in area □. It may be a little complicated to explain the situation that the initial point falls in area □ and □, because the result is depended on the leaning speed and the pace of economic progress of the cities. If city A's speed is superior to the other city B, city A has a faster convergence speed, from the initial point to  $x=1$ , than B does, from the initial point to  $x=0$ . The point has a high probability to move into area □ and the ESS set is {Share, Share}. On the contrary, if B has a faster speed, B will decline the cooperation for A's unwillingness to share their resources, and then the point moves into area □. Likewise, the initial point falling in area □ has the a similar circumstance.

According to the discussions above, the area where the initial point falls takes an important place. The point can hardly move from area □ to area □ without external promoting factors. For the purpose of synergetic development, the visible hand is required to push the cooperation between cites when the point falls in area □. Based on the results obtained in Section 3, the initial point of Jing-Jin-Ji urban agglomeration falls in area □ with high probability due to the considerable polarization in the urban agglomeration, and the polarization has become more and more serious. Backward cities can hardly keep the same pace with developed cities, for the outstanding TFP of Beijing and Tianjin. As a result, central government needs to take several effective actions and policies to boost cooperation incentive and push the point from area □ to area □ or area □.

## Conclusions and policy implications

Harmful by-products or undesirable outputs are neglected by a number of research and hence lead to biases in the application of research's results. These findings ignore the key characteristic of environmental regulations that take effort to reduce environmental harmful by-products, and reveal that activities respect to pollution abatement have an adverse effect on total factor productivity (TFP). Therefore, decision makers have no positivity to carry out environmental regulations and pollution abatement activities for the purpose of a better TFP score, if the measures only focus on desirable outputs. However, a great amount of environmental problems and social dilemmas are sabotaging the world's development process and demolish the outcome of urbanization. A single city has very limited resources to deal with the problems. Hence, cooperation in sustainable development among cities is an inevitable choice.

This paper first computes the total factor productivity (TFP) of Beijing-Tianjin-Hebei (Jing-Jin-Ji) urban agglomeration through 2004 to 2013 by considering both desirable outputs and undesirable outputs based on Malmquist-Luenberger (ML) Index. Moreover, the productivity index is decomposed into two components including technical change and efficiency change. Furthermore, we compare ML index and conventional Malmquist index to analyze the changing trend of the environmental efficiency for the thirteen cities and the cause of these changes. At last, we employ a kind of dynamic game with asymmetric information to investigate the necessity and reasons for the synergetic development strategy.

The results indicate that the average value of ML index is lower than that of the conventional Malmquist index. For the components of TFP, efficiency change remains the same while technical change changes dramatically from the conventional Malmquist index to ML index. Moreover, technical change is the key point the shifts in TFP. Out of 13 cities, Beijing and Tianjin get outstanding scores, and more than one third of the cities in the urban agglomeration get the scores that are lower than one, including Baoding, Cangzhou, Langfang, Qinhuangdao, Zhangjiakou.

Based on the conclusions drawn from this study, a number of considerable policy implications can be proposed in pushing urbanization and development of Jing-Jin-Ji urban agglomeration, for the purpose of energy-saving and environmental-friendly society. Several factors impact on SO<sub>2</sub> emissions, including technical change and changes in the composition of GDP. Through technical progress, SO<sub>2</sub> emissions can be reduced with the same desirable outputs. If there is a shift from second sectors to tertiary sectors, the decrease in the amount of energy intensive companies will yield a decline in SO<sub>2</sub> emissions. Additionally, considering the remarkable polarization among cities, the central government should take a responsibility to construct effective policy frameworks as the visible hand to achieve synergetic development strategy. First of all, administrative barriers and regional blockades should be eliminated to fully realize the regional cooperation. The coordination mechanisms among cities, the integration of public services and infrastructure construction, and synergistic solutions for ecological problems are all reasonable measures. Additionally, transportation networks, including railways, roads, airports and so on, play an important role in urbanization and synergetic development to make it more convenient for the resources exchange. Secondly, as the core cities, Beijing and Tianjin need to act as a guide in scientific decision-making, cultural exchanges, technical progress, etc. On the other side, the cities in Hebei province need utilize their strengths, such as land, labor and characteristic resources, to digest the resources that Beijing and Tianjin have weeded out as the industry transfer. Taking this opportunity, it is necessary for them to find their own position in the agglomeration.

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## ***The Determinants Of Expatriation Strategy Of Foreign Subsidiaries In Emerging Markets During Post-2008 Economic Crisis***

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### **Abstract**

*The international economic crisis occurred in 2008 affected firm strategies in their domestic and international operations, since firms had to search for superior performance and need to adapt to the new economic scenario. Thus, this study aimed at investigating how this specific crisis period influence the strategic decisions of expatriation of foreign subsidiaries, particularly for those operating in emerging markets. We analyzed longitudinally the post-economic crisis period of 2009-2012. Using multiple regression in panel data, we considered the impact of internal e external aspects on the designation of expatriates in Japanese overseas subsidiaries. The findings show that internal aspects related to nationality of CEO and subsidiary characteristics in terms of size and industry sector influence the designation of expatriation in post-crisis period. Furthermore, external factors related to political aspects of government presents the higher impact compared to other institutional factors related to market and human resources. In conclusion, the decision to expatriate in period of high instability need to consider carefully these aspects to minimize costs, improve management control and transfer knowledge in the internationalization process*

**Keywords:** Expatriation strategy. Foreign subsidiaries. Emerging Markets. Economic crisis.

### **Introduction**

The expatriation strategy relates to the decision of designating people to meet the international demands of the multinational enterprise (MNE). It also involves elements such as cost of expatriation, intercultural adjustment, management control of the foreign subsidiary, knowledge transfer from parent firm to the subsidiary, institutional aspects and distance, and how these elements affect the firm's performance (Sebben, 2009).

Caligiuri (2000) defines expatriate those employees who are designated by a MNE to live and work abroad for at least 2 years. This definition does not consider other characteristics beyond the time of working in international markets. Grosse and Kujawa (1992) explain the concept of expatriate in another way. For them, expatriate is the employee who is assigned to work outside its country of origin with an intention of returning after the execution of activities. This definition includes other aspects, but there are variations in the type of expatriates.

For instance, there is the expatriate on their own (self-initiated expatriate), which is the professional who chooses to self-fund his expatriation (Harrison, Shaffer and Bhaskar-Srinivas, 2004). There is expatriate who is transferred by an employer (expatriates company) (Black and Gregersen, 1991), and the flexpatriate (the frequent flyers of international work) that refers to the manager who travels frequently to other countries, but he/she is not transferred to foreign subsidiaries (Mayerhofer, Hartmann and Herbert, 2004). Froese and Peltokorpi (2011) also use the organizational expatriate terms and self-initiated expatriate. The focus of this study was to analyze the implications related to the performance of organizational expatriates, particularly the parent country nationals – PCNs (Ando, 2011).

The local or international political and economic crisis affect firm strategies, because to reach superior performance, organizations need to adapt to the new economic environment, particularly in terms of prioritization of costs. Benedict (2010) considers that the international financial crisis of 2008-2009 rolled out a ball of linked crises, with a preponderance of financial issues, but sometimes more economical, which has not yet ended. Among other consequences, this crisis dragged the world economy to the worst recession in 80 years and it has been called the Great recession (Benedict, 2010).

Considering the importance of expatriates in the management of subsidiaries, as well as the period of economic crisis, it should be noted that there are still some gaps in the literature, since these two aspects are not well linked. It seems that expatriates could help firms to control and manage foreign subsidiaries in economic crisis period. In addition, it could be important agents to link the communication between subsidiary and parent firm, since economic crisis lead to instability of environment and needs faster communication and decision-making process to adapt to the new economic scenario.

Thus, this study aims to contribute to a better understanding of this phenomenon. Although there are several studies discussing how to manage in times of crisis, there are more studies analyzing the behavior or the reactions of governments in facing crises (Grabel 2000; Singh and Yip, 2000; Chotigeat and Lin 2001; Kim and Haque, 2002; Wang, 2009; Hou, 2011).

Therefore, there are few studies that focused their interests in analyze data and information on how companies react to adverse situations such as deep economic crisis, seeking to systematize the strategic responses adopted by companies in times of crisis. However, specific studies on firm level were performed, particularly regards to the two previous economic crisis. The first is the Asian crisis of 1997-98 (Chung et al., 2008; Chung et al., 2010; Ghauri and Park, 2012; Lee and Makhija, 2009; Pananond, 2007;), and the second is the Argentina crisis 2001-02 (Eshanghoff and Gao, 2004; Gao and Eshaghoff, 2004a, 2004b; Gao and Sarraf, 2009). In addition, although economic crisis are frequent, similar studies focusing on strategic actions of MNEs in times of crisis are rare in the international business field, particularly in relation to expatriation strategy.

Oesterle and Wolf (2011) after making an analysis of academic publications in international business and management area over the past 50 years, mentioned: "It is surprising that the scandals that have surfaced in the business world in recent years, or financial and economic crisis in progress has been very rarely covered by researchers of Management and International Business" (p.743).

Seno-Alday (2010) also hope that further investigations are carried out in the coming years with a focus on exploring the effects of economic crises on international business as this academic field could help to extend or decrease the effect of the crisis.

In the same vein, Ferreira et al. (2013) analyzed past studies in international business field and mentioned that the academy certainly need to deal with these new problems. In particular, issues related to the recent financial crisis in 2008. New research has to be done in order to find new explanations to assist firms in their foreign operations in these more severe periods.

These authors (Ferreira et al., 2013; Oesterle and Wolf, 2011; Seno-Alday, 2010) not only direct attention to a gap unnoticed or ignored by researchers in the International Business area, but also suggest the need to develop a greater number of studies that discuss the impact of recent economic crisis in the MNE strategies. Given this gap and need, it seems appropriate to investigate the relationship of expatriation strategy with the recent economic crisis.

Thus, this study intends to answer the following research question: What are the determinants of expatriation strategy of multinational companies, in the post-2008 economic crisis period, in subsidiaries established in emerging

countries? In this sense, the study aimed at investigating how the international crisis that occurred in 2008 reflected in the strategic decisions of expatriation of foreign subsidiaries operating in emerging markets.

We analyzed a longitudinal data for the period 2009-2012 obtained from secondary databases described in the methodology session. We adopt multiple regression in panel data analyzing 408 observations of 107 Japanese subsidiaries operating in Latin America.

This paper presents the following structure. After the introduction and research question, we develop the literature review and our hypotheses regards to economic crisis and expatriation strategy. Later, we describe the methodology applied in this study, followed by the results and discussion of the main findings. Finally, the conclusion section discusses the main implications and contribution of this study, as well as limitations and future directions of research.

### ***The economic crisis and expatriation strategy***

On the one hand, Solimano (2010, p.33) points out that the economic and financial crisis have destructive effects because they generate unemployment, business failure as a consequence of loss of organizational and productive capital, drop in the national currency against the value of other currencies, loss savings in financial institutions, and lack of credit to finance consumption.

On the other hand, Nunes, Vasconcelos and Jaussaud (2008) explain that there are basically four streams in the expatriation field of study: (i) strategy, (ii) power, (iii) culturalism, and (iv) psychodynamics. Based on a strategic perspective, the expatriation is seem as a strategy for human resource management model, which aims at developing the business skills of the "global executive" (Man and Tolfo, 2008).

However, our study seeks to analyze beyond these terms. We propose that the expatriation strategy includes several international management practices related to the decision to relocate or not executives to meet the demands of the international activities of organizations. Therefore, this strategy could be affected by international political and economic crisis such as the one occurred in 2008, initially in the United States.

Whether the host country of the MNE is crossing a period of economic crisis or not, the firm decision to seek international integration and foreign market penetration requires the assistance of qualified personnel to operate the organization's plans. Moreover, a market crisis may affect the organizational environment, thus the MNE may need to be prepared to manage locally the effects of the economic crisis. Hence, Coombs et al. (2001) explain:

*The process of crisis management entails three main phases: (1) Preparedness, which is the period of preparing plans and procedures for addressing a crisis; (2) Responsiveness, or the actual dealing with the crisis; and (3) Recovery, during which the organization returns to normal operations as quickly as possible. These three phases are considered as sequential phenomena in a continuous cycle so that the Recovery phase, which follows the Responsiveness phase, also precedes the Preparedness phase (Coombs et al., 2001).*

Furthermore, according to Van Oudenhoven, Van Der Zee and Van Kooten (2001), in the globalized business environment in the twenty-first century, the executive work is taking an increasingly international orientation; therefore, employees have to be able to work between different culture and environment. This is in line with Freitas (2000), who states that increasing the internationalization of companies requires a strategic definition of human resources, particularly those who must develop management activities.

The competitive strategy defined by the company to operate in the global market needs to be aligned to the organizational expatriation strategy for the international assignment decisions become efficient and successful for

both business and expatriates. In addition, MNE might be the owner of several foreign subsidiaries with various strategic objectives, thus it can meet local and global demands of the company.

In this sense, the strategic role of foreign subsidiaries may vary even in the same strategic direction of a MNE (Roth and Morrison, 1992). This is due to the specific characteristics of the host country that has been chosen for the establishment of subsidiaries.

Some foreign subsidiaries can extensively withstand the pressure of global integration while others may focus on the mission to meet the local response of the host country (Paik and Ando, 2011). However, even if an MNE can be effective globally and locally, it does not mean that the foreign operation will be successful (Dickmann and Muller-Camen, 2006).

In the next topic, we present issues related to the internal environment of MNEs and the influence of the internal and external aspects of the international environment in the decisions of expatriates' assignments made by MNEs for the implementation of global strategies.

### ***Organizational Internal Aspects***

With the intention to control the parent company interests, MNEs can control their foreign units through the assignment of expatriates. The expatriation is not only an important element of governance of the subsidiary, but also has important implications for performance and capacity development (Harzing, 2001).

In general, from an organizational point of view, three firm strategies of expatriation are important: (i) position filling, in which there are usually no potential employees available to fill a vacancy locally; (ii) organizational control through centralization, decentralization, and control by socialization; (iii) management development, focuses on personal and professional skill development of the expatriates.

According to Delios and Bjorkman (2000), expatriates mainly play two roles in foreign subsidiaries. The first function is to contribute to control in which the expatriate works to align the operations of the foreign unit with the parent company. The second is a function related to knowledge.

In this paper, we consider that the expatriate acts both to transfer knowledge of the array to the subsidiary and to be an agent of the amounts of expatriates assigned to foreign subsidiaries. Although these two main functions that expatriates perform, previous studies had not empirically tested whether there is a direct or inverse relationship between the number of expatriates and the nationality of Chief Executive Officer (CEO) of the subsidiary.

It is necessary, therefore, to understand if the expatriation increases when the CEO is a parent country national, in other words, the same nationality of the expatriates. The assumption is that when the CEO and expatriates are from the same nationality, the communication between them could be easier and the decision-making in post-crisis period could be done faster and effectively. Furthermore, the literature develop about tenure of CEO and management stability and performance. We also assume that when the same CEO manage the subsidiary for a long time, more experience and knowledge could be accumulated to deal with the local environment, and, consequently, less expatriates is need to help him/her to day-to-day operations. These assumptions have not been tested by previous research. In this way, we proposed two hypotheses as follows:

- H1a*** – *Considering the international post-economic crisis uncertainty, multinational companies designated more expatriates to subsidiaries whose CEOs had the same nationality of these expatriates.*
- H1b*** – *Considering the international post-economic crisis uncertainty, multinational companies designated fewer expatriates to subsidiaries whose CEOs had greater time of experience in the management of the subsidiary.*

Furthermore, the internal aspects of the organizational is analyzed through the subsidiaries characteristics, which is divided in two main categories: the industry that the subsidiary operate in the local market, and the subsidiary size, measured through the total number of employees and the capital invested in this particular subsidiary.

The latter are the main types of measure have been used by researchers. Widmier, Brouthers and Beamish (2008) used the capital of the subsidiary to measure size, while Xu, Pan and Beamish (2004), Tan and Mahoney (2006), Wilkinson et al. (2008) and Ando (2011), measure it by the total number of the subsidiary employees.

However, Tan and Mahoney (2006) found that no significant difference between subsidiary size and the expatriation decision of MNEs.

Regarding the measure of capital, Widmier, Brouthers and Beamish (2008) found a positive relationship between capital invested by MNEs and proportion of expatriates.

Based on these prior studies, we proposed also two hypotheses to be tested in the context of Latin America during post-economic crisis:

**H2a** - *Considering the economic uncertainty in the post- crisis period, the greater the size of the subsidiary in terms of employees, the greater the assignment of expatriates.*

**H2b** - *Considering the economic uncertainty in the post- crisis period, the greater the size of the subsidiary in terms of capital invested, the greater the assignment of expatriates.*

Ando and Endo (2013) found empirically a direct and significant relationship between the intensity of human capital and the proportion of parent country nationals (PCNs). The results imply that MNEs with intensive service sector in human capital designate more PCNs for foreign subsidiaries.

On the one hand, Tan and Mahoney (2006) tested the hypothesis that industries characterized by a high level of product customization reduce the assignment of expatriates to foreign subsidiaries. However, this hypothesis is not confirmed empirically. On the other hand, Tan and Mahoney (2006) tested an opposite hypothesis and confirmed empirically that there is a direct relationship between high level of product customization and the use of expatriates in foreign subsidiaries.

Furthermore, Tan and Mahoney (2006) also tested two hypotheses where industries characterized by a high level of uncertainty, MNEs reduce/increase the use of expatriates in foreign subsidiaries. Both cases have not been confirmed empirically.

Makino, Beamish and Zhao (2004) found that Japanese companies invest in different sectors depending on the level of development of countries. In the case of developed countries, the Japanese firms tend to invest in tertiary industry (not manufacture). In developing countries, Japanese MNEs have concentrated their investments in sectors of primary and secondary industry (manufacturing).

These aspects highlight the importance of the subsidiary industry as a determinant factor for expatriation decision. As we are analyzing the context of Latin America in post-economic crisis, we hypothesized that:

**H2c** - *Considering the economic uncertainty in the post- crisis period, there are more expatriates assignment for manufacturing than for non-manufacturing subsidiaries.*

### ***Organizational External Factors***

Subsidiaries of MNEs are organizations that have to deal with a double institutional environment, they need to have compliance and adapt both its internal and external environment to achieve to be competitive in both (Hillman and Wan, 2005; Kostova and Zaheer, 1999).

In this sense, institutions define the rules of a society or the parameters that shape human interaction in society. The institutions establishes stable structures that facilitate economic transactions and reduce transaction costs in uncertain and complex environments (Chan et al, 2008; North, 1990).

The institutional differences among countries have drawn the attention of researchers, since these differences significantly influence strategic decisions. Institutional dissimilarity between host- and home-country presents challenges for MNEs when they seek legitimacy in the local institutional context (Kostova and Zaheer, 1999; Xu and Shenkar, 2002).

Similarly, Hilmersson and Janssens (2012) explain that differences between the market environments and the consequences of these differences are the main obstacles in the internationalization process. A high level of psychic distance is presented as the main factor causing uncertainty for the company, and, therefore, it has occupied a central role in the theory of the internationalization process.

The reduction in uncertainty can be achieved by reducing the complexity in obtaining information, conducting research and through experiential knowledge. Nevertheless, it is necessary to better understand if the institutional aspects of the countries influence the expatriation strategies. We assume that institutional factors related to political and market aspects influence the assignment of expatriates during the post-economic crisis, but it might have some different impact between them. Thus:

***H3a*** - *Considering the economic uncertainty in the post- crisis period, political factors had a greater influence on the expatriation decision of multinational companies than other institutional factors.*

***H3b*** - *Considering the economic uncertainty in the post- crisis period, market factors had a greater influence on the expatriation decision of multinational companies than other institutional factors.*

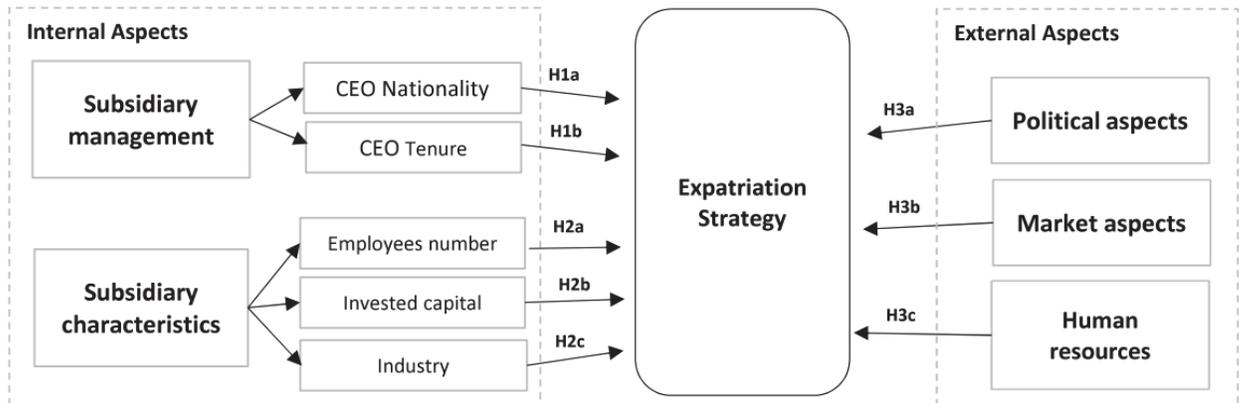
In addition, the effective management of foreign subsidiaries is a core capability of successful MNEs. However, little is known about the changes of the host country environment and the effect on the variations in personal assignment decisions and performance of foreign operation (Schotter and Beamish 2011).

Widmier, Brouthers and Beamish (2008) argue that when MNEs create new subsidiaries in foreign markets, they face many decisions related to human resources. One of the most basic decisions have major implications for the efficiency and profitability of the subsidiary and refers to the personal rate expatriated in relation to local employees.

Among the human resource factors of a country, it can be listed elements like: the education level of the population, the level of training, the total of people able to work, the health conditions of workers. Thus, we hypothesized that human resource aspect could also influence significantly the expatriation strategy compared to other institutional factors:

***H3c*** - *Considering the economic uncertainty in the post- crisis period, the human resources factors had a greater influence on the expatriation decision of multinational companies than other institutional factors.*

Finally, Fig.1 summarizes the proposed framework and hypotheses analyzed in this study.



**FIG. 1 – PROPOSED FRAMEWORK AND HYPOTHESES**

## Methodology

The study is a quantitative research based on secondary data collection using longitudinal analysis. Data of the internal aspects and the expatriation at the subsidiary level were collected at Toyo Keizai (TK) - *Kaigai Shinshutsu Kigyō Souran, Kuni-Betsu* (Japanese Overseas Investment - by country). This is a dataset widely used in the literature. While the institutional variables related to the external aspects were obtained by The World Governance Indicators (TWGI) reports and pillars of the Global Competitiveness Report (GCR). The GCR presents the competitive landscape of 148 countries providing data on productivity and prosperity. The series of annual reports is one of the most complete instrument on global competitiveness. Chung and Beamish (2012) support the adoption of these indicators in academic papers.

This paper analyzes the evolution of the expatriation strategic decisions of Japanese subsidiaries over the 2009-2012 period for Latin America. Previous research on expatriation using Toyo Keizai dataset concentrated the investigation in the U.S. and Asia region, which correspond to the main destinations of Japanese FDI (JETRO, 2012). However, Latin America has received a considerable amount of investments, as a diversification option in emerging markets after the economic crisis.

The reasons of choosing Japanese subsidiaries are given as follows. First, Japanese firms have more controlled foreign subsidiaries by expatriates than MNEs from other countries (Peterson; Napier, Shim, 2000). Second, Japanese MNEs are known for their wide confidence in the human resources of the country of origin (Parent Country Nationals - PCNs), as stated by Ando and Endo (2013). Third, Japanese MNEs have different human resource practices as lasting career, internal rotation of work that facilitate the development of the capital of the firm (Gong, 2003). Fourth, although the Japanese culture have specific political, economic and social conditions that influence its mode of operation in other countries, Japanese MNEs are global reference as the expatriation management practices, the extensive use of expatriates and have an important role in the world economy (Tan and Mahoney, 2006).

Our original sample comprises 1,153 Japanese subsidiaries located in 28 countries in Latin America. However, we have excluded subsidiaries operating in tax havens locations and incomplete cases for all period of analysis (2009-2012). We only considered subsidiaries with complete data for our observation post-crisis period. Thus, our final sample comprises 107 Japanese subsidiaries that have operation in 13 Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Ecuador, Guatemala, Mexico, Panama, Peru, and Venezuela). This corresponds to 428 observations during the period of analysis.

We run our analysis using a panel data, also known as longitudinal data or cross-sectional time series data. This is a data format in which the behavior of the subsidiaries are observed over time (Torres-Reyna, 2013). Table 1 presents all description of the variables used in our analysis.

**TABLE 1 – VARIABLES DESCRIPTION**

<b>Variables</b>	<b>Description</b>	<b>Source</b>
<b>DEPENDENT VARIABLE</b>		
<i>Expatriation</i>	Quantity of expatriates allocated to the subsidiary for each year	TK
<b>INDEPENDENT VARIABLES</b>		
<b>INTERNAL ASPECTS</b>		
<i>Subsidiary management</i>		
- CEO Nationality	Dummy variable: 1 = Japanese CEO; 0 = otherwise	TK
- CEO Tenure	Dummy variable: 1= CEO is the same of the previous year; 0 = otherwise	TK
<i>Subsidiary characteristics</i>		
- Size	Total number of employees	TK
- Industry	Dummy variable: 1 = manufacturing firms; 0 = non-manufacturing firms	TK
- Invested capital	Capital in U.S. dollars	TK
<b>EXTERNAL ASPECTS</b>		
<i>Political aspects of government</i>		
- Regulatory quality	This index measures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	TWGI
- Political stability	This index measures the political stability and absence of violence and terrorism. It is a perception of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism	TWGI
- Freedom of expression	This index measures the perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. A high value indicates more freedom.	TWGI
- Government effectiveness	This index measures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	TWGI
<i>Market aspects</i>		
- Business sophistication	Business sophistication concerns two elements that are intricately linked: the quality of a country's overall business networks and the quality of individual firms' operations and strategies.	GCR
- Financial market development	An efficient financial sector allocates the resources saved by a nation's citizens, as well as those entering the economy from abroad, to their most productive uses.	GCR
<i>Human resources aspects</i>		
- Healthy and primary education	This index measures the level of the healthy workforce to a country's competitiveness and productivity and the quantity and quality of the basic education received by the population.	GCR
- Training and higher education	This index measures secondary and tertiary enrollment rates as well as the quality of education as evaluated by the business community. The extent of staff training is also taken into consideration because of the importance of vocational and continuous on-the-job training.	GCR
- Labor market efficiency	The efficiency and flexibility of the labor market are critical for ensuring that workers are allocated to their most effective use in the economy and provided with incentives to give their best effort in their jobs.	GCR

Notes: TK = Toyo Keizai Inc database (2009-2012);

GCR = Global Competitiveness Report from World Economic Forum (2009-2012);

TWGI = The Worldwide Governance Indicator from World Bank (2009-2012).

We run our panel data adopting multiple regression. According to Hair et al. (2005), multiple regression analysis is a statistical technique that analyzes the relationship between a single dependent variable and several independent variables. It is a powerful analytical tool designed to explore all types of dependency relationships.

We also performed Hausman and Heteroscedasticity tests. The Hausman test is applied to decide between the use of panel data through the technical fixed or random effects. This test assesses whether the errors correlate with the covariates in the null hypothesis (Greene, 2008).

As the information used in this study reflect specific individual characteristics of each subsidiary, we should consider the existence of unobserved heterogeneity. In other words, we must choose between the methods of fixed effects and random effects for the estimation process. However, as the model has variables that do not vary over time, we adopt the random effects model, since the fixed effects model would not be possible to obtain the estimate for the parameter associated with this regressor (Greene, 2011). The next section presents our findings.

### **Analysis and discussion of results**

To analyze the determinants of expatriation to Latin America in the post-2008 crisis period, we test our model for the heteroskedasticity. The results point to the rejection of the null hypothesis that the variance of the errors is constant, and therefore, we estimate the model by random effects with correction for heteroskedasticity problem.

In Table 2, the first two models refers to each organization aspects separately. For instance, Model 1 considers only the internal aspects of the organization including factors related to subsidiary management and characteristics. While Model 2 contemplates the external aspects of institutions, such as political, market and human resources factors. Finally, Model 3 includes all internal and external aspects together.

The preliminary analysis of the results indicates that Models 1 and 3 showed statistically significant to the Wald test ( $p < 0.001$ ). In other words, particularly to the final model, the set of variables showed to be robust to explain the designation of expatriates to the foreign subsidiaries.

In terms of internal organizational aspects, more specifically to the management factors of the subsidiary (Models 1 and 3), it is clear that the nationality of CEO positively influences the expatriation ( $p < 0.01$ ) in post 2008 crisis period. If the subsidiary CEO is a home-country nationality, it increases on average 2.37 the number of expatriates (Model 3). It implies that the host country where the Japanese subsidiary is established may suggest that the CEO needs assistance of a number of other staffs of the same nationality to deal with the instable environment of the post-crisis, as this relationship decreases communication problems and decision-making could be done in a fast way. However, with regard to the time that the CEO remains in office (i.e. CEO tenure), the findings show that there is no significant impact on expatriation strategy. Based on these results, we support partially the H1a.

Regards to other internal aspect, the subsidiary characteristics show be relevant to the expatriation strategy after the 2008 crisis. The size and capital invested in the subsidiary have a positive and significant impact (Model 3,  $p < 0.10$ ). It shows that the larger the size and capital invested in the subsidiary, the greater the appointment of expatriates made by the MNEs. It is because when the subsidiary is a large unit more importance and attention this affiliate receives from the parent firm. Therefore, it requires greater communication and control system on the local market, which the MNEs obtained through a higher allocation of expatriates in business management. Based on these facts, we lead support to H2a and H2b.

The subsidiaries in the manufacturing industry have positive and statistically significant impact (Model 1,  $p < 0.01$ ; Model 3,  $p < 0.05$ ) on expatriation strategy. It means foreign units in the manufacturing sector increases, on average, 1.79 the number of expatriates (Model 3). It assumes that manufacturing firms are most affected by post-economic crisis as they tend to be less flexible due to its structure. Therefore, these foreign units need more expatriates for monitoring closely what is happening in the host country during this period of instability. Moreover, as there is a major feature of having subsidiaries in the manufacturing sector in emerging countries (Makino et al.,

2004), this implies the designation of more expatriates should help MNEs for better control (Delios and Bjorkman, 2000) and access to a more reliable information on the challenges and organizational practices of their units in Latin America. In addition, there is a greater need for expatriates to conduct training, know-how and techniques transfer to local staffs (Harzing, 2001; Delios and Bjorkman, 2000), in manufacturing firms. Based on these findings, we support H2c.

For external aspects related to institutional indicators, the findings presented interesting results. In Model 2 that considered all external aspects, only one of the political aspects (freedom of expression) and human resources (healthy and primary education) were marginally significant ( $p < 0.10$ ). However, when associated external aspects with the internal factors (Model 3), we note that the political aspects influence significantly the expatriation strategy, but with some controversial results.

For instance, issues related to regulatory quality and political stability in post-crisis period proved to have a positive and significant impact (Model 3, respectively  $p < 0.05$  and  $p < 0.10$ ) in the designation of expatriates in subsidiaries located in Latin America. It means that the increase of one percentage point of regulatory quality variables and political stability leads to an increase the number of expatriates in 1.83 and 0.99 respectively. This corroborates the view of Chan et al. (2008), who shows that stable institutions facilitate economic trades and reduce transaction costs in uncertain and complex environments, such as emerging countries of Latin America in post 2008 economic crisis. Having a more stable environment and regulations that are more transparent, it is safer and easier for MNEs to send expatriates to monitor the local subsidiary.

While in an institutional environment that allows freedom of expression and efficient governments, the results showed a negative relationship with the appointment of expatriate managers (Model 3,  $p < 0.01$  and  $p < 0.05$  respectively). A unit increase in the index of freedom of expression and government effectiveness reduces, on average, 2.94 to 2.31 the number of expatriates respectively. An explanation is that in institutions that are more democratic and present an efficient government structure, MNEs would use a great number of local managers to deal with bureaucratic issues of government, thus requiring less expatriates to transact with these issues.

Concerning market aspects, the results show that only the business sophistication has a positive and significant relationship ( $p < 0.10$ ) with expatriation. The increase of one percentage point in business sophistication variable increases by 1.70 the number of expatriates in the subsidiary (Model 3).

**TABLE 2 – RANDOM-EFFECTS GLS REGRESSION (DEPENDENT VARIABLE = # EXPATRIATES)**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Constant	0.1365 (0.18)***	0.382 (0.07)	5.964 ( 3.76)***
<b><u>INTERNAL ASPECTS</u></b>			
<i><b>Subsidiary management</b></i>			
CEO Nationality	2.162 (3.43)***		2.37 (2.68)***
CEO Tenure	-0105 (-0.58)		-0.09 (-0.49)
<i><b>Subsidiary characteristics</b></i>			
Size	0.0003 (2.90)***		0.0037 (1.88)*
Industry	2.309 (2.61)***		1.79 (2.08)**
Invested capital	-1.36e-12 (-.03)		0.12 (1.69)*
<b><u>EXTERNAL ASPECTS</u></b>			
<i><b>Political Aspects of Government</b></i>			
Regulatory quality		1.240 (1.36)	1.83 (1.99)**

Political stability		0.6634 (1.28)	0.99 (1.86)*
Freedom of expression		-1.597 (-1.65)*	-2.94 (-2.48)***
Government effectiveness		-1.020 (-1.04)	-2.31 (-1.92)**
<b>Market Aspects</b>			
Business sophistication		1.032 (0.83)	1.70 (1.87)*
Financial market development		-0.139 (-0.16)	-0.80 (-0.93)
<b>Human Resources Aspects</b>			
Healthy and primary education		2.167 (1.69)*	2.47 (2.32)**
Training and higher education		-1.322 (-0.16)	-1.78 (-2.20)**
Labor market efficiency		-1.777 (-1.52)	-1.76 (-1.85)*
<b>Number of observations</b>	<b>428</b>	<b>428</b>	<b>428</b>
<b>Quantity of subsidiaries</b>	<b>107</b>	<b>107</b>	<b>107</b>
<b>Wald chi<sup>2</sup></b>	<b>10.48 (5)</b>	<b>12.76 (9)</b>	<b>36.02 (15)</b>
<b>Prob &gt; chi<sup>2</sup></b>	<b>0.0053</b>	<b>0.1739</b>	<b>0.0001</b>
<b>Overall R<sup>2</sup></b>	<b>0.1824</b>	<b>0.050</b>	<b>0.27</b>

Notes: t-values in parentheses; \* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.

It implies that the existence of a business network in the country and the quality of individual companies in economic post-crisis period requires a greater number of expatriates to handle this negotiation. The difference between market environments leads to greater obstacle in the process of internationalization (Hilmersson and Janssens, 2012). Thus, there is a great demand for parent country nationals (i.e. expatriates) to handle and learn more about the operation of this complex business environment in order to have a better relationship in the local market. While the variable of financial market development did not show a significant relationship with expatriation.

For institutional aspects related to human resources, the results also show interesting findings. When exists a great availability of personnel with primary educated and healthy workforce, there is a greater need for expatriates in the local subsidiary. This could be explained by the need to transfer techniques and training process from the parent firm through expatriates to the local staffs who have a basic level of education.

While for countries with a great availability of professionals with higher level of education and an efficient and productive workforce, then the need to appoint expatriates becomes smaller. An increase of one percentage point in the training and higher education takes a decrease of 1.78 expatriates, while the increase of one percentage point in labor market efficiency leads a decrease of 1.76 expatriates (Model 3). These findings supports the arguments Widmier et al. (2008) that mentioned the challenges of subsidiaries in relation to human resources, particularly with the designation of parent country nationals.

Thus, the political aspects of government are more significant than the human resource factors to explain the expatriation decision. While the human resource aspects obtain more impact than the market factors to the expatriation decision. Based on these findings, we found support for H3a and, consequently, we did not find support to H3b and H3c.

## Conclusion

The study shows that in post-crisis period, there is a large influence of the internal aspects, particularly with regard to subsidiary characteristics for the designation of expatriates to the local subsidiary. As large subsidiaries receives a great commitment in terms of investment from the parent firm, there is a need to have greater management control by using parent country nationals. Thus, the parent company would get a better monitoring of

day-to-day operation with professionals who are aligned to the MNE's culture. In this way, communication between subsidiary and parent firm flows better, particularly when decisions should be faster due to an environment of uncertainty as the post-crisis period.

In addition, our findings showed that the post 2008 crisis period, there are some external aspects to the organization that also affect significantly on expatriation strategy. In particular, the government policy issues related to regulatory quality and political stability make MNEs adopt a strategy of sending more expatriates to manage its units in emerging markets. While good institutions related to freedom of expression and effectiveness of government, leads to an increase to use local staffs and decrease the designation of expatriates to the foreign subsidiary.

Aspects related to human resources are also important in this expatriation strategy in post-crisis period. Particularly, it shows that the educational level of the workforce will lead to send a greater or lesser number of parent country nationals from the MNEs to training and transfer knowledge to local staffs.

These findings imply that the expatriation strategy should take into consideration more careful not only with respect to the internal aspects of the organization, but also to institutional factors that are external aspects to the firms. The contribution of this study show how these internal and external factors affects significantly the designation of expatriates in emerging markets. Thus, by knowing better these aspects, particularly in post-crisis period, MNE may perform better planning and maximization of the use of expatriates to manage, control and transfer knowledge in overseas subsidiaries. By doing that, it would be possible to minimize costs of internationalization, since expatriation is a high cost implementation.

Although we present interesting results, this study has some limitations. First, there is a limited and sparse literature relating expatriation decision and the international economic crisis. Second, our analysis limited to the sample of Japanese subsidiaries in Latin America. The results could be specific to the analyzed context. For future studies, we suggest considering subsidiaries from other countries or established in other regions. It should be noted, however, that availability of subsidiary level data is scarce and difficult to obtain for empirical and longitudinal analysis.

Finally, we investigate the post 2008 economic crisis period. Further research could extend the post-crisis period 2008 to 2015 to have a wider perspective on the changes and impact of the economic crisis. In addition, future studies could analyze three periods: 2005 to 2007 (pre-crisis); 2008 and 2009 (crisis); and 2009-2015 (post-crisis) and see the differences and similarities of these periods. Therefore, there is more to be discovered with regard to markets in crisis and the expatriation strategy.

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## ***Family Business Groups In Mexico And Their Financial Performance***

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### **Abstract**

*The purpose of this research is to analyze the effect that family business groups have on business performance. Therefore, multiple regression models were developed to examine the effects that the independent variables cause (family owned companies which also belong to a business group) on the dependent variable (Log of ROA) in a sample that had 128 companies from the Mexican Stock Exchange Securities. The findings have shown that family ownership is significant and positive for the performance of the companies, but when analyzing those belonging to a business groups it was found that this results in a significantly worse performance for the companies.*

### **Keywords**

Corporate Governance, family business groups, agency theory, institutional theory.

### **Introduction**

This research seeks to analyze family business groups in Mexico and their effect when generating a good performance in companies. A business group can be defined as "a group of companies that are controlled by a small group of controlling shareholders, usually family members or group(s) associated with (by) social or ethnic ties" (Chavarin Rodriguez, 2011). Families having ownership or shareholding of companies involve having authority or control to set the policies of the organization (Cheffins and Bank, 2009). In Mexico there is no precise data about when family groups started but for business groups it is mentioned that this type of organization may have begun with the industrial revolution in the late nineteenth century (Chavarin Rodriguez, 2011).

Therefore, this document was developed based on the 136 companies that are listed on the Mexican Stock Exchange (Bolsa Mexicana de Valores – BMV, 2013), which according to the Corporate Governance Forum (2012) regulations on corporate governance have evolved as the development of the stock market, today companies are required to comply with certain aspects of good practice which is covered by the new Securities Market Law (Ley de Mercado de Valores), which entered into force in December 2005 and revoked the one from 1975.

To achieve what is proposed in this document we are using both institutional and agency theory to support the hypothesis that is to be tested, for this purpose the following topics are developed: first the theoretical framework is proposed, and then the existing literature on the theme is analyzed, afterwards the methodology is proposed to pass the data analysis to reach the conclusion.

### **Theoretical framework**

This research is based on institutional and agency theory, these theories are used today because the society and the economy can not be studied without the advances in institutional economics (Miuguez Caballero, 2011); Douglas North sees institutions as the rules of the game. Within this scope, the Business Coordinating Council in

2010 relaunched a new version of the Code of Best Practice (Código de Mejoras Prácticas Corporativas - CMPC) for companies listed on the BMV in which companies have to report annually their affinity with the corporate governance practices that appear here and the addition of a new code to publish reports under the IFRS (International Financial Reporting Standard). Also for the year 2010, it allows pension funds to invest directly in stocks, which has led to greater dynamism in the market (Corporate Governance Forum, 2012). It is also recommended for the board size to be between 5 and 15 directors, and in turn the incorporation of independent directors, which are selected because of "their experience, capacity and professional prestige and also not found in one of the following situations: 1) employees or officers; 2) be shareholders; 3) be consultants or employees of a company advising the organization; 4) be customers, suppliers, debtors or creditors; 5) employees of an organization that receives significant donations; and 6) be CEO or senior manager of a company where the board of directors involves the CEO or senior manager of the company in question. Besides the above it is suggested to have patrimonial directors, which are significant shareholders (at least 2% of the shares) and the last type of directors are the relatives who are not in the above situations. With the previous it is strived to be consistent with the definition of corporate governance, which we can say that is the set of relationships through which the different stakeholders of the company (shareholders, officers and directors) establish mechanisms to control and decide the strategic direction and therefore performance (Eiteman, Stonehill and Moffet, 2007). Control mechanisms are used to generate order and ensure that decisions are developed representing collective interests.

In the theory of the agency it is mentioned that the ownership of a large business is diversified into multiple shareholders (principal) who transfer authority in decision-making to managers (agent) in order to achieve optimum performance, but this in turn causes the control mechanisms to be expensive because information is difficult to obtain especially for small shareholders (Jensen and Meckling, 1976). Therefore, we have what is known as agency problems, where managers behave in an opportunistic way to pursue their own goals, even at the expense of the interests of shareholders (Jensen and Meckling, 1976).

## **Literature review**

Speaking of corporate governance in Mexico it cannot be ignored that most large companies in this country are family owned which means that such families have continued a strategy ever since the nineteenth century, the strategy has been to develop a business network where everyone complements each other, this structure is known as a family business group which causes market concentration and in turn tunneling, which is the diversion of company resources for personal or family use (Chavarrín Rodríguez, 2012; Shleifer, Vishny, La Porta and Lopez de Silanes, 2000). This is not just something that happens in Mexico, it is common around the world, where studies have found that 19% of companies listed are controlled by family business groups, which seek to obtain the profits of subsidiaries and in turn have control without capital contribution (Almeida and Wolfezon, 2006; La Porta, Lopez de Silanes and Shleifer, 1999). Although theoretically there may be disadvantages in the homestead, there are studies that argue that in the absence of this type of structures, managers will seek long-term strategies to ensure the wealth of their family (Breton Miller and Scholnick, 2008; Corbetta and MacMillan, 2010). In the business group it is possible to find a conflict between the shareholder and the people that controls the company; Castillo Ponce (2007) developed a Nash equilibrium where theoretically demonstrates when the legal system does not protect the shareholder, then the best option will be choose the family as risk investors to maximize profits from it.

Nevertheless, there are studies which analyze the erosion of the company's reputation by having a concentrated ownership in a majority of shareholders (Delgado García, Quevedo Puente and Source Sabate, 2010), however, for Masulis, Pham and Zein (2011), a company that has concentrated ownership and which in turn follows the practice of developing a business group has certain advantages, especially when seeking financing, also mentioned in emerging economies such strategy has generated competitiveness when making the decision to expand advantages internationally, such as Tata Motors (Indian multinational automotive), which has seen revenues outside their country of origin account for 59% of total consolidated financial statements Singh (2011).

Meanwhile Chun and Chan (2012), who analyzed the ownership structure of Chinese business groups in Taiwan, examined the performance of subsidiaries and Thievy found that if the property of the subsidiary company belongs mostly to a family founder it is likely that a family member will be appointed as CEO, and this in turn has a positive effect on the performance of the subsidiary.

It should be noted that family ownership is not in itself something that can generate a good performance, it must have good corporate governance in order to meet the goals, it should institutionalize the process of decision making, as it should have a board where independent directors are integrated in family businesses in order for them to provide the experience, expertise, objectivity, neutrality and strategic contribution; this allows to enrich the views of the council as a whole, when monitoring the compliance and responsibility of the board and thereby achieving the institutionalization of the organization; which is important to both independent directors as equity and related services that meet the profile and knowledge appropriate to the organization (Deloitte, 2013). The suggestions above have been both national and international agencies in Mexico, as already mentioned before, and in order to increase the independent directors a control mechanism is generated from related directors to CEO's to align the interests of the principal (Boyd, 1994), helping to improve governance practices and thereby reduce the costs of monitoring (Selekler Gokse and Öktem, 2009).

Therefore, presented below is an analysis of the evidence on how having an independent board can raise the competitiveness of the company; a research presented by Bertoni, Meoli and Vismar (2014), which found that board independence positively impacts both value creation and its protection at the time of the first public offering, however, for Saibaba (2013) board independence is not a significant variable, but it is the size of the board and mentioned that the more you can avoid duplication of functions and the CEO duality will lead to improved financial performance, but it also has been noted that this duality generates high costs and poor quality external audits (Bliss, 2011).

Returning to the financial performance there is a study carried out in Portugal by Alves (2014), who found that independent advice usually does a good monitoring to management, thereby helps protecting the interests of shareholders and thus improving the quality of the earnings; it does happen that this increased control can make the CEO feel less identified with the elite group of the company (McDonald, 2012). Despite all of this, studies have not found a connection to the independence of the board and in turn mentioned that the size of the board is important to generate a good financial performance (Kumari and Pattanayak, 2014).

For all the above, we can conclude that family ownership is common in companies around the world and in turn these seek to generate related businesses thus conforming what is known as family economic groups, on one hand evidence shows that family property generates good economic performance, but in the same time, companies that belong to a group can be victims of what is known as tunneling (Chavarín Rodríguez, 2012; La Porta, Lopez-de-Silanes, Shleifer, Vishny, 2000; Almeida, Wolfezon, 2006; La Porta, Lopez-de-Silanes, Shleifer, 1999; Delgado-García, Quevedo-Puente, Source-Sabate, 2010; Masulis, Pham, Zein, 2011; Singh, 2011; Chung, Chan, 2012). It can also be mentioned that in most cases it has been seen that having a good structure on the board as well as a good size does improve the performance of the company (Boyd, 1994; Selekler-Gokse, Öktem, 2009, Bertoni, Meoli, Vismar, 2014; Alves, 2014; McDonald, 2012; Kumari, Pattanayak, 2014). So the following hypothesis can be generated:

H: The performance of the company depends positively in family but also in the refusal to belong to an economic property group.

## Methodology

To test the hypothesis formerly a multiple regression analysis with ordinary least squares is developed, for which the reports filed by companies listed on the Mexican Stock Exchange in 2013 are used, which are in total 136 companies, from which 8 companies had to be eliminated because their reports were incomplete or were not published.

Measurement variables

**Dependent variable.** The natural logarithm of ROA is used to measure the performance of the company.

**Independent variables.** Family property: binary variable is used as 1 being a company that is owned by one person or family in more than 10% and 0 in other cases; belonging to an economic group, where 1 means that the company belongs to an economic group and 0 in other cases.

**Control variables.** Patrimonial directors: percentage of such counselors; related directors: percentage of such counselors; Board independence: the percentage of independent directors is taken; board size: total number of directors. It should be noted that the control variables are applied to soften the natural logarithm series in each. The importance of adding these variables is the need to have within the highest governing body of the company a balance in the integration of members to function properly (CMPC, 2010).

From the above, the following model emerges:

$$\text{LnROA} = b_0 + b_1GE + b_2Pr + e \quad (1)$$

Where:

*LnROA* is the natural logarithm of ROA; *GE* binary variable business group; *Pr* is family owned company.

## Results

This section analyzes statistical data results, where a multiple regression is developed with the method of OLS, previous to this, first a correlation matrix was developed where all the variables included in the study can be seen. It is appreciated that the performance of the company (LnROA) has a significant correlation with family ownership (*Pr*) and the correlation between the performance of the company and belonging to a business group is negative. Besides there is a positive and significant correlation between the Patrimonial directors and Board independence; additionally the size of the board has a positive and significant correlation with belonging to a business group (Table 1).

TABLE 1. CORRELATIONS MATRIX

	LnROA	Pr	GE	Board independence	Patrimonial directors	Related directors	Board size
LnROA	1	0.223*	-0.147	-0.053	-0.143	0.125	0.021
Pr		1	0.127	0.182	-0.047	-0.058	-0.080
GE			1	0.028	-0.023	0.128	0.222*
LnCI				1	0.350**	0.182	.0113
LnCP					1	-0.378*	-0.113
LnCR						1	0.005
LnT							1

Source: Made by myself. Note: One and two asterisks indicate significance levels of 5 and 1% respectively.

The following analysis is the model to test the hypothesis, as can be seen in Table 2, it is shown that family ownership has a positive and significant relationship to the performance of the company, and development while belonging to a business group causes a negative relationship with firm performance. When analyzing the different models, each one of them corresponding to the control variables (patrimonial directors, related directors, and board size), it can be seen that both the patrimonial directors as well as the size of the board have the same trend, but with the variable of related directors the model becomes practically non-significant and analyzing the model with independent directors that must be family property becomes insignificant, but to belonging to an economic group has to be negative and significant at 1%.

TABLE 2. REGRESSION MODELS

Variable	Coefficient	Patrimonial directors	Related directors	Board independence	Board size
		Coefficient	Coefficient	Coefficient	Coefficient
Intercepto	-0.894***	-1.054***	-0.495	-0.492	-1.250*
Pr	.0591*	0.98*	0.260	0.388	0.614*
GE	-0.370*	0.598*	-0.148	-0.528*	-0.412*
R	0.285	0.323	0.177	0.310	0.297
Valor F	4.282*	3.579*	0.356	2.880*	3.088*

Source: Made by myself. Note: One, two and three asterisks indicate significance levels of 10, 5 and 1%, respectively.

## Conclusions

This study analyzes how the family property in the economic groups can affect the performance of companies listed on the Mexican Stock Exchange; the findings are consistent with what some authors mention that family property is relevant to the performance of companies (Breton - Miller, Scholnick, 2008; Corbetta, MacMillan, 2010; Masulis, Pham, Zein, 2011; Chung, Chan, 2012). Researching the belonging to a business group we see that performance is negative so we can assume that it is because of tunneling, which generates the diversion of resources for the owning family; with the above they come to similar conclusions to those of Chavarín Rodríguez (2012) and La Porta, Lopez-de-Silanes, Shleifer, Vishny (2000).

The findings are important for managers in this type of family business, taking the decision is important to further develop their corporate form of economic groups even though this will cause a decrease in the financial performance of the subsidiaries and this may cause a conflict of interest with small shareholders and despite following the recommendations of national organizations such as the admission of having independent directors apparently has no effect in protecting the interests of minority shareholders. Possible limitations that exist in this document are that not all of the companies listed on the Mexican Stock Exchange were included. For future research it is proposed to extend the sample to other emerging countries to analyze whether the adoption of independent directors improves control of the ownership family in economic groups.

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# ***Analysis of the Moderator Effect of RMB Exchange Rate on Export: The Case of Guangdong Province in China***

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## **Abstract**

*The research literatures studying the effect on the export of the real effective exchange rates focus mainly on two fields. One is the discussion weather the Marshall-Lerner condition holds or not. The other tried to confirm that the effect of the real effective exchange is coherence with the J curve effect from the long term. An important limitation of this literature is the lack of application of interaction or moderator effect among the independent variables. To remedy to this lacuna we developed a model in which real effective exchange rate moderated the effect of import and utilization of foreign capital on export. Our sample comprised 11 years data in Guangdong China. The result showed that real effective exchange rate of RMB affected the export by interacting with utilization of foreign capital. Moreover, to some degree, the real effective exchange rate can also act as moderator between import and export.*

**Keywords:** export, import, REER, utilization of foreign capital, moderator effect

## **Introduction**

The real effective exchange rate has been a hot issue since the worldwide economy develops. Many scholars studied the relationship between it and trade export. We want to find out how it affects the exports of Guangdong province of China, based on the direct effect and moderator effect of the RMB exchange rate, by analyzing the data (2004-2014) of Guangdong Province.

## **Literature review**

The research literatures studying the effect on the export of the real effective exchange rates focus mainly on two fields. One is the discussion weather the Marshall-Lerner condition holds or not. Dornbusch<sup>[1]</sup> (1976), Bahmani Skooc<sup>[2]</sup> (1998) think it does not hold. While Knigman, Baldwin<sup>[3]</sup> (1998), Moffett<sup>[4]</sup> (1987) and Marquez<sup>[5]</sup> (1989) think the opposite. The other tried to confirm that the effect of the real effective exchange is coherence with the J curve effect from the long term. A. K. Rose, J. L. Yellen<sup>[6]</sup> (1989) D. K. Backus, P. J. Kehoe, F. E. Kydland<sup>[7]</sup> (1994).

Chinese scholars contributed on these two fields too. Chen Xuebin<sup>[8]</sup> (2007) studied the overall effect of effective rate of exchange on export and time validity of the J curve. Zhang Zhaoyin and He Jianfeng<sup>[9]</sup> (2009) analyzed the long-run equilibrium relations between Guangdong Province's exports and its imports, foreign direct investment (FDI), the economic growth of the importing countries, the nominal exchange rate of RMB, and other factors. For the method of current studies on real effective exchange rate (REER), mainly co-integration analysis, simple OLS, and VAR<sup>[10]</sup> (2000) are applied. An important limitation of this literature is the lack of application of interaction or moderator effect among the independent variables. The central objective of this paper is to remedy to this lacuna and to build a more comprehensive model to analyze the various influence factors on export.

### About moderator variable and moderator effect<sup>[11]</sup>

A moderator effect is an effect of a predictor variable (X) on a criterion (Y) depends on a third variable (M), the moderator. It is also labelled interaction effect, which provides information on whether the relationship between the two variables is contingent upon the value of a third variable. In other words, an interaction effect hypothesis states that the relationship between the two variables, or the effect of one variable on a second one, depends on the value of a third (moderator) variable.

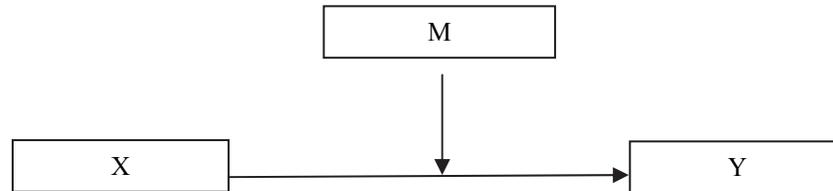


FIGURE1 THE MODERATING EFFECT MODEL

The regression model with interaction is  $\hat{Y} = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 X \cdot M$  and there are two equivalent ways to evaluate whether an interaction is present:

$$\hat{Y} = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 X \cdot M$$

1. Test whether the coefficient  $\beta_3$  differs significantly from zero;
2. Test whether the increment in the squared multiple correlation ( $\Delta R^2$ ) given by the interaction is significantly greater than zero.

### The empirical model, data and hypotheses

#### 1. Model

According to Lain & Li<sup>[12]</sup> (2008) and Kevin Zhang<sup>[13]</sup> (2014), FDI has a positive effect on export and import. He, Sun & Liu<sup>[14]</sup> (2009) studied on exchange rate volatility's impact on Chinese manufacture industry's export, and took import, REER, Technology improvement, world GDP and FDI as factors influencing export of manufacture industry. Zhou & Tian<sup>[16]</sup> (2003) demonstrated an empirical analysis and verified the influence of the four factors import, utilization of foreign capital, trader partner countries' economic growth and exchange rate on export. We agreed with their argument that FDI was calculated based on contract amount, however, contract amount might not be available in total in the same year, or the investment cycle might be longer than one year. Thus we chose to apply the data of actual usage of foreign capital to more accurately depict the relationship between foreign capital and export.

Based on the above literatures and argument, we consider REER, import, the weighted GDP of six major import countries (WGDP), and utilization of foreign capital (UFC) as four independent variables, which impact the dependent variable of export. Besides, REER is employed as a moderator variable as well in our model. (see FIG.2)

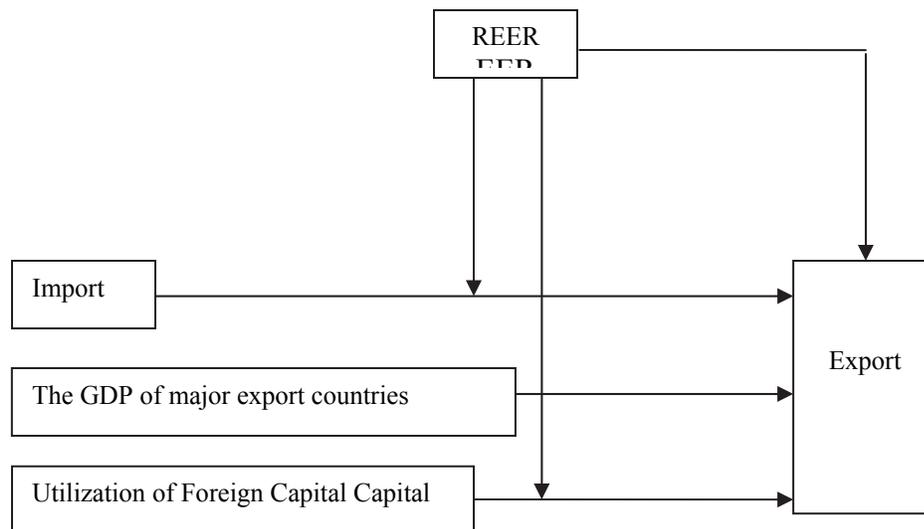


FIGURE2 THE MODERATING EFFECT IN EXPORT MODEL

$$Export = \beta_0 + \beta_1 Import + \beta_2 UFC + \beta_3 WGDP + \beta_4 REER + \beta_5 REER * Import + \beta_6 REER * UFC + \varepsilon$$

#### 4.2 Data

Export is the annual export of Guangdong province from year 2004 to 2014; Import is the annual import of Guangdong province from year 2004 to 2014;

REER is real effective exchange rates of RMB from year 2004 to 2014; WGDP is the weighted average GDP of 6 major import countries from Guangdong province from year 2004 to 2014; UFC is utilization of foreign capital of Guangdong Province from year 2004 to 2014; REER data is collected from World Bank database. Export, Import, and UFC data is gathered from Guangdong Statistical Yearbook. WGDP data is collected from World Bank database and Guangdong Statistical Yearbook and then calculated based on the weights of import of that country to total import of 6 countries.

#### 3. Hypotheses:

H1: The import of Guangdong has a positive effect on the export so that export will be higher if import is higher;

H2: Utilization of foreign capital has a direct effect on export;

H3: The Weighted GDP has a direct effect on export;

H4: The current year REER has a direct effect on the export;

H5: The current year REER is moderating the relationship between import and export;

H6: There is an interaction effect between UFC and REER in predicting export.

### Regression Analysis

TABLE 1: THE REGRESSION RESULT 1

<b>Coefficients</b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	427778.637	1833.678		233.290	.000
	Importc	1.116	.090	.720	12.448	.000
	UFCc	9.464	2.485	.259	3.808	.009
	WGDPc	.010	.014	.015	.716	.501
	REERc	470.116	551.204	.037	.853	.426
2	(Constant)	424402.313	2949.995		143.865	.000
	Importc	1.130	.084	.729	13.481	.000
	UFCc	9.710	2.314	.266	4.197	.009
	WGDPc	.018	.014	.026	1.259	.264
	REERc	250.195	535.176	.020	.468	.660
	ImportReer	.003	.002	.021	1.401	.220
3	(Constant)	427836.021	2146.349		199.332	.000
	Importc	1.118	.052	.721	21.557	.000
	UFCc	13.198	1.836	.362	7.187	.002
	WGDPc	-.012	.013	-.018	-.944	.399
	REERc	-837.830	488.684	-.066	-1.714	.162
	ImportReer	-.019	.008	-.121	-2.527	.065
	UFCReer	.442	.146	.138	3.021	.039

a. Dependent Variable: Export

TABLE 2: THE REGRESSION RESULT 2

<b>Excluded Variables<sup>a</sup></b>						
Model		Beta In	t	Sig.	Partial Correlation	Co linearity
						Statistics
		Tolerance				
1	ImportReer	.021 <sup>b</sup>	1.401	.220	.531	.591
	UFCReer	.025 <sup>b</sup>	1.949	.109	.657	.652
2	UFCReer	.138 <sup>c</sup>	3.021	.039	.834	.024

a. Dependent Variable: Export  
b. Predictors in the Model: (Constant), REERc, WGDPc, Importc, UFCc  
c. Predictors in the Model: (Constant), REERc, WGDPc, Importc, UFCc, ImportReer

## Result

From the regression result above, we observe that the different factors of import, utilization of foreign capital, REER affect the export in different degree. In this paper, we focus on the effect of REER only.

The direct effect of REER on export: It is shown by the numerical result that the direct effect of REER on export is not as great ( $\beta = -837.830$ ,  $t = -1.714$ ) as we expected. The reason might be that we consider the aggregated export here of all the industries. Some scholars have found that REER has almost no direct effect on export in the high-tech industries. In Guangdong Province, high and new-tech products is of 35%-40% of overall export from 2004 to 2014. The high export ratio industries with high technology has averaged the total effect. We might make further empirical analysis on the market segments in the future research.

- (1) The indirect effect of REER on the relationship between import and export: the joint effect of REER and import on export was statistically significant ( $\beta = -0.019$ ,  $t = -2.527$ ). Thus, we conclude that REER serves as a moderator of the effect of import on export. REER has a negative effect on the relationship between import and export so that with a higher import, the export will be lower.
- (2) The indirect effect of REER on the relationship between UFC and export: REER and UFC have interaction effect on export, based on the regression analysis ( $\beta = 0.442$ ,  $t = 3.021$ ). REER has a positive effect on the relationship between UFC and export so that with a higher UFC, export will be higher.

## 7.Limitations and Future Research Directions

Although we collected data from government yearbook, our sample data is not treated differently in subdivision markets. It is possible that, in high-tech industries, REER does not have significant effect on export. Hence future research should examine the market segments in more detail. Moreover, one of our independent variable WGDP is not significant in the test, a careful next step would be to conduct an empirical study to examine the relationship between WGDP and export.

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**Track: Management, Organizational Behavior, Corporate Governance, Legal  
Issues and Human Resources**

## ***Impact of Organizational Empowerment on Employee Commitment: Moderating role of Organization Learning Culture and Locus of Control***

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### **Abstract**

*The purpose of this study is to examine the relationship between two main variables i.e. organizational empowerment and commitment. Moreover, two moderators were tested between the proposed relationship i.e. locus of control and learning culture. Data was collected using stratified random sampling from different banks. Different statistical tests including descriptive statistics, hierarchal regression and correlation were used to test the proposed relationship. Results of study revealed that there is significant positive relationship between organizational empowerment and commitment. Moreover, proposed relationship is moderated by locus of control and learning culture. The study proposed managerial and practical implications for managers, organizations and practitioners.*

**Key Words:** *Organizational Empowerment (OE), Psychological empowerment (PE), Behavioral Empowerment (BE), Employee Commitment (EC), Organizational learning culture (OLC), Locus of Control (LOC), Work locus of control (WLOC).*

### **Introduction**

The concept of empowerment according to its advocates is the recent manifestation of employee involvement, it also increases organizational performance (Fernandez & Moldogaziev, 2013a); (Namasivayam, Guchait, & Lei, 2013); (M. Hashmi, Irshad, & Shafiq, 2013). (Spreitzer, 1995a) argued that empowerment is a motivational cognition which gets built through the work environment and supports the individual to actively take part in organizational success. Perceived empowerment connect the job objectives and personal standards and bring change in behavior (Pelit, Öztürk, & Arslantürk, 2011). In Kanter (1989) empowerment theory include information sharing, performance feedback, task related knowledge, and appreciation of innovative behavior. This can improve the service providing organizations performance because empowering employee structure helps the employees to accomplish their work in more meaningful ways” (He, Murrmann, & Perdue, 2010); (Wagner et al., 2010). According to (Spreitzer, Kizilos, & Nason, 1997) the empowered employees fulfill their job more effectively with accountability , whereas committed behavior of employees towards the organization has central role in organizational success ((Mowday, Steers, & Porter, 1979); (Allen & Meyer, 1990). This can be reinforced by the empowerment (M. Hashmi et al., 2013); (M. S. Hashmi & Naqvi, 2012). As far as business ethics is concerned it’s a predicate question should an employee be empowered (Caldwell, Floyd, Atkins, & Holzgreffe, 2012; Floyd, Xu, Atkins, & Caldwell, 2013), but practitioners also consider its effect on organizational progress. In ethics of business, employees must be loyal in their workplace and job autonomy pushes their behavior towards the sincerity and commitment (Ali, Al-Aali, & Al-Owaihian, 2013). Although organizational ethical standard differs from employee ethics, empowerment discourse re- expresses (Claydon & Doyle, 1996) which softens the contradictory relationship between the employee and an organization. Furthermore, discussion with the peers increases the awareness which depends on the friendly environment provided to the employees (J. M. H. Fritz, Arnett, & Conkel, 1999) whereas empowerment stresses the importance of information sharing.

In practice, the role of employee ethics indirectly depends on the hierarchical system (Joyner & Payne, 2002) and good ethics brings positive change on firm performance .(Craft, 2013) Review on ethical decision making

gives four phases: awareness, intent, judgment and behavior. It supports the argument that awareness and informative environment guide the employee during the decision-making process. (Thomas & Velthouse, 1990) argue that empowerment is an intrinsic task motivation or internalized commitment to the task with four assessments: impact, competence, meaningfulness, and choice. (Foster-Fishman, Salem, Chibnall, Legler, & Yapchai, 1998) describe the empowerment as a dynamic phenomenon. (Wat & Shaffer, 2005) argued that empowerment is reinforced by psychological empowerment but according to (Alge, Ballinger, Tangirala, & Oakley, 2006) it's a combination of both mental and physical state. On the other hand, (Boudrias, Gaudreau, Savoie, & Morin, 2009) conceptualized that moderating variable is important as well and also proposed three dimensions of empowerment which was further extension of (Matthews, Diaz, & Cole, 2003).

- (1) Dynamic structural framework (DSF)
- (2) Control of workplace decisions (CWD)
- (3) Fluidity in information sharing (FIS)

Fluidity in information sharing (FIS) is the third factor conceptually linked to the macro/organizational facilitation of empowerment, and this means that all the information is accessible to all employees employed in an organization (Conger & Kanungo, 1988).

## **Literature Review**

There are lots of studies that are stressing the importance of empowerment, and its impact on the employee and ultimately the organizational progress (Fernandez & Moldogaziev, 2013b); (M. S. Hashmi & Naqvi, 2012); (Joo & Shim, 2010). The organizations focused on learning and development of their employee have found differentiated increase in performance and profitability (Marsick & Watkins, 2003). (Maton & Salem, 1995) argue that empowerment cannot be effective alone and it is dependent on the organizational culture and supportive system. Using this perspective, the current study investigated the effects of organizational learning culture on the employee level of commitment.

An organization that wants to be a learning one compels its workers to learn, and the transformation of learning into an obligation can provoke anxiety and stress (Marsick, Volpe, & Watkins, 1999). (Meyer, Stanley, Herscovitch, & Topolnysky, 2002) explain the organizational learning culture as “a process through which managers tries to increase organizational members” capabilities in order to better understand and manage the organization and its environment’.

On the basis of above discussion, it is found that empowerment is an important ethical element which can affect the behavior of the employee. There is a strong literature support that the cognitive style is related to the work attitude (Coleman, Irving, & Cooper, 1999). (Rotter, 1966)’s studies are the indicator of the relation between the personal beliefs and work attitude. (Rotter, 1966) stated that individuals with an internal locus of control believe that they control their action and outcomes, whereas individuals with an external locus of control believe that events are beyond their control and just a result of fate, or chance (Coleman et al., 1999). These studies used the (Rotter, 1966) scale of LOC whereas (Spector, 1988) introduces the WLC scale. The latest refinement in the theory suggested that both LOC have the relation with the employee commitment, while three studies of (Spector, 1988) show small relation among LOC and commitment, but it used two items to measure the construct. The purpose of the present study is to examine the relation and the validity of (Spector, 1988) studies.

Recent study of (M. Hashmi et al., 2013) on banking sector of Pakistan found that the commitment level varies with the level of empowerment. (Joo & Shim, 2010) conducted a study on public sector employees of Korea and found the positive relation of empowerment and commitment. Based on the literature, the present study investigates can making the employee more empowered affect their feelings to be a part of that organization in the

long run and to make the model more descriptive with the moderating role of organizational learning culture and locus of control.

**Table 1: Recent Literature Support**

<b>S. No</b>	<b>Author/s of the study</b>	<b>Purpose of the study</b>	<b>Findings</b>
1	(M. S. Hashmi & Naqvi, 2012)	To find the relation between psychological empowerment and the level of commitment at managerial levels.	At lower level, empowerment construct contributes less to the commitment.
2	(Peterson, 2014)	To test the empowerment as a multidimensional constructs	Paper tested the first attempt to focus on the issue of empowerment theory , and found super ordinate models of empowerment are misspecified
3	(Namasivayam et al., 2013)	To test the relation of leader empowering behavior, and employee psychological empowerment effect on customer satisfaction.	Results revealed that leader EB influences the employee PE, and employee PE positively affects the customer satisfaction.
4	(Hunter, Jason, & Keys, 2013)	To explore the factor structure of modified empowerment scale for a specific context that has been designed to evaluate empowerment for specific populations.	Initial construct validity reported, and each factor of empowerment has a positive influence on self -esteem.
5	(J. H. Fritz, O'Neil, Popp, Williams, & Arnett, 2013)	To examine the supervisory behavior with the organizational ethical standards and organizational commitment.	Cynicism partially mediates in the relationship between the supervisory behavior and organizational commitment.
6	(Fu & Deshpande, 2012)	To examine the various ethical climate types and job satisfaction impact on organizational commitment	Job satisfaction has strong relation with organizational commitment and instrumental climate has a negative relation. Other climates have no significant relation.
7	Greet devos 2014	To find the relation of leader and participants with organizational commitment and factor that can influence this relation.	Results revealed that stimulating teachers to take part in leading the school and involvement in decision making can increase the organizational commitment.
8	(Zhang, Bartram, McNeil, & Dowling, 2014)	To develop the organizational level flexicurity model of HRM and commitment level of temporary employees.	Research found the disorganization; regulatory issues and low level of commitment are the main reasons of agency failure.
9	(Kleine & Weißenberger, 2014)	To find out how leadership and top management can influence the commitment level of middle and lower management.	Results show that the informal control elements, such as personnel and cultural control act as hinges through which top management can influence the lower level employee's feelings of commitment.
10	(Pantouvakis & Bouranta, 2013)	To investigate the relationship between organizational learning culture, employee job satisfaction and their impact on customer satisfaction.	Employee job satisfaction plays a mediating role between the relationship of organizational learning culture and customer satisfaction.
11	(Wei, Samiee, & Lee, 2014)	To investigate the organic nature of organizational culture that can play a role as a strategic resource.	Results support the model that the organic culture organization can be more responsive and play a critical role in organizational performance.

12	(Joo & Shim, 2010)	To find out how relationship between personal characteristics and organizational culture exchange influence employee career satisfaction	Found significant connection of organizational learning culture with the employee career satisfaction.
13	(Hamwi, Rutherford, Boles, & Madupalli, 2014)	The purpose of the paper is to examine the locus of control effect on salesperson	External locus of control is positively related with the role of ambiguity, emotional exhaustion, and less likely with job satisfaction and it depends on the business setup.
14	(Hung & Jeng, 2013)	To investigate which factors affect the employee's organizational identification. Focusing on the banking industry of Taiwan	Significant positive relations are found between locus of control, organizational socialization, and organizational identification.

Researchers took the initiative to investigate the relation between organizational empowerment and employee commitment in the study. In addition, this study explores the moderating effect of organizational learning culture and locus of control.

### Conceptual Framework and Hypothesis

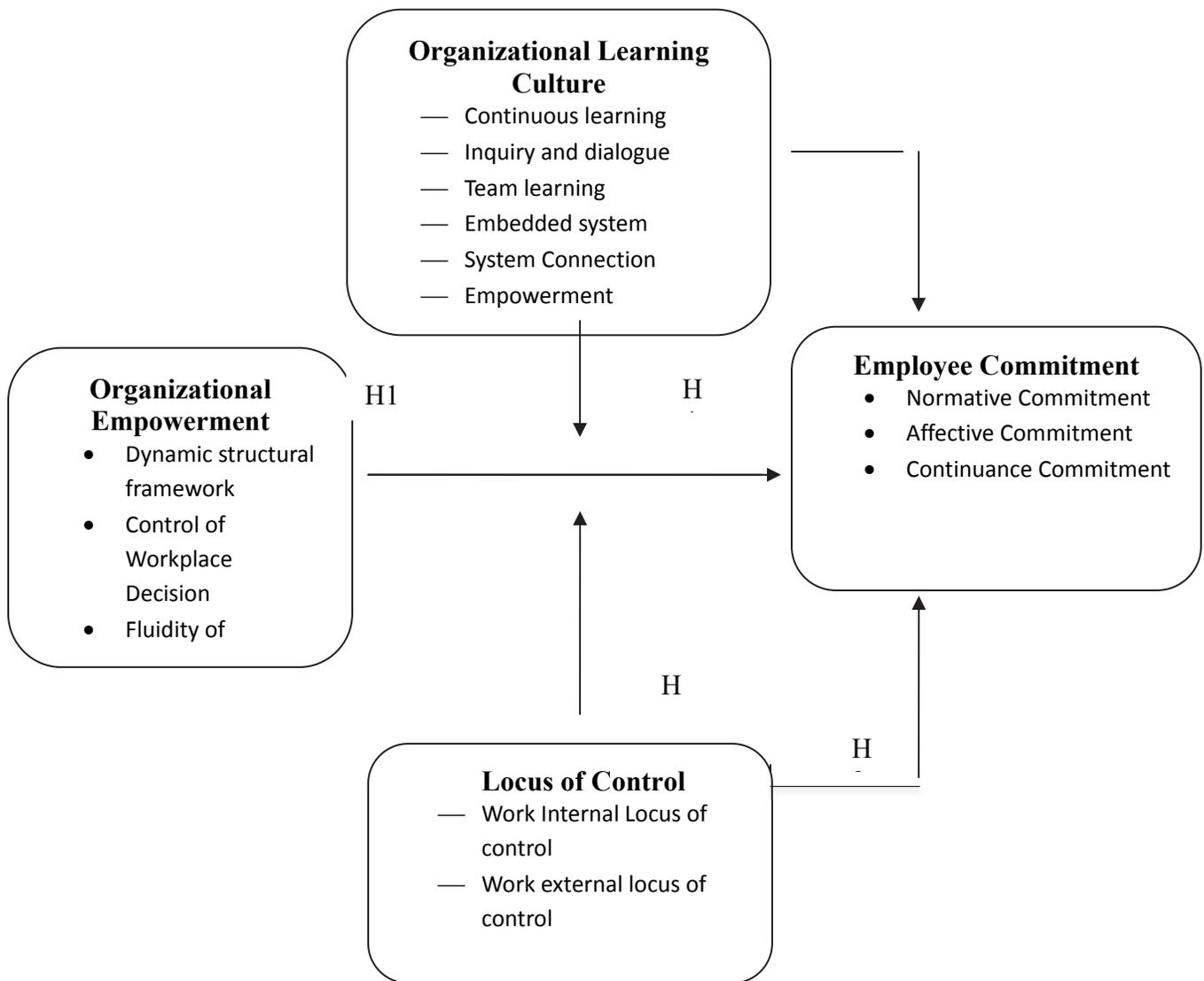
Theoretical framework of the study is guided by the, structural theory of empowerment. Interactional behavior of individuals can be motivated through rewards including material or psychological benefits than the cost will yield enduring mutual trust and attraction (Allen 1984). Theory of structural empowerment focuses on the authority, opportunism and the power structure which affects the behavior of an individual. Empowered individuals are more accountable and responsible for their work (Kanter, 1989). Empowerment theory suggests that more informed, more authorized and more resourceful employees have direct and positive influence on the organizational performance. Learning theory insisted on the uninterrupted information sharing. The organizations must be dynamic in nature.

With the involvement of other constructs, literature signifies that organizational learning culture and locus of control as useful constructs to place as moderators for the relationship between the organizational empowerment and organizational commitment ((M. Hashmi et al., 2013); (Namasivayam et al., 2013); (Raub & Robert, 2013); (Joo & Shim, 2010)).

The research framework (Figure 1), describes the relationship of the entire identified and selected variables for this study.

### Organizational Empowerment with Employee Commitment

Empowering the employees could give them a higher level of satisfaction about their work, increase commitment and enhance performance (Avolio, Zhu, Koh, & Bhatia, 2004). Many researchers suggested that empowering the employees could increase their commitment, as empowered employees tend to be resilient, self motivated and highly concentrated.



**Figure 1: Research Model**

**Methods and Measures**

**Questionnaire development**

Standardized questionnaires were taken from the relevant literature that attempt to measure the feeling of empowerment, commitment and effects of organizational learning culture and also the locus of control. Five Likert scales were used in this study, as it is the most commonly used measure in scale design. Close-end items are used only.

**Instruments**

In order to measure the empowerment in workplaces setting (Matthews et al., 2003) consider scale of empowerment is more appropriate for the present study to measure the empowerment with both perspective organic as well as mechanistic. To measure the empowerment 7 items are used.

Besides this, scales that were used to measure more variables are given below.

- 1) The scale of commitment by (Allen & Meyer, 1990) consisted of 8 items.
- 2) The scale of organizational learning culture by (Marsick & Watkins, 2003) with 7 items.
- 3) The scale of locus of control by (Spector, 1988) using 7 items.

**Table 2: Demographics**

Variables	Categories	Frequency	Percent
Gender	Male	303	89.9
	Female	34	10.1
Age	From 21 to 30 years	84	24.9
	From 31 to 40 years	158	46.9
	From 41 to 50 years	71	21.1
	From 51 to 60 years	24	7.1
Level of Management	Top	37	11
	Middle	225	66.8
	Lower	75	22.3
Marital Status	Single	125	37.1
	Married	212	62.9
Bank Sector	Government	47	13.9
	Private	290	86.1
Education	Bachelor	81	24
	Master	246	73
	M.Phil	10	3
Experience	Less than 1 year	58	17.2
	From 1 year but less than 3 years	167	49.6
	From 3 years but less than 6 years	62	18.4
	From 6 years but less than 10 years	31	9.2
	10 years or more	19	5.6

### Sampling

Data is collected from the bank employees (where  $n = 337$ ). To collect the data, stratified sampling techniques are used. Data is collected from the three hierarchical levels of banks including top management, middle management, and lower management. Demographic statistics for the sample is shown in the table 2.

Table 4 present the results of factor analysis. All four factors had given eigenvalues greater than 1, accounting for 63.892 % of the total variance. The results provide an indication of discriminant and convergent validity.

**Table 4: Results of CFA**

Goodness-of-fit Indices	Desirable range	Measurement model
X <sup>2</sup>	Nil	504.350
CMIN/DF	1 – 3	1.528
GFI	≥ 0.80	.906
AGFI	≥ 0.80	.884
RMSEA	≤ 0.08	.040
NFI	≥ 0.80	.934
CFI	≥ 0.90	.976
TLI	≥ 0.90	.973

### Testing of Hypothesis

Table-5 presents the descriptive statistics and inter-correlation matrix. Organizational empowerment and employee commitment are positively correlated in context of Pakistani banking sector and thus provide support for H<sub>1</sub> ( $r = 0.779, p < 0.01$ ), ( $r = 0.718, p < 0.01$ ) organizational learning culture and locus of control ( $r = 0.513, p < 0.01$ ) were positively related. Correlation range from  $r = 0.779$  to  $r = 0.513$  indicating no multi co linearity among the variables (Hair et al., 2010). Results support the hypothesis H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub> that all variables are correlated with the employee commitment.

The results presented in Table 6 and Table 7 both indicate that the addition of interaction terms to the main effect relationship significantly improved the amount of variance explained for the employee commitment. In model 1, the effect of organizational empowerment on employee commitment was shown in both table 6 and 7. As expected, its standard regression coefficient ( $\beta = .779, p < 0.01$ ).

**Table 5: Mean, standard deviation and correlation results**

Variables	Means	S.D.	1	2	3	4
(1) Organizational Empowerment	3.2161	.49642	1			
(2) Employee Commitment	3.4544	.43857	.779**	1		
(3) Organizational learning Culture	3.7130	.45463	.638**	.718**	1	
(4) Locus of Control	3.7092	.64857	.525**	.513**	.646**	1

\*\*  $p < 0.01$ , \*  $p < 0.05$

In Table 6 when we use the moderator variable organizational learning culture(OLC), then there is a significant increase of variance explained ( $R^2$ ) upon entering the interaction term of organization learning culture with organizational empowerment.

**Table 6:** Moderation Regression analysis of Organization Empowerment with Organizational Learning Culture

Variables	Model 1	Model 2	Model 3
Independent Variable			
OE	0.779	0.542	0.539
Moderating Variable			
OLC		0.372	0.374
Interaction			
OE x OLC			0.082
R <sup>2</sup>	0.607	0.689	0.695
Adjusted R <sup>2</sup>	0.606	0.687	0.693
F-value	516.864	369.633	253.456

\*\*  $p < 0.01$ , \*  $p < 0.05$

In model 2 of table 6, the moderating variable organizational learning culture was included in the model with independent variable organizational empowerment. This clearly shows that, by entering the moderator variable the variance explained ( $R^2$ ) is increased. The standard regression coefficients for both, independent and moderator variables are significant statistically at ( $p < 0.01$ ).

The significance of model two which includes two variables organizational empowerment and organizational learning culture can be verified by ( $F\text{-value}=369.633, p < 0.01$ ). The results of the interaction term of organization learning culture and organizational empowerment (OLC x OE) are shown in the model 3 of table 6. The standard regression coefficient for interaction term ( $\beta=.082, p < 0.01$ ) has a significant effect on employee commitment. The model summary indicates that by adding an interaction term,  $R^2$  is increased. Also ( $F\text{-value}=253.456, p < 0.01$ ) supports our hypothesis ( $H_4$ ).

And similarly from Table 7, we can see that when we entered the moderator variable work locus of control (WLC) in the model, then also a significant increase of variance explained ( $R^2$ ) occurred.

**Table 7:** Moderation Regression analysis of Organization Empowerment with Work Locus of Control

Variables	Model 1	Model 2	Model 3
Independent Variable			
OE	0.779	0.703	0.700
Moderating Variable			
WLC		0.144	0.154
Interaction			
OExWLC			0.084
R <sup>2</sup>	0.607	0.622	0.629
Adjusted R <sup>2</sup>	0.606	0.629	0.625
F-value	516.869	274.491	187.932

\*\*  $p < 0.01$ , \*  $p < 0.05$

In model 2 of table 7, the moderating variable Locus of control was included in the model with independent variable organizational empowerment. This clearly shows that, by entering the moderator variable the variance explained ( $R^2$ ) is increased. The standard regression coefficients for both, independent and moderator variables are statistical significant at ( $p < 0.01$ ). The significance of model two, which includes two variables organizational empowerment and work locus of control, can be verified by ( $F\text{-value}=274.491, p < 0.01$ ). The results of the interaction term of Locus of control and organizational empowerment (WLC x OE) are shown in the model 3 of

table 7. The standard regression coefficient for the interaction term ( $\beta=.084, p < 0.05$ ) has significant effect on employee commitment with 5% level of significance. The model summary indicates that by adding an interaction term,  $R^2$  is increased. Also ( $F\text{-value}=187.932, p < 0.01$ ) supports our hypothesis ( $H_5$ ).

## Discussion and Managerial Implications

Results emphasized that, empowering the employees' increase the committed behavior towards the organization which can improve the service quality and employee intentions. In the case of employee commitment, the fluidity in information sharing is more significantly related than dynamic structural framework and control of workplace decisions. It shows that when employees are linked through information chain and in touch with the organizational values and goals they are clear about the work targets. Furthermore, it's not only the way to increase the trust, and to have a positive effect on the progress but it also promotes creative behavior (M. S. Hashmi & Naqvi, 2012). The present study supports the research results of (M. Hashmi et al., 2013) that there is a significant relation of empowerment with the commitment. (Joo & Shim, 2010) also conducted the research on empowerment but only considered the psychological empowerment while this study shows that both mechanistic as well as organic empowerment effect the relation with commitment.

According to the (Allen & Meyer, 1990) when the employees have the feeling of attachment with the organization they become more committed to the organization. And when the organizations have learning culture they are able to build a feeling of affiliation through involvement of the employees. From the previous research, results support that the organizational learning culture also helps to improve the attitude of the employees (Rose, Kumar, & Pak, 2011). If this powerful link continues to the surface of the service sector and especially in the banks, the manager must be concerned with the level of commitment of the employees and encourage them to learn through the opportunities provided to them. Many studies confirm the effect of organizational learning culture of its seven dimensions articulated by (Marsick et al., 1999), both the perceptual and objective can explain the 10% variance of the financial performance. If the employees' commitment and their intention to leave the organization are considered in the monetary terms then it can be a way to be safe from the organizational loss because employees are the most expensive assets (i.e. recruitment, training).

Linear regression has been applied to test the organizational commitment relation with locus of control. And the results replicate and extend previous research regarding the relation of locus of control and employee commitment. (Aubé, Rousseau, & Morin, 2007) found in his research that the internal locus of control is more beneficiary for the organization than external because they have confidence and faith on their own self that they can do and utilize the resources better. (Hung & Jeng, 2013) research also supports this argument but (Spector, 1988) argued that when employees have an external locus of control they feel the organization is responsible for their success where as internal appreciate their own self. The present study revealed that the employee with an internal locus of control have strong interacting power that help to utilize the empowerment in an effective manner and ultimately increases the employee commitment. These findings are not relevant to the (Spector, 1988) findings. The results found that externals are not committed in such a manner as internals.

The present study gives the understanding of the employee commitment and work locus of control. (Mowday et al., 1979) argued that locus of control is very strong variable that inspired individuals to be committed to the organization. Internals are more likely to enhance the effective commitment and external are more inclined towards the continuance commitment.

Hierarchical regression was used to test the moderating effect of organizational learning culture on the reaction of empowerment and commitment. Moderated regression analysis is recommended method for the interaction effects as proposed by (P, (1983)) Results revealed that the organizational environment and its learning culture as a moderator in regression equation signify the association between organizational empowerment and employee commitment. Improvement in the model fit and significance of the interaction term (moderating effect) of

organizational empowerment and its effect on the employee's commitment indicates that it can improve the working behavior, their feeling towards the work and the organization and the information sharing create a close bond among the employees, build an emotional attachment and they feel comfortable to work there, and for many employees all these things are more important as financial advantages.

Self efficacy and autonomy which are supported by the environment are integrally enhancing the commitment. Basically, the organizational learning culture is based on the system thinking and team work, as well as the empowerment that supports the decision making and information sharing both help in making the decision and working together. It builds the ability to work together to achieve the common goals and the empowerment help them to make the decision in the favor of the organization. System thinking is the confidence that promotes the employee and empowerment give them the authority, so both things act side by side.

The results of the regression revealed that the locus of control as a moderator in regression equation signifies the association between organizational empowerment and employee commitment. Results of the current study explain that when individuals have internal locus of control and are passionate about their work, and they become empowered they show more improvement in their performance and enjoy their work. As a result, they feel more committed behavior towards the organization. When employees have external locus of control feel bound to follow the orders strictly they have low self efficacy and unable to think more than that. Since empowerment is a motivational concept of self efficacy (Conger & Kanungo, 1988), the positive role of the empowerment can be achieved through adaptation of new roles, managers can provide the additional opportunities to fulfill their potential, and motivation for diverse issues and tasks, which influence their level of commitment.

## **Conclusion**

Organizations realize the importance of employee retention, because it's very costly to lose the trained employees who stand as a competitive advantage, and hire a new staff. To increase the committed behavior and professionalism, organizations are looking to adopt motivated framework. The banking sector already developed strong strategies and policies (i.e. pay system, different incentives) that push the employee's behavior to be a part of that organization but existence of same issue indicates the need to focus on non-monetary strategies as well. Strict line of order and bound environment develop the feelings of boredom and infuriation. This study clearly shows that empowerment is one of the strong motivating factors that can make employees be more progressive. Study also found that the cultural and personal beliefs affect this relation. Fluidity of information sharing is a very important cause of the feeling of employee involvement within the organization. It is also concluded that commitment relation gets enhanced by the cultural and personal cognitive. Major findings of the study revealed that there is a positive relationship between employee commitment and locus of control, but the internal locus of control is more effective than external and there is also a positive relation with organizational learning culture. These findings are also supported by the study of (Joo & Shim, 2010) that shows that organizational commitment can be increased with corporative and informative learning culture. (M. Hashmi et al., 2013) research findings also showed the significant positive relation of empowerment and commitment. Empowering the employees in their task motivate them to take interest in their job, and improve the attitude of the employees (Rose et al., 2011). If this powerful link continues to the surface of service sector and especially in the banks, the manager must be concerned with the level of commitment of the employees and encourage them to learn through the opportunities provided to them. Study also found that internals are more inclined towards the commitment than externals. It determines that empowering the individuals built the confidence in employee behavior.

Study is useful for the banking sector to increase the employee commitment and other service organizations can also follow the same framework facing consistently uncommitted behavior and find out the potential variables that can increase their positive behavior towards the organization. Study provides the improved framework which gives the individual self autonomy, promotes teamwork, focuses on system connection, knowledge sharing, facilitate beliefs on personal abilities by verifying the moderating role of organizational learning culture and locus of control

in empowerment and employee commitment. By using this framework, banking sector can overcome the issue of uncommitted behavior of employees and reduce the turnover rate through empowering the employees.

### **Limitations and Future Research**

There are some empirical limitations to this study, as is the case with most research. First, the sample of the study is likely restricted to certain service employees of the banking sector in Pakistan due to different cultural settings. Secondly, this study used the survey method by employees who participated voluntarily. There is a possibility of perceptual biasness because of the perceptual nature of data. To resolve the limitations above, further research needs to be based on multiple resources like cross-sectional survey. Furthermore, to increase the generalizability of the present study, more data must be collected from various locations. The same research carried out in another setting might generate different results, since personal cognitive style and organizational culture could vary according to different contextual factor, so more research is recommended in different locations. The resultant framework could be improved through examining the different contextual factors and work environments. First, while present research found organizational learning culture and work, locus of control plays a very important role for employee commitment. This study can be extended further to find the kind of empowerment promoted on specific managerial level. This study was confined to the banking sector, research on different service organizations with dissimilar cultural context is recommended. Lastly, the manager plays a very important role in implementing the empowerment. His role as implementer, supporter of subordinates and transformational leadership as mediator is recommended.

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## ***Two Decades Of WTO: Governance, Innovation And Prospects***

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### **Abstract**

*On the occasion of the WTO attaining twenty years as an organization, this paper is devoted to examine its governance and process of innovation, and finally its prospects. The WTO has produced significant changes in betterment of global trade to date. In the period of twenty years from (1995-2015), world trade volume has grown four times, and trade tariff has halved to 50 %. The trade picture, however, is found to be blurred, agreements entangled, and the rising new super trade blocs, etc. This paper discusses its progress and challenges in terms of governance, ethics and fairness.*

**Keywords:** *WTO, GATT, Global Trade, Trade Governance*

### **Introduction**

The World Trade Organization (WTO) is a world trade supervisory body, a milestone innovation in international trade, intended to make international trade run well, fairly and evenly, as international trade, by and large, is prone to gains the cost of others and trade wars, often resulting in intense arm conflicts. The history of East India Company in India during the 17th and 18th century holds a witness to this. Colonialism is a bygone story, but unfair trade practices persist for ever. Hence, the need for an international supervisory trade body. What is the 'initial' experience of the world regarding the seminal WTO, expected to herald a new dawn for international trade and commerce a new era or global trade transactions of increasing dimensions like on and off-line trade and borderless trade? This paper is a modest attempt to meet this question, especially in the light of the expected to emerge the new mega trade blocs like TPP-Trans-Pacific Partnership.

This paper first address the ODM-Objectives, data and methodology of the study and then proceeds to study the nature and history or theory of international trade and then the 'history' and performance of WTO and its future prospects. There are, of course, in conclusion some suggestion follow. It is felt that WTO needs to usher in a new era of international growth of nature friendly and sustainable nature and fair and steady global trade and world prosperity. It needs to have a long, long and holistic approach to IT, and not that of IT at any cost. It is a tough trade agenda, easy to say but Himalayan to accomplish. It is to be based on the principle of equality and equity, whether it is trade giants China and the USA or the perennially trade deficit India- good at imports but bad at exports. Yet, dismayingly, India's Finance Minister considers the country as the economic hope of the world, which given the poor human resources quality of the nation and its widespread abject poverty is a false pretention of negative impact, which however is not the concern of paper, however one may be struck by this false pretention. Meanwhile the Objectives and Methodology the study is:

1. To view the nature of international trade and the cycle of its theory or thought,
2. To examine the history or background of the WTO,
3. To take note of the mandate, mechanism and the dynamics of WTO,

4. To study the performance of the World Trade Organization, and
5. To draw policy conclusion and make some meaningful suggestions.

May seem a big study agenda, which however is intended to be pointed regarding the study points. It is only a preliminary exercise or a brief view of the first 20-years of the important world trade making WTO, which calls for continuous elaborate exercise and evaluation. The WTO, so to say, needs to emerge as a driving force of the world economy and trade.

The Data of the exercise pertains to the growth and trade of the world economy and the dimensions and dynamics of them, such as populations, poverty, saving, investment, GDP, per capita income, exports, imports, goods and services trade, customs rates, tariffs, etc., from different published and unpublished sources. Interestingly, as it would be seen, the WTO had its own two-decade evaluation, of which one was not aware of when different trade topics were being toyed for the purpose of a trade exercise. But, instead of self-evaluation and assessment, non-self-evaluation is preferable. But, an eminent body like WTO can be eminently self-critical and well objective in self-evaluation.

Methodology or method of study and exercise is made up of the statistical tools of growth rates, ratios, percentages, models, correlations, forecasting, direction and composition of trade, etc. Above all, what is the WTO trade 'model' and principles and trade theory? Is it rational, non-discriminatory, hold to the principles of free and fair trade and against the dominance of economic and trade majors? The WTO carta cannot give different treatment to its members and everyone should fall in line. The WTO charter must, first meet the principles of democracy, debate, equality, justice and fair play. Accordingly, the Methodology of the study, if necessary questions the underlying principles of the WTO and its premise and functioning. For, it is needless to say, that those who sit in judgment needs to be above. It seems to be a time to take a dispassionate view of international organizations like the UNO and WTO and other bodies, charged with the heavy responsibilities of peace, development, justice, trade and others, which need to be pro-active rather than reactive, and they need to be ever vigilant and continuously monitor the provinces of their activity.

Thus, it is a part of the Methodology of the study to take a critical look at the world trade body, rather than treating it as a body beyond reproach. In fact, such a look and reexamination must be taken of the UNO, IMF, IBRD and other world bodies which may be felt and found to be sub-optimal or not up to their tasks (Ahmed, 2016). There is nothing final about these organizations. Among other things, the financial crisis of 2008 has brought home non-laudatory working especially of the World Bank and IMF, the world economic twins, and even of the UNO. If not anything, the WTO needs to be a dynamic body, acting according to the changing times and circumstances. Two-decades is almost a generation time to take a critical and constructive view of the world trade body, an outcome of the world trade concerned post WW-II period for a globalized economic and trade world. Since 1995, there is a further accentuation of the ITC revolution, with OL-on-line-trade becoming the increasing order of the day.

### **Trade and Trade Theory**

Foreign trade, it goes without saying an ancient, important economic activity which is growing with time based on the 'give' and 'take' principle. The equation of trade is G-T, which can be said to be an inviolable principle of trade and an all-time equation. Trade problems arise by and large from the violation of this seemingly fundamental theorem of foreign trade which is trade between different countries, with no particular friends or foes or favorites and non-favorites. The field of foreign trade is wide open, giving impetus to economic development, through division of labor and specialization, according to Adam Smith's first treatise on economics, economic development and trade. The Wealth of Nations (1776). According to Smith, free enterprise and free trade confer maximum benefits and accentuation of National Wealth made up of goods of consumption and production or consumer and capital goods. The credit for taking foreign trade from the narrow confines of nationalism to

international arena accrues to Smith, who has not only the founder of economics but also a philosopher who was interested in human welfare through the production of material needs of life – the economic and trade situation and note negative signals and concentrate on the ways and means of rectifying situation. Of all, in these days of the importance of Leadership, WTO leadership needs to be pre-eminent and concerned and strike a note of harmony and goodwill evoke universal adulation. It's an age of leadership, deciding fortunes of companies, organizations and countries, leadership being considered as the most important factor of Management by the management Savants like the late Stephen Covey (Ahmed, 2015).

The WTO is a 21<sup>st</sup> century body which should reach out to all its members equally and iron out their trade problems and differences as a friend, philosopher and guide, and as a friend in need, all of which may sound too idealistic and impractical but is the demand of globalized time and trade, with trade run on the well-known principles of comparative cost/advantage, of exporting goods of which one has comparative advantage and importing goods with comparative cost advantage. Foreign trade is win-win situation for all participating parties. This is the wisdom of foreign trade enunciated long back by David Ricardo, one of the classical economists, in his economics and trade classics. The Principles of Political Economy and Taxation (1820). Quite imaginably, the theory of comparative costs or advantage is a dynamic one with countries gaining or losing their comparative advantage in respect of different goods with the passage of time and development in science and technology and human resources development, R & D, and innovations and entrepreneurship with the passage of time. (Penguin, 1983). The dynamic principle of comparative costs and advantage –CCA – calls for dynamic, competitive, innovative, S&C, R & D, HRD and innovative and entrepreneurship, cost saving, consumption and savings-investment balancing least cost economies. In many instances, nations have to blame themselves for their economic and trade woes, and there is no need for them to 'cry wolf' or the world being unjust to them. Even the United States of America cannot escape from this tendency of crying wolf and not being given a fair chance and share to their exports. For example, non except itself is responsible for the thumping fall of its iconic Lehman Bros of the mid-19<sup>th</sup> century origin on 15<sup>th</sup> Sept 2008 setting off the grave financial crisis of 2008, which the US still trying to ward-off (Oncu, 2016; Ahmed, 2013c).

To take another case of America, banks, any type of banks, are a by-word for public trust and confidence and safety, security, good management, good returns on saving and prudential investment without any iota of doubt. As against this, the giant US banks had, it is well known, every sort of banking misadventures and innovation resulting in a giant financial crisis in 2008 in spite of the World Bank and the IMF headquartered in the United States and the 95 year veteran Fed. Strangely, the way of its 'trade crisis' the US appears to think is in building new trade bloc like the TPP with 'higher' trade standards which appears to be a move to weaken the WTO by building an over whelming trade bloc, in the making since a long time shrouded in secrecy. It seems is proper housekeeping and putting its still No.1 world economy in a transparent, democratic and dynamic mode. It needs to take care of the proverbial 4-Ps of marketing (Kotler & Keller, 2015) and not waste its yet superb talents in architecting seemingly exclusive trade blocs which are quite discomfoting to others. Meanwhile what is the record of WTO?

## **The WTO**

The importance of foreign trade in the economies and economic development the nations of the world calls for elaboration, as it is a too well known fact that exports and imports are an essential part of a nation's economic life and national economies. No nation, big or small, can be an island of self-sufficiency amidst, say, the sea of nations. There are, of course, bound to be trade differences, and even trade wars and trade grouping. How far these are advisable and welcome is a different matter. Well imaginably, there are different schools of trade, Mercantilists, Nationalist, liberalist, etc. For instance, mercantilists' school of trade of the Middle Ages advocates max exports and min imports, the difference between the two bringing in gold the stock of which was considered to be true wealth of national. The fallacies of Mercantilism were brought home by Adam Smith, giving a right perspective to foreign trade. Smith appears to be reinforce the theory that good economists make good economic theories, of which trade theories are part.

Yet, the journey to free trade and the WTO had been long. There is a long run of colonialism from the 18<sup>th</sup> century till almost the World war II (1939-45) and even beyond, with England and India standing as the great symbols of Empire and Colony, respectively (Knowles, 1928). The British rule in India (1757-1947) is known to have pushed India from a preeminent exporting nation into colonial market. Even the WTO is split into the two groups of developed and developing nation that does not agree well for the world of trade. Generally, it is a war of words and deeds between these two camps. Without much ado it can be said that the two camps need to give up their self-assumed identities and ardently work for common good and welfare, and the efforts of WTO is held to be a great ray of hope for global trade. In fact, foreign trade must be self-regulatory, drawing up one's export and import items and working out trade balance. As far as possible, one must adhere to fair trade practices and exert to build dynamic economic and trade sectors. One must also make known its goods and services in the global market, and also its import demands. All this sounds to be too idealistic agendas. Hence need for an international trade promoting mechanism for the benefit of all. The purpose of foreign trade is consumer welfare in all trading nations. The nation needs to be economically well disciplined and productive. It is this culture of economic development and trade that needs to be well propagated and inculcated in all trading partners.

### **The Forerunner GATT**

The post-WWII had opened a new era in world peace and economic cooperation and development and trade through the UNO, World Bank, IMF and GATT, among other institutions. It is to take care of international trade which is an important international economic activity. GATT is General Agreement on Tariff and Trade (1947). The Agreement's creed is fair trade through the elimination of tariff and non-tariff 'barriers' to trade.

"The fundamental principles of such an Agreement are (i) Most Favored Nations (MFN) – every signatory will extend to every other signatory member, the same and equal treatment in a non-discriminatory manner. This is of great benefit as all members whether rich or poor, strong or weak, would be given same treatment by all signatory members and (ii) The second principle is National Treatment which means that imported goods and domestically produced goods will be treated alike, except for the payment of customs duty at the time of import" (Paul 2008, p. 284). These are quite eminent principles of natural and economic justice, attempted to be met periodic GATT Rounds with increasing number of countries as GATT members 23 in 1947 to 123 in 1994.

The path to the WTO had advanced through a series of GATT 'Rounds' of negotiations, numbering 8 from Round 1 at Geneva to Round -8 Uruguay round spanning from 1986-94 the longest, giving birth to WTO in year 1995, as an eventful development in the long and eventful and stormy history of global trade. The WTO is intended to be like a guardian angel of international trade of growing importance in the globalized world of the 21<sup>st</sup> century is likely to pick-up momentum and grow in volume and value with the addition of services of IT, banking, etc. (Oza, 1995; Ahmed, 2012a,b).

The WTO is the result of eight years (1986-94) of the Uruguay Round, perhaps the longest negotiated and architected and elaborated trade body which is beyond the ken of understanding of the common man for whose benefit any national or international organization is intended for. The WTO seems a high powered trade body that take care of every aspect of international trade to put it on a fast and orderly stable path. It seems for only high trade experts to understand and operate it. No doubt, considering the importance of trade, a world body to monitor and supervise and keep track of it cannot be denied, but it must be guided simple operative principle of 'justice' and fair play in trade. Compared to this, the WTO appears to be cumbersome body.

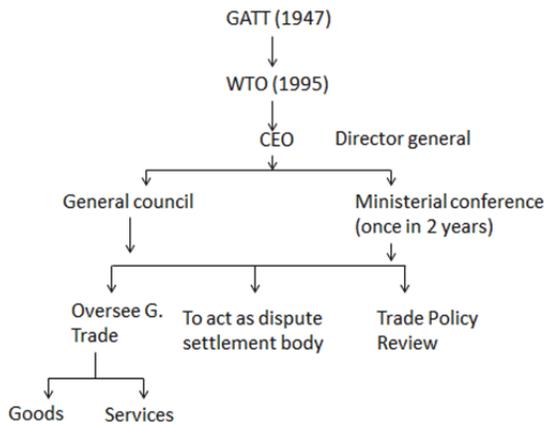
### **WTO & its Functions**

The World Trade Organization deals with the global rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible. "WTO provides a rule-based, transparent and predictable multilateral trading system which protects the member countries from the pressures of stronger trading partners. WTO rules envisage non-discrimination in the form of National Treatment and Most Favored Nation

(MFN) treatment to our exports in the markets of other WTO members. National treatment ensures that our products once imported into the territory of other WTO members would not be discriminated vis-à-vis the domestic products in those countries. MFN treatment principle ensures that members do not discriminate among various WTO members not only in their tariff regimes but also in respect of various other rules, regulations incentives, etc. If a member country feels that due benefits to it are not accruing because of trade policies practiced by another trading partner, it may file a dispute under the Dispute Settlement Mechanism (DSM) of the WTO” (Government of India, 2003).

This is a laudatory references by India, one of the founder members of the WTO, which goes a long way in establishing the credibility of WTO. India is a demographic, economic and trade major with a number of trade problems, as perennial (M-X), as a developing economy. Disputes take their own time to settle and in the meantime the complaining nation may continue to suffer. Therefore, there appears a need for the WTO to note unfair trade practices and initiate action on its own without ‘fear or favor’ that would meet the ends of justice. It however is doubtful where WTO is ready to take such heavy responsibility.

**FIGURE 1: WTO & its Functions**



Source: WTO

The WTO is bound a number of Agreements, from Agriculture to IPRs. There are provisions regarding trade blocs too. They, however, are to be non-discriminatory. These blocs, however, are on the rise. There seems a tendency for the birds of the same feather to flock together. Is this in tune with the principle of multilateralism forming the bedrock of the WTO? Whatever it may be, the post-WTO trade scene appears to be much complicatedness, there appears to be a tendency of stocktaking of the WTO at the end of long run.

**Innovation, Progress and Performance**

The importance of the WTO evolved after prolonged deliberations, an elaborate organization, continuous ministerial dialogues, a dispute settlement mechanism and so many agreements to take care different aspects of international trade cannot be disputed in this age of globalization and expanding trade horizons. First, it is to the credit of the WTO that it keeps update trade data of its members which in itself is a matter of great national and international advantage through its Trade Profiles (Annual), which is a mine of comparable information of Foreign trade (WTO, 2013). It is significant that there is a body keeping an eagle watch on the expanding domain of foreign trade, with so many in the race of foreign trade, as a dire necessity. For example, India had never a respite from the upset sector of foreign trade (M-X=BT). There is, however, no solution for this dire Indian problem from the WTO (Ahmed, 2013a,b).

Thus, the trade body seems a passive spectator of the world trade scene. For instance, for India, trade with China seems an accumulating misery. The US-China trade war is too well known. There is no holistic approach to trade.

There are thus more questions regarding the functioning of WTO. They are in respect of any world organization, including the UNO and the World Bank & IMF twins. In a way, the trade body may have yet to get its moorings. One thing, the organization has simple membership, (161) as of August 2015, and the body in its noted review of 20-year functioning notes of their prospects of further growth of membership. China became the 143<sup>rd</sup> and Russia joining the body is a big hit, the former being No.1 trading nation upsetting the old and traditional business equations. The origin and birth of the body are considered to be historic. “Rarely has the birth of an international institution been preceded by expectations” (WTO: 2015, p.10). What are the expectations? .....accelerating the liberalization of economies ....”Coordination between them”. The progress card reports A Growing membership 33 economies between 1995 & 2015, big and small, including China (2001) and Russia and smaller Nepal (2004). The initial membership itself was an impressive 128.

**TABLE 1: EXPANSION OF WTO MEMBERSHIP**

<b>Year</b>	<b>Developing Economies</b>	<b>Developed Economies</b>	<b>Countries in Transition</b>
1995	79	33	0
2000	101	37	2
2005	107	38	4
2010	110	38	5
2015	116	38	7

Source: Authors compiled from WTO, *International Trade Statistics*, 2015, p.34.

From the Table (1) it can be seen that 79 developing countries and 33 developed countries joined WTO in 1995, and the same membership has increased in 2015 to 116 & 38. The newest members are Yemen (June 2014) and Seychelles (April 2015). From 1995 to 2014, WTO members’ share of merchandise exports rose from 89 per cent of total exports in 1995 to 94 per cent in 2005 and to 97 per cent in 2014. Today, WTO covers 98 % of global trade; thus, nearly a universal trade body. It is a democratic decision making body following the consensus principle. Ministerial Conferences, so far 10, held every 2-years in the top level decision making body of the WTO. In Trade Negotiations: Doha Round”, the new millennium eve (2001) Ministerial Conference at Doha, Qatar, is noted to have set agenda for reforms in 20 areas of trade. There are reported to be endless meetings of Council and committees for the implementation of the numerous Agreements (14), making the working of the WTO highly technical and time consuming and foreign trade a high science. Vide the Chapter, Forging New Agreements (6), the WTO appears to spare no efforts at entering into new agreements, so nothing concerning trade appears to be left but bounded by agreements. It, it seems, would be an interesting exercise to study the outcome of these old or original and new agreements.

The interesting and rewarding areas of the work are known to be dispute settlement, monitoring world trade, helping developing countries trade, and fostering dialogues, from which the WTO appears to be the most active of the global organizations, including the apex UNO. Needless to say, the WTO looks forward to more rewarding long, long or for ever run in the service of Foreign Trade. There appears to be a need for ample studies on WTO working, with the money spent on the WTO, though not much, appears to be well spent. The WTO Director General Roberto Azevedo reports of his organizations, among other things, in the following terms (Azevedo, 2015).

It is the WTO doing its best possible with limited resources. “There is no doubt that the WTO has achieved a great deal during its short history. It has grown and adapted as an organization and it has become a central pillar of the global economics architecture. But of course there is much more to do. We need to go further in leveraging

trade's potential as a force for growth and development and we must deliver further negotiated outcomes starting at our 10<sup>th</sup> Ministerial Conference in Nairobi in December 2015 (Roberto Azevedo, Director General, WTO).

**TABLE 2: PROGRESS AND PERFORMANCE OF WTO (1995-2015)**

Items	1995	2015
Members	128	161
Internet	0.8 (%)	44.0 (%)
Trade	X	4- times (4X)
Tariff Free Trade	-	50 (%)
Tariff falls	1.5 (%)	15 (%)
Dispute Settled	-	500
New Trade (IT)	X	3 times X = \$1.3 Trillion
Ratio of trade to GDP	20 (%)	30 (%)

Source: Compiled from WTO, *20 Years of WTO-A Retrospective*, 2015, pp. 4-5; WTO, *International Trade Statistics*, World Trade and the WTO (1995-2014), 2015, p.17.

As can be seen from the table (2), the trade has increased to 4 times, New trade IT has increased to 3 times, tariff free trade has fallen to 50 per cent, 500 disputes settled, and the ratio of trade to GDP has increased from 20 per cent to 30 per cent in the two decades of the WTO as an organization.

The table (3), show that the last 20 years have confirmed world gross domestic product (GDP) and world merchandise exports move in tandem but export growth is much more volatile than GDP growth. The sluggish post-crisis economic expansion (2.5 per cent rise in GDP per year on average from 2010 to 2014) was accompanied by mediocre trade developments, as exports increased by only 3 per cent on average per year. The economic crisis had seriously affected the exports and imports in year 2009. The share of trade in GDP fell 5 percentage points to 26 per cent in 2009 from 31 per cent in 2008. Much of this decline was attributed to a drop in the price of commodities. Despite a robust recovery in 2010-11, the ratio of trade to GDP in value terms remains below its 2008 peak (WTO, 2015, p.17).

**TABLE 3: VOLUME OF WORLD MERCHANDISE EXPORTS AND GDP (1995-2014)**

Year	World Merchandise Exports (%)	GDP (%)	Year	World Merchandise Exports (%)	GDP (%)	Year	World Merchandise Exports (%)	GDP (%)
1995	7.5	2.9	2003	5.5	2.8	2011	5.5	2.8
1996	5.0	3.3	2004	10	4.1	2012	2.5	2.2
1997	10.0	3.7	2005	6.5	3.6	2013	3.0	2.4
1998	4.5	2.6	2006	8.5	3.1	2014	2.5	2.5
1999	4.5	3.4	2007	6.5	3.9	2010-14	3.5	2.5
2000	11.0	4.3	2008	2.0	1.5	2005-10	3.6	2.3
2001	-0.5	1.8	2009	-12	-2.1	2000-05	5.0	2.9
2002	3.5	2.1	2010	14	4.1	1995-00	7.0	3.4

Source: Authors compiled from WTO, *International Trade Statistics*, 2015, World Trade and the WTO (1995-2014), World Trade and the WTO (1995-2014), 2015, p.16.

Among other things, the WTO 20 years assessment study does not speak of the Financial Crisis disrupting and distorting the trade flows, as the financial crisis cannot be considered any insignificant episode. Apart from this, it is too well known how the MCs often evoke popular protests and ire as the ones as the once sharply divided into the conflicting camps of developed and developing countries, with endless debates on the Doha

Agenda. It is unfortunate that, by and large, in the large public image the world trade body stands for globalization and fully throwing open one's market to foreign goods and services and prevention of goods from the weaker economies on one or the other pretext. There is a strong anti-WTO school. Notwithstanding all of this, the WTO keeps annually surveying the world economy and trade, which follows the Financial crisis – 2008 are reported to be operating sub-optimal, some less than 3 % both (WTO, 2015). There is a continuous flow of research papers from the WTO, which are of high subject and policy value, as, for example, regarding FDI and export promotion (Gnangnon & Roberts, 2014).

### **Shortfalls**

No international organization can be an all-success story. The WTO, above all, appears to be a too complicated affair, bound by an elaborate organization, so many Agreements and forging of new agreements and consensus eluding Ministerial Conferences the outcome of which does not appear to be too difficult to work out to the advantage of the general public. The organization is entangled in too many agreements that appear to be too difficult to work out to the advantage of general public. According to the WTO itself, global trade has been stunted very much by the financial crisis- 2008 to a small pace of some per cent and the WTO has no way out of the problem. The WTO has not kept pace (Baldwin, 2014). There is no doubt about the WTO mechanism being too cumbersome and complicated and on and on. The rules of foreign trade are in need of being reduced to be simple and workable that are convincing to the common. Instead, the WTO mechanism appears to have grown into a high science. The WTO does not seem to think of nature –friendly or green-and-clean foreign trade. The WTO, simplistically, appears to think of a nation's trade performance, especially of developing country, in terms of FDI flows. Above all, the WTO seems highly MNC friendly (Vijaychandran, 2015). According to Prusa, there is a frustration with the Appellate Body, namely, the reluctance of the Appellate Body to embrace economics in its decision-making and argues that economic methods would produce superior determinations (Prusa, 2015). The Panel's and Appellate Body long and tortured history with zeroing is at least partly due to poorly constructed reasoning in early cases – logic that would have been more clear with a deeper user of economic analysis (Prusa, & Vermulst, 2009).

The WTO agreements are frequently not clear on where or how this balance between sovereign/domestic concerns and trade concerns is to be determined (Meagher, 2015). On the whole, the simplicity of trade appears to be lost under the WTO regime. There is a proliferation of FTAs, above 400 by 2015, and BITs-Bilateral regime. There is proliferation of FTAs, above by 2015, and BITs-Bilateral Trade Treaties, numbering more than 2000, which appears to run counter to the spirit of the WTO- of multilateralism, of all countries being the favorites one another (Vijaychandran, 2015). Not to say of the mega trade blocs like the TPP, very much intended by the USA (US Trade Representative, 2015) aiming at very high trade standards (EPW, 2015).

It is suggested that the WTO needs to promote a trade culture of ethics, a code of conduct, productivity etc.

### **Conclusion**

Trade provides a solid platform on which countries can lay a firm foundation for employment and wealth creation, improve food security, livelihoods and substantially reduce poverty. The WTO is found to be a largely helpless spectator of the international trade scene regarding that it cannot do much. It has yet to become a help-mate of international trade, nation-wise. It is suggested that it should come out of the image of being a rich nations' trade club and reach out to the common people of the world through a nature and people friendly new image and makeover.

In sum, it seems that the WTO ought to make itself to international trade and the common public.

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## ***Impact of Employees Performance Appraisal on Job Outcomes with the moderation of Distributive Justice***

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### **Abstract**

*Previously, a consumer banking division investigated performance appraisals by executing distributive justice to persuade their employees in consumer banking sector Rawalpindi. However, a diminutive research has been conducted to determine the effectiveness of performance appraisals outcomes. The purpose of this research is to establish an impact of performance appraisal on employee motivation, job satisfaction, and personal development. A multi dimensional questionnaire is designed to gauge results. A sample survey consisted on 350 employees is selected to use multi- stage sampling techniques. A Descriptive, multiple regression and correlation model had been used to analyze the composed data. The study found that distributive justice has a constructive impact on motivation, job satisfaction, personal development and ultimately on employee performance appraisal. The study also recommends that the level of job satisfaction and motivation can be elevated among employees by competency based pay and incentives. Further, this research is specifically calculated to maximize the potential of employees.*

**Key words:** *Job Motivation, Job satisfaction, Positive work relation, Innovative Behavior, Consumer banking division.*

### **Introduction:**

The Phenomena of performance appraisal was discovered by McEvoy (1990) and according to him that's very important problem for public organizations. The most challenging aspect of a performance appraisal is measuring actual performance of the employee. Since the performance is measured by tasks performed, there is a continuous process that must be administered in order to monitor the performances throughout the appraisal cycle. Thus, it's very important to choose the correct measuring techniques. It's also important to focus on a desired performance (standardized performance) and then compare the desired performance to the actual performance of the employee. All of the planning that goes into the performance appraisal is for the purpose of evaluating employees, providing employees with valuable feedback and creating a positive effect on future performance. Although the process may be tedious, the end result is one of great importance. Murphy and Cleveland (1991) suggested that the acceptability of the performance appraisal system to both raters and ratees is important to the system's effectiveness. They pointed out that acceptance by ratees "are a function of both the process and the outcomes of performance appraisal". The overall purpose of performance appraisals is to increase organizational effectiveness and productivity. However, the most important single purpose served by performance appraisals is to let employees know where they stand.

Most of the researchers on this topic have different findings on this topic which comes from their personal and professional experience. The process of thoughts and judgments made in performance appraisal is named as cognitive processes of raters. This process can affect the judgments made about the rates being evaluated. There four variables that can effects the judgments of rates performance are namely structures, beliefs, interpersonal affects and attribution (DeNisi, Cafferty, & Meglino, 1984). According to Murphy and Cleveland (1991) this research is focused on such issues as appraisal formats and minimizes bias from raters. One issue that is important is criteria by which appraisal system are judged. They also suggested that one such area that needs to be addressed is the reaction of rates to the appraisal system as well. Some of the researchers also notice that the Performance appraisal depends

on subjectivity and claims which are assumed to be heavily influence by mental stuff or personal consideration such as perception, belief and experience (LaFave 2008). Hence, the perception of fairness in performance appraisal is subjective, and it varies between ratees. This caused the diversity or varieties in the perception of fairness from an individual to another individual (Choon & Embi, 2012).

In the past no single empirical study has demonstrate the relationship of Performance Appraisal with the job satisfaction, job motivation and personal development with the moderate effect of distributive justice. That was a gap in the previous body of knowledge so this study will help to fill this gap in the body of knowledge. Job satisfaction can be relates with the behavior of individual at the work place. It ranges from extreme satisfaction to extreme dissatisfaction. Employees have various attitude about the job e.g. their work, colleagues, supervisors or subordinated and their pay as well (usmani and Jamal, 2013). According to Al-Zu'bi, (2010) in order to be competitive in today environment the companies must identify the factors affect job satisfaction and moral of their employees. Following are the factor which affects job satisfaction such as nature of work, growth opportunities, salary, management, work groups and working conditions etc(Aziri, 2011).Before 1975, organizational justice was primarily concerned with distributive justice. Conventionally, Adam (1965) with his equity theory did the groundwork for most distributive justice research (Bernerth, Feild, Giles, Cole, 2006).

In this study we examine the relationship of Employee performance appraisal with the job satisfaction, motivation and personal development with the mediation of Distributive justice. This study will help in future in such a way that company should keep in mind about all the aspects of the study so that a employee should motivate towards the goal of the organization and satisfied with the organization and also his personal development is possible. As we know that a satisfied and motivated employee is a valuable asset for the organization and so that will beneficent for the organizational prospect for long run. The affect of organizational justice on job satisfaction is studied topic because it is an employee's attitude towards the organization (Kumar, Bakhshi, and Rani, 2009). Employees show more positive attitude and behavior towards their work i.e. job satisfaction, if they feel that they are treated in important manner by their organization in each aspect (usmani and Jamal, 2013). Equity theory discuss that employees should be access by their input and outputs while comparing with others. Inputs are those investing in the job and outcomes are receiving in return (McFarlin, & Sweeney, 1992).

In this study we investigated performance appraisals by executing distributive justice to persuade their employees and also determine the effectiveness of performance appraisals outcomes. The purpose of this research is to establish an impact of performance appraisal on employee motivation, job satisfaction, and personal development. By this study we try to found that distributive justice has an impact on motivation, job satisfaction, personal development and ultimately on employee performance appraisal. The study also recommends that the level of job satisfaction and motivation can be elevated among employees by competency based pay and incentives. There is also a difference between distributive and procedural justice and According to Folger and Konovsky (1989) distributive justice is the perceived fairness of the amount of compensation that the employee receive and procedural justice is the perceived fairness of the means used to know those amounts. Some other researchers also focus on that important aspect of organizational justice and Tyler (2003) tell that procedural justice responds to public concerns about fairness in the exercise of legal authority.

## **Literature Review:**

### **Employee performance Appraisal and Employee Motivation:**

There are certain factors that are driven by a Performance Appraisal that influences on employee's motivation. These are as follows:

**1) Salary/Pay hike:** Most employees look forward to an increment in their salary as a direct result of Performance Appraisal. In some companies there are standard salary hikes as per the grading system. But, in many companies the salary hike is given only after performance appraisal report is drawn by the supervisor.

**2) Promotions:** In some organizations there could be a set policy of promoting an employee to the next grade or level after he has worked a certain number of years in a preceding grade. But, these days many organizations have adopted promotions as a tool to reward star performers.

**3) Incentives:** Incentive is a one-time reward given essentially as an attempt to link rewards to superior performance in a direct and prompt way. They usually function in addition to basic pay and are specifically aimed at achievement of specified results, outputs or productivity targets.

**4) Career Development Opportunities:** These can take the form of sending employees to sponsored courses with top universities, or enrolling them for certification programmes, training workshops

**5) Changes in job profile:** This could be clubbed with Promotion and includes preparing performing employees for higher responsibilities at the top management level. The above factors have a strong bearing on the motivation of employee's and hence have been considered as independent variables as part of Performance Appraisal.

A research done by Kamphorst and Swank revealed that a positive appraisal motivates an employee more than a negative appraisal. A study done by Muhammad Faseeh ullah khan concluded that on an average 85% of the employees in an organization are motivated by performance appraisal. So we argued that

**H1:** *Employee performance appraisal has significant positive impact on employee performance*

### **Employee performance Appraisal and Job Satisfaction:**

Organizations are the social systems where humans are an asset. Organizations need efficient and effective managers and employees to accomplish goals, because organizations cannot be successful without their enduring efforts and commitment. Employee morale and satisfaction are the two most profound variables which affect the performance of an organization.

Job satisfaction is closely linked to that individual's behavior in the work place. It is the collection of feeling and beliefs that employees have about their current job. The degree of job satisfaction ranges from extreme satisfaction to extreme dissatisfaction. Employees have attitudes about various aspects of their jobs e.g. their work, their colleagues, supervisors or subordinates and their pay. The importance of job satisfaction specially emerges to surface when many negative consequences of job dissatisfaction come to mind such a disloyalty, increased absenteeism, low productivity, turnover and increased number of accidents etc (Aziri, 2011). Therefore in order to be competitive in this global business environment companies must identify factors that affect job satisfaction and morale of their employees (Al-Zu'bi, 2010). Job satisfaction is under the influence of a series of factors such as the nature of work, salary, growth opportunities, management, work groups and working conditions etc. (Aziri, 2011)

When an organization works for the betterment of their employees and take care of their all responsibilities and they also have a good appraisal system which gives salary, bonus, and commission to each employee on time by keep in mind about their previous performance then employees are said to be satisfy with such organization.

So we argued

**H2:** *Employee performance appraisal has a significant positive impact on job satisfaction.*

**Distributive justice and Employee motivation:**

Price and Mueller (1986) define distributive justice as “the degree to which rewards and punishments are related to performance inputs” (p. 122). This definition of distributive justice is based on equity theory (Adams, 1963), which suggests that a person will judge a situation as equitable when the person’s effort-to outcome ratio is equal to that of another person. Thus, distributive justice does not refer to the quantity of rewards and punishments dispensed by the organization, but rather to the equity of the rewards divided among the employees. Lack of distributive justice has been associated with employee theft (Greenberg, 1990). High base pay has also been associated with higher intrinsic motivation at work, a finding that was explained in terms of distributive justice (Kuvaas, 2006), which has been associated with increased intrinsic motivation (Fisher, 1978). However, it is also possible that reward contingencies are linked to decreased autonomous motivation if they are experienced as controlling the person’s behavior at work (Deci, Koestner, & Ryan, 1999). So if in an organization distributive justice is important and give high ranking then the employee of that organization is self motivate towards the goals and objectives of the organization. So we argued that

**H4:** *Distributive justice has significant positive impact on employee motivation.*

**Distributive justice and Job satisfaction:**

Job satisfaction is the outcome variable in this study. When employees feel that they are treated unfairly, they respond affectively or behaviorally (low commitment or high turnover) (Fernandes & Awamleh, 2006). Job satisfaction is therefore very critical to attracting and retaining qualified and competent personnel (Al-Zu’bi, 2010). It can be defined as “a function of the perceived relationship between what one wants from one’s job and what one perceives it as offering” (Locke, 1969).

Methodologically, job satisfaction can be defined as a comparison between actual and preferred outcomes. Job satisfaction is an affective reaction which includes employee’s feelings about a variety of extrinsic and intrinsic job characteristics. Satisfied employees bring innovation in their work while focusing on continuous quality improvement. They also involve more in participation in the strategic decision-making in the organization (Al-Zu’bi, 2010).

Distributive justice has been shown to be significantly and positively related to job satisfaction (DeConinck, Stilwell, & Brock, 1996). One particular factor which affects job satisfaction of employees is called organizational justice; which is concerned with the the fair treatment of employees. It refers to the extent of which employees perceive outcomes, procedures and interactions to be fair. As organizational justice is a versatile concept so it covers everything from system of payment to treatment by one’s boss. Researchers of Organizational behavior identified three types of organizational justice that is distributive, procedural justice interpersonal justice who is further divided into interactional, and informational justice (Colquitt et al. 2005, Greenberg, & Zapata-Phelan, 2005).

Employees show more positive attitude and behaviour towards their work i.e. job satisfaction, if they feel that they are treated impartially by their organization in every aspect. Decision makers must give special attention to issues like allocating monetary resources, hiring employees in organizations, policy making and its implications in respect of justice as they affect other people in the organization (Colquitt, Greenberg, & Zapata-Phelan, 2005).

So we argued that

**H5:** *Distributive justice has significant positive impact on job satisfaction*

**Moderation of distributive justice in performance appraisal and Employee motivation:**

High base pay as also been associated with higher intrinsic motivation at work, a finding that was explained in terms of distributive justice (Kuvaas, 2006).which has been associated with increased intrinsic motivation (Fisher, 1978). However, it is also possible that reward contingencies are linked to decreased autonomous motivation if they are experienced as controlling the person's behavior at work (Deci, Koestner, & Ryan, 1999). So if in a organization distributive justice is important and give high ranking then the employee of that organization is self motivate towards the goals and objectives of the organization.

A research done by Kamphorst and Swank revealed that a positive appraisal motivates an employee more than a negative appraisal. A study done by Muhammad Faseeh ullah khan concluded that on an average 85% of the employees in an organization are motivated by performance appraisal. When distributive justice is high then the relation of performance appraisal and employee motivation is strengthen and when distributive justice is low it weaken that relationship

So we argued that

**H5:** *Distributive justice moderates the relation of performance appraisal and employee motivation.*

**Moderation of distributive justice in performance appraisal and Job Satisfaction:**

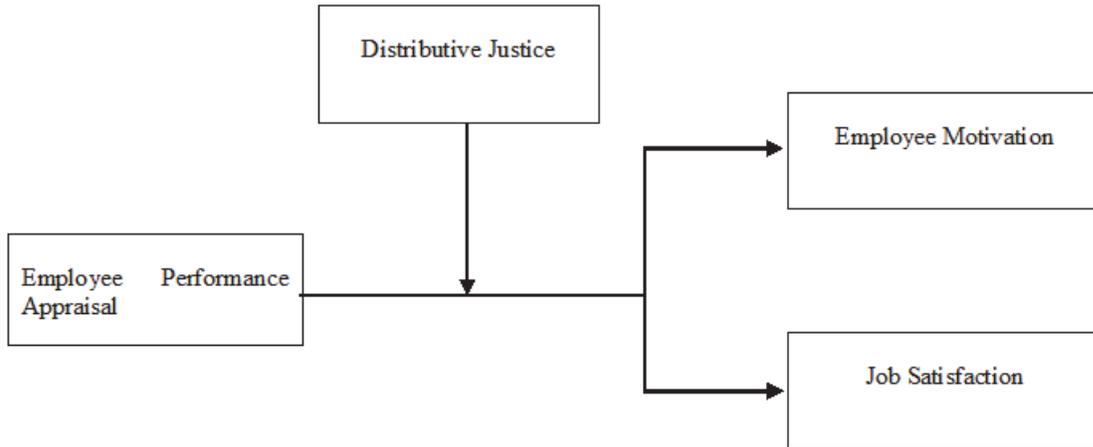
Employees have attitudes about various aspects of their jobs e.g. their work, their colleagues, supervisors or subordinates and their pay. The importance of job satisfaction specially emerges to surface when many negative consequences of job dissatisfaction come to mind such a disloyalty, increased absenteeism, low productivity, turnover and increased number of accidents etc (Aziri, 2011).Therefore in order to be competitive in this global business environment companies must identify factors that affect job satisfaction and morale of their employees (Al-Zu'bi, 2010). Job satisfaction is under the influence of a series of factors such as the nature of work, salary, growth opportunities, management, work groups and working conditions etc. (Aziri, 2011)

When distributive justice is high the relation of performance appraisal and job satisfaction is strengthen otherwise weaken

So we argued

**H6:** *Distributive justice moderates the relation of performance appraisal and job satisfaction.*

**Proposed Model:**



**Methodology:**

In this part of the paper we will discuss our population sample and how we collect data and all about questionnaire.

**Population/Sample/Data collection:**

In this study the Population embraced the banking sector employees of the Pakistan. Employees of private sector banks in Pakistan are the respondents of this research study. This population was best fit for representing our data because this population will give us information which is quite helpful to test our research model. Major Private Bank employees of the Islamabad city are the sample of this study. In this study we take sample from 250 employees of the private banks. This sample was selected by using convenient sampling technique and those respondents were easily accessible by us. We distribute 350 questionnaires for data collection and from them 260 were received and from those 260 questionnaires only 230 were useable. Our response rate is 65%. Data was collected from self administered questionnaire.

**Research Ethics:**

Participation in this study was voluntary and each respondents was assured of the anonymity and confidentiality and they were assured of the fact that there data will kept secret.

**Demographic of the Sample:**

76.5% of the respondents were male and 23.5% of the respondents were female. 93% of the respondents were married and 7% of respondents are unmarried. Average age of the respondents was 26-35 years. Average income the respondents were 40,000 to 50,000.

**Measure used/Scale/Instrument used:**

All variables of this study is measured by using 5 points likert scale.  
Where 1 = strongly disagree  
And 5 =strongly agree.

**Employee Motivation:**

This variable was measured by using 6 item scale of Mowday, Steers and porter (1979) and one scale item include “A feeling of being involved”. Cronbach’s alpha reliability of this variable is “0.703”.

**Job Satisfaction:**

This variable was measured by using 3 item scale of Mowday, Steers and porter (1979) and one scale item include “I find that my opinions are respected at work”. Cronbach’s alpha reliability of this variable is “0.732”.

**Distributive Justice:**

This variable was measured by using 5 item scale of Fernend and Awamleh(2006) and one scale item include “Overall the rewards I receive are quite fair”. Cronbach’s alpha reliability of this variable is “0.793”.

**Employee Performance Appraisal:**

This variable was measured by using 21 item scale of Williams, L.J. (1991) Boreman, W. C., & Motowidlo, S. J. 1993 ) and one scale item include “I adequately complete duties assigned to me”. Cronbach’s alpha reliability of this variable is “0.883”.

**Table 1: One Way Anova**

	<b>EM</b>		<b>JS</b>	
<b>Demographics</b>	<b>F</b>	<b>p</b>	<b>F</b>	<b>p</b>
<b>Gender</b>	3.41	0.06	1.4	0.23
<b>Age</b>	0.73	0.57	2.44	.047*
<b>Marital Status</b>	0.01	0.91	0.61	0.41
<b>Income</b>	1.65	0.16	0.4	0.8

EM=Employee Motivation

JS= job satisfaction

\*shows significance (p≤0.05)

**Control Variables:**

Table 1 shows the control variable for each dependent. In case of Job Satisfaction (JS), p value of age (P=.047)4) is significant because it’s p<0.05 so we have to control age Js when we run regression analysis.

**Results/Findings:**

In this section we will interpret the results and findings of our study.

**Correlation**

**Table 2:**

	Mean	S-D	1	2	3	4
<b>EP</b>	3.25	0.44	(0.883)			
<b>DJ</b>	3.35	0.75	0.335	(0.793)		
<b>JS</b>	3.62	0.83	-0.103	-0.028	(0.732)	
<b>EM</b>	3.39	0.71	0.123	.132*	-0.061	(0.703)

EP= Employee Motivation

DJ= Distributive Justice

JS=Job Satisfaction

EM= Employee Motivation

S-D= Standard Deviation

\*shows p<0.05

Table 2 shows the mean and standard deviation of each variable. Correlation table shows that distributive justice has degree of association with employee motivation it provides initial support to our hypothesis. In the same way, Table 2 shows that EP has no association with Job satisfaction and employee motivation.

This table provide us initial support that either our hypothesis is going to supported or not.

**Regression analysis:**

**Table 3:**

Following table shows the regression analysis of study variables.

	EM			JS		
	B	R square	Change in R square	B	R Square	Change in R square
<b>Step 1</b>						
<b>Controls</b>					0.001	
<b>Step 2</b>						
<b>EP</b>	<b>0.196*</b>	0.015		<b>0.1*</b>	0.011	0.01
<b>Step 1</b>						
<b>Controls</b>					0.001	
<b>Step 2</b>						
<b>DJ</b>	.125*	0.017		<b>.03*</b>	0.002	0.001
<b>Step 3</b>						
<b>EP</b>	<b>0.184*</b>	0.031	0.013	<b>0.1*</b>	0.012	0.01
<b>Step 4</b>						
<b>EP*DJ</b>	<b>0.017*</b>	0.031	0	<b>0.02*</b>	0.012	0

EM= Employee Motivation  
DJ= Distributive Justice  
EP= Employee Performance  
JS= Job Satisfaction  
\*\*shows significant (P=0.000)  
\*shows significant (P<0.05)  
n-s not significant (P> 0.05)

Above given table (table 3) shows the regression analysis of the study variables. Upper part of the table shows direct relation (simple regression) of the variable which shows that Employee performance has no relation with the Job satisfaction and employee motivation. Which is shown by  $\beta=0.196^*$ ,  $\beta=0.-0.1^*$ , respectively which has shows that our both hypothesis which is that Employee motivation has a significant positive impact with job satisfaction, employee motivation are supported with our data.

Lower part of the table represents the hierarchical regression analysis through which we check the moderation of distributive justice with the other variables. In this we also check the impact of moderation. Results shows that distributive justice has significant positive impact on employee motivation ( $\beta=0.125^*$ ) and also significant with job satisfaction. Results shows that moderation of distributive justice is also provide support because the  $\beta$  vale of the interactional terms is significant ( $\beta=.017^*$ ) for employee motivation and ( $\beta=-.044^*$ ) for job satisfaction.

## **Discussion:**

### **Employee performance and Employee motivation:**

Employee performance has significant positive impact on employee motivation and our result provide support to our hypothesis. Past studies also shows that employee performance has significant positive impact with employee motivation. Kamphorst and Swank revealed that a positive appraisal motivates an employee appraisal in a positive way.

### **Employee motivation and Job Satisfaction:**

Employee motivation has significant positive impact on job satisfaction and our data provide support to our hypothesis. Past studies also provide support to our hypothesis. Job satisfaction is under the influence of a series of factors such as the nature of work, salary, growth opportunities, management, work groups and working conditions etc. (Aziri, 2011)

### **Distributive Justice and Employee motivation:**

Distributive has significant positive impact on Employee motivation and our data provide support to our hypothesis. Past studies also provide support to our hypothesis. However, it is also possible that reward contingencies are linked to decreased autonomous motivation if they are experienced as controlling the person's behavior at work (Deci, Koestner, & Ryan, 1999)

### **Distributive Justice and Job Satisfaction:**

Distributive justice has significant positive impact on job satisfaction and our data provide support to our hypothesis. Past studies provide support to our hypothesis. Decision makers must give special attention to issues like

allocating monetary resources, hiring employees in organizations, policy making and its implications in respect of justice as they affect other people in the organization (Colquitt, Greenberg, & Zapata-Phelan, 2005).

#### **Moderating Role of distributive justice between employee performance & employee motivation:**

Distributive justice moderates the relationship of employee performance and employee motivation and our data provide support to our hypothesis. This relation was also examined by some other researchers as well and they conclude that High base pay as also been associated with higher intrinsic motivation at work, a finding that was explained in terms of distributive justice (Kuvaas, 2006). which has been associated with increased intrinsic motivation (Fisher, 1978).

#### **Moderating Role of distributive justice between employee performance & job satisfaction:**

Distributive justice moderates the relationship of employee motivation and job satisfaction and our data provide support to our hypothesis. This relation was also examined by some other researchers as well and they conclude that Therefore in order to be competitive in this global business environment companies must identify factors that affect job satisfaction and morale of their employees (Al-Zu'bi, 2010).

#### **Implication for managers:**

This study shows the importance of some key variable of the human resource domain. Hr managers of the organizations should keep in mind about the fact that employee performance appraisal does not proceed towards employee motivation and job satisfaction. Distributive justice is important for employee motivation and it has also effect on this but distributive justice has no effect on job satisfaction. And distributive justice do not moderates the relation of employee performance with employee motivation and job satisfaction.

#### **Limitation and direction for future research:**

Our response rate is 92% which is low as compared to Asian culture because high response rate is quite common in Asian culture. First is that small sample size has been taken which may not be applicable to whole population, a larger and more diverse sample can provide more comprehensive information on the issue. Similarly it will be useful to collect data longitudinally. Secondly geographical area covered for the study is a constraint i.e. Twin Cities. The variable studied may have more implications, effects or they can give more effective results in other geographical boundaries i.e. Pakistan' other cities. Due to convenient sampling technique it may have given birth to biasness in results. We also take some other variables of Hr domain as moderator instead of distributive justice

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## ***Burnout And Career Success***

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### **Abstract**

*This study focuses on academics' who have experienced a serious burnout in their career. The data of 307 respondents were collected after 8,3 years of respondents' graduation. 26 respondents answered that they have experienced burnout that demanded sick leave. When comparing their subjective career success to others, they regarded themselves less successful in the past, and at the moment, but when they forecasted their future career success, there were no differences between groups. In case of objective career success there was no differences between the groups. As a conclusion, we suggest that burnout may impact some time on vocational self-esteem, thus subjective career success is evaluated lower, but it seems that it does not impact appraisals of the future career success.*

**Keywords:** *Burnout, subjective and objective career success*

### **Introduction**

Important indices of adaptation in an individual's career are ill-being (i.e., burnout) and well-being (i.e., work engagement). Ill-being at work has been often described in terms of burnout which is characterized by exhaustion, cynicism and reduced professional efficacy (Maslach, Schaufeli & Leiter, 2001). In turn, work-related well-being has recently been described as work engagement, defined as a positive, fulfilling, work-related state of mind, characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Romá & Bakker, 2002).

According to Maslach and Jackson (1981), job burnout has three dimensions: exhaustion (emotional burnout), cynicism (depersonalization), and loss of professional efficacy. Exhaustion refers to lack of emotional energy and the feeling that one has insufficient emotional resources to cope in different situations (Maslach et al., 2001). The cognitive dimension of job burnout involves cynicism and the feeling that one's professional efficacy has diminished (Leiter, 1991). This cognitive dimension distinguishes job burnout from stress (Maslach et al., 2001). Indicators of burnout include feeling overworked, frustrated, emotionally drained, and less productive. Burnout leads to interpersonal conflicts, physical symptoms, compulsive activities, decreased productivity, and negative emotions. Professional burnout is considered a possible outcome of chronic inadequate coping with occupational stress. As a metaphor, burnout refers to draining of energy; more energy is lost than is replenished. (Schaufeli & Enzmann, 1998). Burnout is defined as a work-related state of mind (Maslach, et al., 2001). Individuals who experience burnout believe they cannot change their situation. Job burnout can be overcome after the cause is pinpointed. The assumption that people can "burn out" when they feel that their work is no longer significant was supported in studies that included nurses (Pines, 2000), teachers, and managers (Etzion & Pines 1986).

Usually studies concerning burnout are related to coping strategies in different fields (Gorter, Eijkman, Hoogstraten, 2001), overcoming burnout (Espeland 2006) or determinants or consequences of burnout (Armstrong-Stassen et al., 1994). Randomly people focus on success and burnout, but nowadays when it is so common illness, it

should be also taken to consideration. In this study the interest is to focus career success of people who have experienced burnout. Career success has been traditionally divided into objective and subjective categories. Objective career success is typically measured by “external indicators of career advancement or the accumulation of extrinsic rewards” (Feldman & Ng, 2007). Objective career success measurements have historically been more used in research: it is easy to collect information of salary and promotions, preferably from companies rather than self-report (Heslin, 2005). Subjective career success can be defined as positive work related outcomes, and psychological accomplishments that originate from individual’s work experiences (Seibert, Kraimer & Liden, 2001).

## **Methods**

### **Participants**

The data consists of people who graduated from a Finnish university in 2005 or 2006 and had worked in the job that fits their degree for the average of 8.3 years. The respondent rate was acceptable 31%, and total amount of respondents was 307. 52% of them were men. They had 8,7 years working experience after graduation. Most often mentioned fields were industrial (13,9%), information and communication (15,9%), finance and insurance (10%), b2b sales (7,1%), public sector (6,8%), education (12 %), and other services (9,4%).

### **Questionnaires and data analysis**

The participants were send paper and online surveys that included questions about satisfaction to career related issues. They could choose between 1-7 Likert scale, one being disagree completely, and seven being agree completely, or one being very weak, and seven being very good.

The *subjective career success* describes persons’ happiness with their career so far and also includes the confidence level of the future career. This dimension includes 3 items: ”How has your career been so far in your opinion?”, “How has your career been when comparing to your peers from university?”, “How do you estimate your career success to be in ten years when compared to others in the similar position?” Also after all question there were room for writing to give explanation to answers. The *objective career success* here was measured with monthly salary.

Since subjective career success variables were continuous, t-tests and One-Way Anova were run in those cases and Cohen’s effect sizes were calculated and evaluated. Verbal answers were chosen randomly in order to describe chosen groups.

## **Results**

### **Background information**

There were totally 26 respondents who have experienced burnout that needed sick leave. One respondent did not fill in his/her background information, but in case 25 respondents those were filled in. Of those 65,4% women and 30,8% men. As marital status, most of them were married (42,3%) or cohabitation (34,6%), some as single (11,5%) or divorced (7,6%). Most of them did not have children (38,5%) or had two or three children (26,9%), some had one child (23,1%) and one respondents had six children (3,8%). In the Table 1, the comparisons of the no-burnout and burnout experienced groups are presented. Compared to no-burnout group, people who have experienced burnout are more often women. They are more often in cohabitation or single than other group. And they are more likely have no-children or less children than group without burnout experiences.

**TABLE 1: BACKGROUND INFORMATION IN COMPARISON**

<b>Gender</b>		<b>Marital status</b>		<b>Children</b>	
	Burnout - Others		Burnout - Others		Burnout - Others
Women:	65,4% - 45,8%	Married:	42,3% - 65,1%	No children:	38,5% - 27,6%
Men:	30,8% - 51,3%	Cohabitation:	34,6% - 20,7%	One:	23,1% - 22,9%
		Single:	11,5% - 8,7%	Two or three:	26,9% - 45,6%
		Divorced:	7,6% - 4,0%	Four or five:	0% - 15,2%
				Six:	3,8% - 0%

**Getting current work**

When asking the reasons why people got current work the burnout-experienced group and other group had two statistically significant differences. People with burnout experiences regarded that it was because of their study success more than other group (Sig 2-tailed: 0,017, F-value: 3,183, *r*: 0.14). Other group thought that it was because of their strong networks than those with burnout experiences (Sig 2-tailed: 0,015, F-value: 1,470, *r*: 0.14).

**Career success**

Here the subjective and objective career successes are measured. The first questions measure subjective success from past to present and also fitting on their working field. Objective career success is measured with salary.

A) *“How well do you fit in your work field?” (Likert scale: 1=very weakly... 7= very well)*

Mean of this question with people experienced burnout was 5,35 when other group it was 6,04. There was statistically significant differences between groups (see Table 2).

B) *“How has your career been so far in your opinion?” (Likert scale: 1=very weak... 7= very good)*

Mean of this question was 4,42. When comparing it to other respondents’ mean (5,08) it was significantly lower. Two respondents (7,7%) answered highest possible score (7) to this question, meaning very good career success so far, one ticked (3,8%) the number 1 meaning very weak career success so far. 15 respondents (57,7%) regarded their career more successful (likert scale from 5 to7), and 7 people (26,9%) less successful (likert scale 1-3). Reasoning here were giving explanations for being “not so successful” (likert scale 1-3):

*“Family (three children) have been more important than career”.*  
*“As a researcher and teacher, I am in the “top the career” “.*

And comments for being successful (likert scale 5-7):

*“I have deserved my position”.*  
*“I have been raised in the role of international expert”.*

C) *“How has your career been when comparing to your peers from university? (Likert scale: 1=very weak... 7= very good)*

Mean of this question was 4,16. When comparing it to other respondents’ mean (4,83) it was significantly lower. One respondent (3,8%) answered highest possible score (7) to this question and also one ticked (3,8%) the number 1 meaning very weak career success so far. 11 respondents (42,3%) regarded their career more successful (likert scale from 5 to7), and 7 people (26,9%) less successful (likert scale 1-3). Reasoning here were giving explanations for being “not so successful” (likert scale 1-3):

*“Those who have equal education are in higher positions and more relevant tasks. However I did shift in purpose”.*

And comments for being successful (likert scale 5-7):

*“Some are even higher positions, but most are not”.*

D) “How do you estimate your career success to be in ten years when compared to others in the similar position?”  
(Likert scale: 1=very weak... 7= very good)

Mean of this question was 4,64. When comparing it to other respondents’ mean (4,94) it was lower when compared to others but not significantly. One respondent (3,8%) answered highest possible score (7) to this question and also one ticked (3,8%) the number 1 meaning very weak career success in the future. 15 respondents (57,7%) regarded their career will be successful (likert scale from 5 to7), and 3 people (11,5%) less successful (likert scale 1-3) in the future than their peers. Reasoning here were giving explanations for expecting to be “not so successful” (likert scale 1-3):

*“I am not enthusiastically expecting career success, it is enough that I will get along”.*

*“Technical development is so fast, that it is hard to be up with it”.*

And comments for expecting for being successful (likert scale 5-7):

*“I develop my personal skills all the time”.*

*“There is no reason why I would not progress like I have done so far”.*

E) Objective career success was measured with salary and even the group of “others” were having more salary than “burnout –group”, there were no statistical significant difference. Also the differences of groups earning less and more were not having differences.

**TABLE2. QUESTIONS AND COMPARISON OF GROUPS**

	QA) How well do you fit in your work field?	QB) How has your career been so far?	QC) How has your career been comparing to your peers from university?	QD) How do you estimate your career success to be in ten years when compared in the similar position	QE) Salary
<b>Mean</b>					
Burnout (N=26)	5,35	4,42	4,16	4,64	3,81
Others (N=275)	6,04	5,08	4,83	4,94	4,29
Sig. (2-tailed)	0,035**	0,014 **	0,011 **	0,209	0,056
F-value	11,786	3,759	0,240	2,533	9,707
R	0,394	0,141	0,147	0,146	0,083
<b>Low*</b>					
Burnout	15,4%	26,9%	26,9%	11,5%	30,8%
Others	3,3%	10,6%	10,45%	5,58%	36,7%
<b>Good**</b>					
Burnout	80,8%	57,7%	42,3%	57,7%	38,5%
Others	94,2%	72,6%	60,4%	67,3%	40,7%

\*Low: Likert 1-3 ratings given in the questions A-C, in case of salary smaller than 4000 euros /month.

\*\*Good: Likert 5-7 ratings given in the questions A-C, in case of salary higher than 5000 euros /month.

## Conclusions

The results indicate that people who have experienced sick leave demanding burnout differ from others in many aspects. They are more often women, live in cohabitation or are singles. And they are more likely have “no-children” or less children than group without burnout experiences. Roughly saying, according to this study, if you are married man, with two or three children the likelihood of burnout diminishes. There are some studies of gender and having children in relation to burnout. Some studies indicate that women generally experience higher overall levels of stress in their jobs (Doyle & Hind, 1998), when other studies indicate vice versa (Greenglass, Burke & Ondrack, 1990). According to study of Maslach & Jackson (1985) the sex is not major function in burnout. However, many studies indicate that women cope better with the demands than men (Doyle & Hind, 1998; Greenglass et al., 1990). According to marital status and amount of children, this study supports the Maslach and Jackson’s (1985) research where they found out that employees who were married of who had children experienced less burnout.

People with burnout thought that they were able to get their current job because of their good success as student more often than other group. So maybe those people with successful studies are more likely to be perfectionists and thus get more easily stressed that may lead to burnout. There is evidence of perfectionism and academic achievement (e.g. Castro & Rice, 2003) and many studies have found the perfectionism to be related to burnout (Chang, Watkins & Banks, 2004; Freudenberger, 1974; Souza, Egan & Rees, 2011; Zhang, Gan, & Cham, 2007).

Other significant result here was the difference between networking. No-burnout group felt that they got their current work because of their strong networks. It may be that people with burnout experiences are not so social, or may regard social networking useless if they want to perform perfectly with their working tasks.

Concerning subjective career, no-burnout group thought significantly more often that they are in the right working field. One reason for burnout may be that field is wrong to one’s personality and tendencies. If hardworking and perfectionist people are doing their best in the field that they do not like so much, it can be mentally very tiring. According Shanafelt et al.’s study (2009) optimizing career fit may promote satisfaction and help to reduce attrition among academic faculty physicians. They come to this suggestion because their results indicated that the extent to which faculty physicians are able to focus on the aspect of work that is most meaningful to them has a strong inverse relationship to their risk of burnout (Shanafelt et al., 2009).

Subjective career success was regarded lower with people with burnout experiences, but objective career success (salary) did not result to any differences. Additionally, estimating future subjective career success did not result to any differences. Interestingly no respondent commented their well-being or burnout symptoms as a reason why the career has not developed so well than their peers’. In the light of these results, it seems like the burnout is not experienced as a reason for preventing ones success in the career. It seems that burnout influences the experiences of subjective career success at current moment, that is, the people who experienced burnout do not regard themselves as successful than others, but in case of forecasting future success in longer period of time, burnout does not affect it. It should be noted that subjective career success is literally subjective, so it does not measure actual success in the career. So even the objective career success would be low the person might experience his/herself as successful.

As restriction of this study, there were only 26 persons who had experienced sick leave demanding burnout, and thus it should be cautious when interpreted results. However, verbal results support the numerical results, indicating that burnout has not been regarded as a factor which impacts on career progress. It seems to be, that work burnout is not such a shameful subject or condition any longer and it does not affect is not so negative in people’s minds when they think about their career ahead.

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## ***Beyond Wit and Grit: Spiritual Quotient the key to Organisational Development***

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### **Abstract**

*This paper discusses about the importance of Spiritual Quotient in the organizations. In today organizational environments, there is a move beyond wit or wits to look at what Zohar and Marshal calls Ultimate Intelligence; which allows us to know what we and our organizations are about and the ability to induct humbleness instead of being egoistic. While having a brief but comprehensive historical view on the subject the researchers attempted to substantiate the logical grounds of this phenomenon with the help of theory. Moreover, this paper highlighted the need and the significance of SQ for human resource development in the present scenario. Most importantly it also draws attention for practitioner and researchers to have a broader debate over adoption of SQ in human resource development mechanism. Significantly, Holistic HRD model would not only help employees to polish their intellectual and emotional but also spiritual capability which will have positive effect on the overall performance of the organizations.*

**Keywords:** *Spiritual Quotient, Human Development.*

### **1. Introduction**

Employees are the most valuable assets in organizations, and they have the unlimited capability to learn, grow, and improve their effectiveness (Davenport, 1998). The employees require scheduled training programs that aim to improve the effectiveness of employees which will positively give an impact to the organizations. Employees' development inevitably has to touch the aspect of Intelligence Quotient (IQ), Emotional Quotient (EQ) and Spiritual Quotient (SQ) of the employees. Previous study claimed that, IQ is the major predictor of employees' effectiveness (Maree 2007, Cherniss, 2006). Contrarily, Goleman (1998), Warner (1997) and Chalofsky (2014) found out that IQ is the weak predictor because it is unable to settle the most important issues such as employees' relations with each other, their mutual performance at their workplaces, and coping with the daily challenges of life. On top of it, Bar-On (2006) explained that there is something missing in the IQ as it cannot explain if some individuals do well in life while others not. Therefore, this missing part was then filled by the emotional quotient (EQ). It is because IQ was equated with having high skills, knowledge, ability, rational, logical, and thinking while EQ was related to feelings, emotion, self control, empathy, motivation, goodness, interpersonal and sensitivity

(Schwarz, 2011). Consequently, EQ is equally important as IQ in determining the employee's and organization's success. Thus, different organizations will conduct different IQ and EQ trainings for employees' performance improvement (CIPD report, 2010).

Nowadays, organizations' problem is not just related to the cognitive capability and emotional management of the employees. Organization is getting more complex and complicated which led the organization into problems that caused by employee's spiritual disparity (Vasconcelos, 2015). Therefore, inclusion of SQ element in constructing an organization HRD model suspected as critical and requires great attention in overcoming the present organization's challenges and dilemmas. It is because conceptually, via SQ an organization is able to create self awareness, behavior, judgment of self-control, decision power, flexibility, adaptability, vision, consciousness, value, sense, and intuition.

## **2. Literature Review**

### **a) Human Resource Development**

Human resource development (HRD) is a multidisciplinary field of study with foundations in anthropology, economics, psychology and systems theory (Yawson, 2012; Van-Dyk, 1992). It has continued to establish its significance in organizations, communities, and nations all over the world (Poell, 2015; Hatcher, 2006). HRD focuses on the process of developing an organization through learning and optimally utilize human expertise for the purpose of improving performance at individual, team, process, and organizational levels in government, public, for-profit, and non-profit organizations (Chalofsky, 2014; Korte, 2012). Companies need new and different approaches in training and development activities of their organizations to retain well-equipped and up-to-date knowledge employees (Werner & Desimone, 2011).

HRD in the future is expected to be different with the current practices of HRD (Wilson, 2014). Though, organizations implement different types of HRD models to enhance employees' effectiveness (Kumpikaite, 2008), but still there is lack of HRD model practices in the organizations (Wilson, 2014). The concept of HRD deals with many facets of individual development including their physical, intellectual, emotional, political, and spiritual aspects (Khan, 2011). Squeezing from many researches, Abdullah (2009) concluded that most of the countries such as Russia, Germany and Korea equate HRD with training and development wherein the main focus is on the activities related to soft skills training (CIPD report 2010). Contrarily, in countries like Malaysia, Thailand, Singapore and India, the scope of HRD is very broad. It encompasses activities concerning employee development in the aspect of rational, emotional, improvement basis or improving their spiritual skills (Kuchinke, 1996).

### **b) Intelligence Quotient (Wit), Emotional Quotient (Grit) and Spiritual Quotient**

The beginning of twentieth century has witnessed human intelligence equated with IQ. The concept of IQ was given by William Stern in 1912 and is considered as the primary step of organization's effectiveness as it includes the creativity of mind (Pan, 2006). IQ is the ability to think rationally, recall, learn and understand, solving the problem and then effectively implement what one has learnt (Bell, 2014; Kilic, 2013). It has been argued that IQ proves to be a weak predictor of how well individuals relate with others, how they perform at their workplaces, and how they cope with the daily challenges of life (Goleman, 1998; Wagner, 1997). Bar-On, Handley and Fund, (2006) suggested that something is missing in the human performance formula that can explain in part why some individuals do well in life while others do not, irrespective of their cognitive intelligence. Part of the variance among successful individuals unaccounted for by IQ could be explained by the characteristics that constitute EQ.

Goleman (2006) in his book “Emotional Intelligence” had revolutionized the entire intelligence paradigm by proposing EQ in the organizations. Goleman (2006) defined EQ as human potential to reorganize the situation being within, in order to understand appropriate behaviors and emotions of the self and others. This intelligence also relates to human ability to organize self emotions concerning fear, frustration-anger and resentment. Goleman (1990) cited by Zohar & Marshal (2004, p. 64) pointed out, “*If we can’t control such emotions, they will control us*”. Thus, EQ is a skill to recognize, sense, and apply these emotions as the base for influence, connection, information and human energy (Johar, 2013). Besides that, EQ is an ability to identify emotions and feelings to motivate and manage it in oneself and dealing with others. According to Brooks (2006) emotional conditions are used as personal feelings to motivate, plan, and achieve performance in an organization. Additionally, Goleman, Boyatzis and McKee (2002) while examining the impact of emotions on organizational effectiveness finds that EQ helps in reducing the conflict in organization and resultantly increase the employees’ performance. Further, organizational success and failure can be determined by the emotional tone set by the executive interpersonal. In this regard, EQ is not the end point, and the appearance of SQ has created another paradigm which is the ultimate intelligence (Zohar & Marshal 2012). To roll smoothly the ‘Wheel of Life’, all the spokes of the wheel IQ, EQ and SQ have to be equally developed. The journey from IQ to SQ represents moving from gross to subtle, finite to infinite and from tangible to intangible.

SQ is a new paradigm that was developed after the theory of multiple intelligences introduced by Gardner (1983) in his book ‘Frames of Mind’. SQ is also named as the ultimate intelligence by Zohar and Marshall (2000), who place it at the top of a hierarchy, with EQ and IQ below it. SQ combines the constructs of spirituality and intelligence into a new construct (Arman, 2008). According to Mark (2004), SQ is the non-cognitive and non-logical and, “*keeps our awareness open to the mystery that we call God with a sense of awe (respect) and wonder*” (p. 194). A documented use of the term “*Spiritual Quotient*” appeared on January 24, 1958, in the Christian Science Monitor (Crichton, 2008). According to Zohar & Marshall (2000) “*SQ is ultimate intelligence which mean the intelligence with which we address and solve problems of meaning and value, the intelligence with which we can place our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another*” (p. 4). Currently, there is very limited literature available on SQ that writers and researchers can point in support of their definitions for SQ or which can provide a solid basis for an assessment. Moreover, the spirituality tests do not tell anything about SQ (MacHovec, 2002; Wolman, 2001). The most in-depth work on SQ has been done by King (2008) whereby he considers SQ as, “*a set of mental capacities which contribute to the awareness, integration, and adaptive application of the nonmaterial and transcendent aspects of one’s existence, leading to such outcomes as deep existential reflection, enhancement of meaning, recognition of a transcendent self, and mastery of spiritual states*” (p.56).

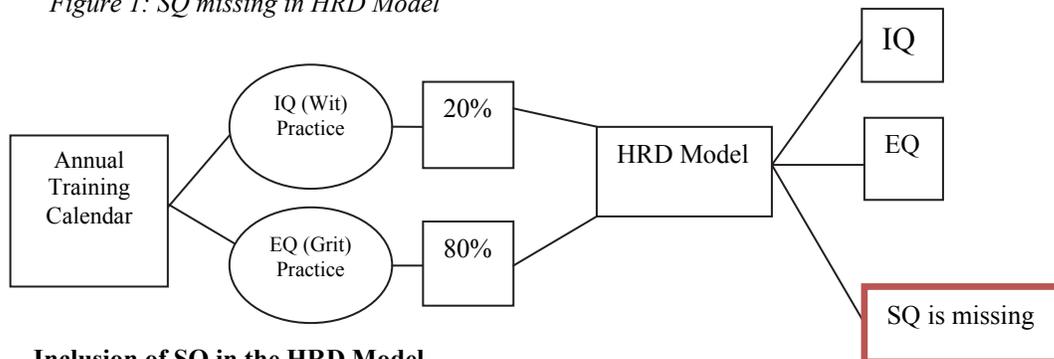
### **c) Linking between IQ (Wit) and EQ (Grit) in HRD Model**

Based on the discussions and research by Goleman (2006), Zohar and Marshall (2012), and Spainhower (2008), it shows that IQ and EQ are the primary intelligences that had been used in HRD activities in the organization. The role of IQ, as an organizational intelligence, is meant to develop employee’s skill, thinking, knowledge, ability, rational and logic. High degree of IQ is often a prerequisite for the organization growth up to the top ranks of business today. However, it is not adequate to predict executive competence and corporate success. Hence, high IQ alone does not guarantee that a person is able to be an outstanding employee and get promoted ahead of others.

On the other hand, EQ is recognized as an individual intelligence, with an objectives to develop feelings, emotion, self control, empathy, motivation, interpersonal and sensitivity of the employee in the organization (Goleman, 2006; Schwarz, 2011). Furthermore, Denise Cummins (2014) explained that EQ is “morally neutral” and can be used to help, protect, and promote one self and others, or it may be used to promote oneself at the cost of others. Daniel Goleman (1995) indicted that an individual’s success depends 80% on EQ and 20% on IQ and this

indicates the missing part of SQ (Figure 1). A survey executed by CareerBuilder (2013) released information stating that 71% of employers value EQ over IQ (Posted on Jul 31st, 2013 by Sierra Charter). EQ is much more powerful than IQ and IQ is a threshold competence that you need it, but it doesn't make you a star whereby EQ can (Bennis, 2009; Gill, 2011). Now-a-days, companies worldwide, routinely look through the lens of EQ while hiring, promoting, and developing their employees (Ryback, 2012). Thus, this statement further highlights the neglecting of the importance of SQ in human resources development process.

Figure 1: SQ missing in HRD Model



### 3. Inclusion of SQ in the HRD Model

Source: Goleman 1995

SQ is the ultimate intelligence (Zohar & Marshal, 2012), that requires in the development process of HRD model. However, there is lack of understanding of SQ in the organization (King, 2009). The reason behind this is that organizations do not have awareness about the value of SQ (Dalcher, 2014). The existence of SQ in the organization will better creates self awareness, behavior, judgment of self-control, decision power, flexibility, adaptability, vision, consciousness, value, sense, and intuition of the employee. Therefore, SQ helps employee to evolve towards betterment of the organization (Zohar & Marshal, 2004). In the organizational development, the inclusion of SQ in the HRD model will provide significant and effectual role of employee in progressing the organization. However, to be a successful company in today's world, a combination of both EQ and IQ programs might not enough in producing good result on employees (Cherniss, 2001; Goleman, 2006) because in this age of knowledge and creativity, other intelligence, which is SQ, might matter as determinant (King, 2009). In addition, at present it is claimed that SQ related trainings have not being practiced in the organization (Zohar & Marshal, 2004).

### 4. Need of SQ in the Organizations:

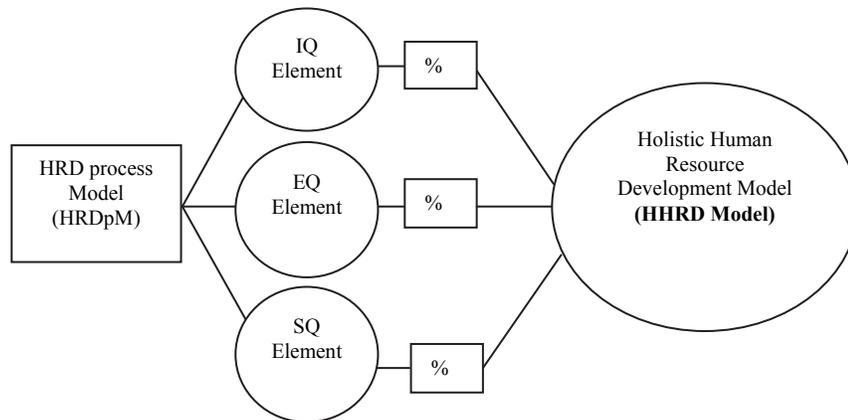
Current organization highly required to imbed the SQ elements in their daily operation. SQ existence in the organization's system and practices will assist the organization to get a deep sense of organizational identity, a sense of the personality and purpose of organization besides, a sense of what they are about. Then, the organization will have a deep sense of knowing or discovering the deepness or significance of things. Zohar and Marshal (2004) triggered the spiritual needs, problems and their impact on human development aspects in their three books (1. Connecting with our Spiritual Intelligence, 2000; 2. Spiritual Capital, 2004; 3. Spiritual intelligence the ultimate intelligence, 2012). Zohar & Marshal (2004), expressed that SQ is moral intelligence that gave an innate ability to distinguish right from wrong, exercise goodness, truth, beauty, and compassion in lives that brings things up from the deeper and richer dimensions of imagination and spirit into people daily lives, families, organizations, and institutions. SQ has the aptitude to re-contextualize the problems faced by the organizations generally and employees specifically as it has capability to dissolve previous patterns and thinking being implemented in HRD models (Zohar & Marshal, 2004). In addition, SQ gives meaning and purpose to life and allows us to create new

possibilities besides allows us to utilize our IQ and EQ in a unified way to express our talent in the world which will benefit others life and ourselves (Mishra, 2014). Hence, SQ will make the employees connected to the organization, making their work more meaningful and helps to lowered down personal ego via self reflection. These in turn will enhance individual potential and organizational performance. (George, 2006; Paloutzian, Emmons, & Keortge, 2003; Froidevaux, & Hirschi, 2015).

## 5. Conclusion

In the present situation, the existence of knowledgeable employees in the industry was found overloaded. Employees are getting better in handling their emotion while facing a chaotic situation, stressful working environment and over demanding tasks. However, there are still organizations suffering of unethical act or behavior of their employees, irresponsible decisions making and serious misconduct of their employees which contributed to a great lost of the organizations' income. These problems strongly related to the issues of employee's SQ disparity (Vasconcelos, 2015). Therefore, appropriate training programs and activities performed by the organization in line with the SQ definitions and scopes are predicted to be the best solution to the said phenomenon. This argument supported by Zohar & Marshal (2000) that SQ is evolving as a unique approach in developing and molding higher quality of holistic employees yet getting serious attention of the employers. Despite the view of Goleman (1995), that claimed organizational success depends on the implantation of 80% EQ and 20% IQ, Zohar & Marshal (2000) further argued that IQ and EQ are not the only predicator of organization's success because computers have IQ and animals can have EQ, however, SQ appeared to sets human beings apart. As a conclusion, organizational sustainability has been proved failed due to neglecting the SQ element into the organizational development program. The employees which are the main asset of the organization need to holistically develop (IQ, EQ and SQ) in ensuring the organizational sustainability. IQ, EQ and SQ percentage in the whole of holistic HRD model depends on the organization's need and uniqueness of the business. Thus, this study proposed the inclusion of SQ elements in constructing the organization's holistic HRD model or in lay men term can be said as organizational annual training calendar as described in figure 2.

Figure 2: Inclusion of SQ in Holistic HRD Model (Proposed Model)



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Source: The Authors, 2015

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***Employees' Satisfaction on Performance Management Review (PMR) in Navigos Group  
Vietnam JSC.***

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**Abstract**

*Talent retention is a survival mission of organizations nowadays. An effective way to keep the employees is to make them satisfied with their jobs, provide them opportunities to learn and to grow. A popular tool for this purpose is the Performance Appraisal System (PAS). However, many surveys in UK companies point that the employees feel dissatisfied with the PAS in their companies as it does not provide a mechanism to motivate and develop the people (Fletcher, 1993). The researcher practically experiences that perception about the current system in the working company, therefore the research is conducted within the company to explore the actual situation.*

**Purpose** - To explore the impact of employees' perception on employees' satisfaction of PAS (or PMR – Performance Management Review) system in NGV and the factors impact on those perceptions then to recommend some possible solutions to the management.

**Design/approach** – The data was collected via internet, using an internal survey to more than 300 employees in the company during two weeks

**Findings** – Perceived Usefulness and Perceived Fairness from the appraisal system has statistically significant relationship with the employees' satisfaction on the system.

**Practical implications** – Two components of “Perceived Fairness”, the “Positive Feedbacks” and “Unbiased Judgment” are really important to improve the satisfaction of the employees on the system, hence the management should focus on these factors to design or modify the system.

**Research limitation** – The study conducted within Navigos Group Vietnam JSC., therefore the result will not represent for the community. Further researches will need to be done for generalization.

## 1. Introduction

Performance Measurement Review (PMR) is another name of performance appraisal, described as a good and transparent process for the supervisors to support the subordinates to grow and to develop by providing the information for salary raising, trainings, promoting or to terminate employees (Cheng, Bai, Li, 2009).

The ultimate objective of PMR is to enable the company to higher achievements. Therefore, the company should care about the employees by recognizing the strengths and improving the weaknesses of the employees, assigning them to suitable roles for them to give the best contribution into the achievement of the company. The PMR facilitates a total harmony between the individual performance and the organizational objectives.

Performance appraisal (or PMR) is described as a management system for managers to evaluate the subordinates' performance (Grote, 2002) while Newstrom (2007) emphasizes that PMR is a means to share the information about the organizational goal and objectives and integrate into individual objectives (Longenecker, 1997).

The PMR session should be conducted routinely (Osmani and Maliqi, 2012) and it includes the interaction between a manager and employees about the result of the assessment. A PMR should be a chance for the manager to address the strengths and weaknesses of the employees for further support plan (Longenecker, 1997; Shine team, 2014) or to evaluate the employees' performance versus their expectations (Hogan and Shelton, 1998).

The most important feature of a PMR is to improve the performance of the organization via the achievement of employees by creating a suitable working environment with adequate opportunities for employees to perform well and to develop. High performance employees require a right type of managerial policies for them to work.

Facing a high turnover rate and discontent, Navigos Group Vietnam Joint Stock Company is finding solutions to retain their talents. Among the effort to provide the caring about the employees such as paying for employees' gym fee, encourage the connection among the employees, etc., improving the PMR system is one of the vital mission for the management. Therefore, the researcher suggested a measurement to evaluate the satisfaction of the employees on the current PMR system of the company based on empirical study of Whiting, Kline and Sulsky (2008). This study aims to explore the current situation of the employees' perception about Performance Measurement Review (PMR) in Navigos Group Vietnam Joint Stock Company (NGV). The study will provide the top management of the company a particular view about where are the strong or weak areas in the system, then, with that information, the top management can decide what needs to be improved and what needs to remove from the system to increase employees' satisfaction level in the company.

PMR, in which a supervisor evaluates the job performance of subordinates, is one of the most common management practices in US organizations. It becomes popular as many managers and HR professionals believes that performance appraisal is critically needed effective performance management and improvement (Longenecker & Goff, 1992).

Many academic researchers have developed and survey houses have applied various changes to the evaluation criteria, the rating instruments, and the whole procedures in order to improve the accurate and fairness perception of the process (Banks & Murphy, 1985). Nevertheless, even though a lot of effort to improve, systems are viewed inaccurate and unfair by employees (Church, 1985). Coens & Jenkins (2000) present an assumption that if a PAS is effectively designed, implemented, and administered, the organization as well as the employees will obtain a great deal of benefits.

Thus, this study is to address the current situation as well as to find a possible solution to improve the PMR in NGV. This study is also to find the answer for the following questions: (1) What factors impact on employees' satisfaction of the current PMR system? (2) What is the current situation of performance appraisal system (or PMR) usage in NGV?

Hence, thanks to the mentioned importance of performance appraisal system, this study aims:

- To identify the factors of employees' perception of PMR impact on employees' satisfaction of the system through Literature review;
- To explore the impact of employees' perception on employees' satisfaction of PMR system in NGV;
- To recommend possible solutions to the company management to improve the performance appraisal system usage.

In addition, this research concentrates on identifying the satisfaction of the employees on the PMR system of Navigos Group Vietnam JSC (NGV) in both Hanoi and Ho Chi Minh city. Subjects of research are all employees working in NGV in March 2015, regardless job level, experience and tenure.

## **2. Theoretical Framework**

### **2.1. Employee Satisfaction**

#### **Definition of Employee Satisfaction**

There is a lot of researches study about employee satisfaction, or job satisfaction, resulting to many expressions about that construct. A simple definition from [www.customerinsight.com](http://www.customerinsight.com), employee satisfaction is the extent that an employee feels content or satisfied with his/her job, it covers the basic concerns or needs of an employee on the job, not the really implied matters related to why he or she feels so.

Similar to the above definition, Vroom (1964) defines employee satisfaction or job satisfaction as employees' happiness due to job. Locke (1983) presents that employee satisfaction as a positive manner of employees related to assessments of their jobs.

Another practitioner measures employee satisfaction as "a factor in employee motivation, employee goal achievement, and positive employee morale at the workplace" (humanresources.about.com, 2015). While Griffin (2002) mentions that a satisfied employee will work longer and has much positive emotion toward the job, he or she will be less absent from the job and has less stress than the unsatisfied one. Agreed with that idea, Abbott (2002) adds that a satisfied employee has longer commitment to stay with the workplace, hence the company can get better return on their investment, for example, investment on training or offering good benefit packages.

Generally, job satisfaction is a level of meeting the expectations about his or her job, regarding to social, physiological aspects, self-realization (Testa, 1999). The satisfaction does not only come from a position or a title in workplace but also from physical, social environment and relationships with the supervisors or co – workers. All those factors have different impacts on an individual's job satisfaction level (Rashid, Kozechian, & Heidary, 2012).

### **2.2. Factors Impact on Employee Satisfaction**

(humanresources.about.com, 2015) By conducting surveys about employee satisfaction, they explore the factors impact the satisfaction as being treated respectfully, being recognized or empowered by the management, or offered good benefits and compensation, led by a positive management team with clear vision, goals, expectation and measurements of their jobs. The results from their survey present top ten important contributors to the job satisfaction, in which, there are compensation, benefits, management's recognition, relationship with colleagues and immediate supervisors, communication between employees and senior management.

Besides the purpose to earn the income, employees also expect they can learn and grow from the jobs. The conclusion comes from the surveys where the job characteristics is ranked in top three to motivate employees, while high pay and promotion are not. The number one in the list is “Full Appreciation of Work Being Done”. Kline team (2015) suggests “Seven ways to improve employee satisfaction”, one of them is “create an atmosphere of growth”, by providing training, encouraging employees to take risks and learn new skills or else they will be demotivated with the feeling of no opportunity to expand their skills and responsibilities in their jobs.

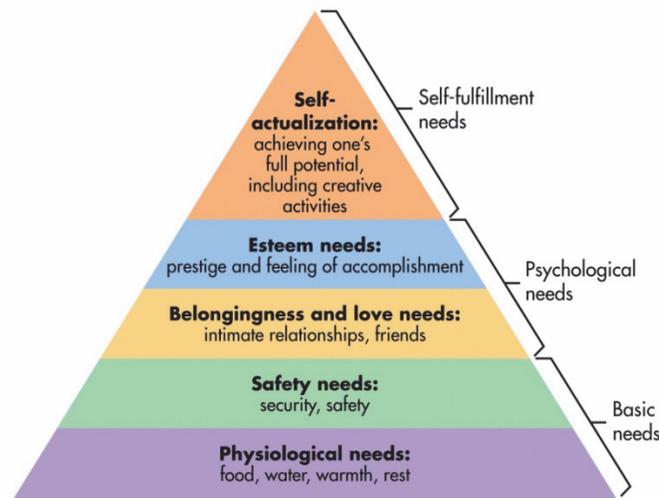


Figure 3. Maslow's Hierarchy of Needs

Source: from Internet

In the above Maslow's Hierarchy of Needs, when all the physical requirements are met, employees will have the tendency to reach to the esteem needs and self-actualization. Certainly, all employees will have different expectations to their jobs, but it can be said that the success or failure of an organization is determined by whether or not keeping the employees' satisfaction at the optimum level (Al-Ababneh & Lockwood, 2010).

### 2.3. Importance of Employee Satisfaction to Business Outcomes

In a globalization time, the competition in both domestic and international is intensive, hence the customer retention is a survival objective to any business (Roos and Gustafsson, 2007). To achieve this, the organization must focus on the service quality, especially the service companies (Voss et al., 2004). Hence, the impact of employee satisfaction on customer satisfaction has received considerable attention by the academic researchers as well as the practitioners recently. Spiro and Weitz (1990) argues that behaviors of employees plays a vital role in shaping customers' perceptions about the business's services. The customers' perception can lead to a repeat buying behavior (Atkinset al., 1996). A satisfied employee will be more friendly, enthusiastic, empathetic to the customers (Beatty et al., 1996). Schlesinger and Zornitsky (1991) expand that the employees with higher satisfaction level with their jobs will deliver excellent service. They will be more willing to share the positive emotions to the customers.

The employees are the important contact points of the business as they deliver the services of the company to the customers (Schneider et al., 1998), they present the values of the company to the customers, and they bridge the feedbacks of the customer's experience to the management of the organization (Gouldner, Dean, 2006). The performance of the employees represents the “intangible components of customers' perception about the service quality”, which will lead to the loyalty of the customers to the company (Dimitriades, 2007).

Therefore, Gounaris et al. (2010) concludes that unless the employees feel satisfied or happy with their jobs, they will not be willing to put more effort to serve the customers with all their hearts, for the best interests of the customers. It definitely significantly influences the business outcomes and sustainability. Consequently, the organization should position the task to improve employee satisfaction at the top priority. A possible way is using performance appraisal system to show the recognition and to help the employees grow.

#### **2.4. Performance Measurement Review (PMR)**

Grote (2002) describes performance appraisal a “formal management system” in which an individual performance is evaluated by his/her intermediate supervisor. In this system, the appraisee must actively take part in the assessment process and the appraiser can act as “a true helper rather than a judge” (Newton, Findlay, 1998). Two parties will make the performance appraisal “a participative process”. Hence, a performance appraisal can provide a way for employees to learn about themselves and to cooperate to improve their performance. Newstrom (2007) enhances the performance appraisal definition by stating that it is a process for the manager to share the information about the organizational goal and objectives or discuss to improve employees’ performance, or as Morrow’s idea (2011), the system is a mechanism driving the attitudes and behaviors of the employees.

Besides the purpose of supervising an employee’s performance, the performance appraisal provides a tool for the organization to evaluate the efficiency and the suitability of an employee into the organizational development. The individual goal must be set consistently with the organizational goals so that the individual achievement will result in the organizational improvement (Longenecker, 1997). Similar to Longenecker’s idea, Boice and Kleiner (1997) also mentions about the consistency among the organizational, the departmental and the individual objectives.

In addition, Longenecker (1997) describes that a performance appraisal should be conducted twice a year, and it should consist major components as performance standards, core competences needed.

#### **2.5. Relationship between (PMR) and Employee Satisfaction**

Locke (1983) defines job satisfaction of an individual is his/her personal valuation of different facets of their job. It drives people to respond positively to favorable treatment received from others (Blau, 1964). Skarlicki and Folger (1997) states that the performance appraisal process can make the employees extremely dissatisfied if they perceived that the system is biased or has political issues.

A performance appraisal system considered effective if it has: clear instructions and communication from top management about company goals; clear ways or process to achieve the goals; a mechanism to track the employees’ performance toward the desired outcomes. If a company’s performance appraisal system has such characteristics, it will lead to higher level of employees’ satisfaction about their jobs, their career, their pay or promotion (Shrestha, Chalidabhongse, 2006).

Besides, the perception of employees about the fairness of the performance appraisal might lead to a “behavior of retaliation” (Skarlicki, 1997), and certainly it affects to the satisfaction on the system, hence can result in overall job dissatisfaction.

Bretz, Mikovich and Read (1992) confirm that the most common and important performance appraisal issue that the companies facing comes from the fairness perception of the performance review.

Another idea suggests that if employees perceive a sense of fair evaluation and recognition about their contribution, particularly shown in their pays, it will increase their morale and satisfaction with their job as well as with their company (Eisenberger et al. 1986). Similarly, Rowland and Hall (2013) mention that together with the

evolution of performance appraisal usage, the employees' perception about the outcomes and processes have become more and more important. If the employees perceive the unfairness, the enthusiasm and engagement to the jobs and the companies will not be realized fully.

### 2.6. Research Model

The original model and the questionnaire are adopted from the article “The performance appraisal congruency scale-an assessment of person-environment fit” (Whiting, Kline, Sulsky, 2008). This journal presents a survey to test the congruence between current performance appraisal and an ideal one. Originally, with 47 items developed from the interviews, the author conducted an online survey to assess the congruency between employees' current and ideal performance appraisal systems. However, to assess the current situation in NGV, the researcher modified the questionnaire by removing five unsuitable items from the original one and tested these 42 items with 2 types of scale. To assess overall satisfaction, the authors use 5 – points Likert scale while to evaluate the perception about the usefulness and the fairness of the system, the responses will have 3 options: True, False and Don't know.

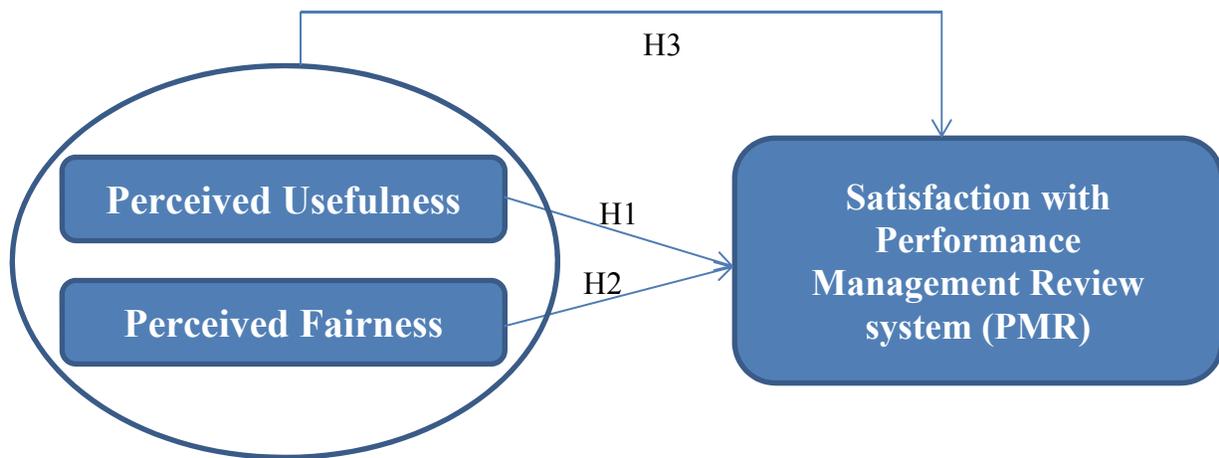


Figure 1. Original Research Model

However, during the analysis, using EFA technique, two factors “Perceived Usefulness” and “Perceived Fairness” are split into smaller factors. The process will be clarified in part Exploratory Factor Analysis.

The Revised Theoretical Research Model is demonstrated as below:

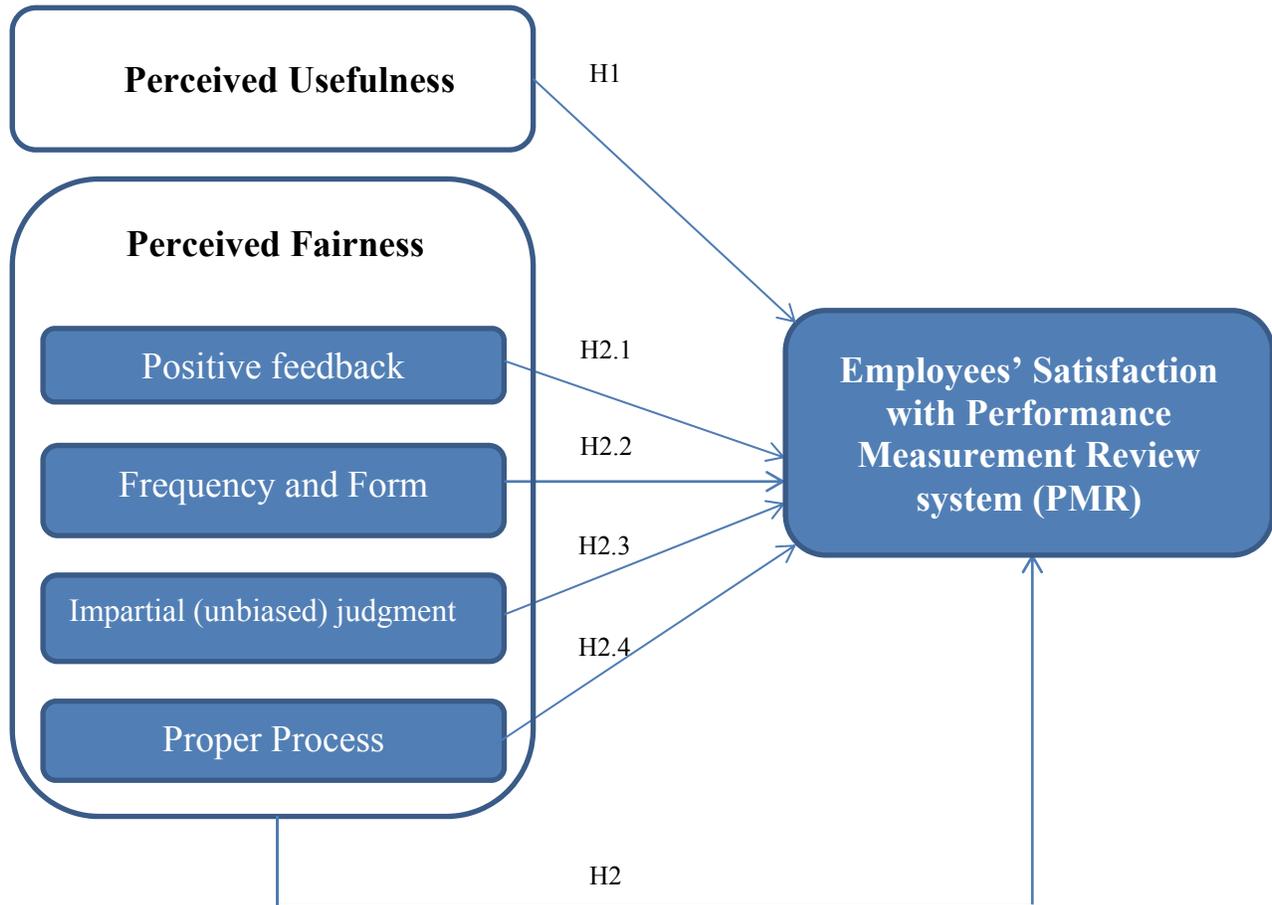


Figure 2. Revised Research Model

#### 2.4. Research Hypothesis

##### Perceived Usefulness

Grote (2002) listed in his book, “The Performance Appraisal Question and Answer Book - A Survival Guide for Managers”, a performance appraisal system is useful to the employees as helping them in:

- Defining and Measuring Goals
- Getting feedback from the supervisors
- Helping the organization to choose the most capable individuals to be promoted or to avoid the mistakes when selecting the poor performers to terminate
- Encouraging and motivating the performance
- Coaching and training the employees
- Validating recruitment or salary review decisions
- Improving organizational performance by improving individual performance

Similarly, a performance appraisal is useful for employees to develop in their career as it helps them to get managers' feedback about their results, to have a chance to be coached or trained to improve their weakness areas, and they can get motivation or rewards based on their performance. The manager can use performance appraisal to appreciate the employees' contribution (Newstrom, 2007).

*H1: If the employees perceive the usefulness of the PMR system, it will positively impact their satisfaction on the PMR system.*

### **Perceived Fairness**

The literature shows that there are many factors to evaluate a PMR system including employees' perceptions about fairness. Bretz, Milkovich and Read (1992) indicates in their findings that most of employees perceive the PMR not accurate and fair. Skarlicki and Folger (1997) find that when employees recognize the bias, political and issues in the PMR, they may become extremely dissatisfied.

Besides, employees expect to have fair reward and appraisal (Dipboye, Pontbriand, 1981) and the perceived fairness increased when rater appeared to understand the performance levels and job roles of their subordinates and when the frequency of the evaluations increased.

*H2: If the employees perceive the fairness during the PMR session, it will positively impact their satisfaction on the PMR system.*

### **Positive feedback**

*H2.1: The positive feedbacks from the supervisor(s) can positively impact employees' satisfaction on the PMR system.*

### **Frequency and Form**

*H2.2: If PMR session is conducted frequently and in right form of documentation, it can impact employees' satisfaction on the PMR system.*

### **Impartial (unbiased) judgment**

*H2.3: The more the employees perceive the impartial (unbiased) judgment from their supervisor(s), the more satisfied they are toward the system usage.*

### **Proper process**

*H2.4: If the assessment is conducted on a proper process, it can impact employees' satisfaction on the PMR system.*

## **3. Research Methodology**

### **3.1. Definitions of Concepts, Constructs and Terms**

The definitions are from the Cambridge Dictionary (<http://dictionary.cambridge.org/>) or from the other researches.

**Employee Satisfaction** is the happiness that the employees feel when they are satisfied with their jobs or with work conditions. This construct can be used as a measurement of a company's success.

**Performance** means doing something or also refers to how well an activity or a job is done.

*Appraisal* is to judge the quality or success of someone or something.

*Performance Measurement Review* (PMR, or Performance Appraisal) is the most common way to let an employee understand the gap between his or her performance with the supervisor’s expectations, therefore can identify the needs of training or development (Boice, Kleiner, 1997).

*Perceive* means to “think of something in a particular way”.

*Usefulness* means the ability to help someone “to do or to obtain something”.

*Perceived usefulness* of the PMR system therefore means a degree to which an employee believes that using the PMR system can enhance his/her job performance (Davis, 1989)

*Fairness* is defined as the right or reasonable way to treat someone, or the equality in treating people, the personal opinions will not be allowed to influence on the judgment.

*Perceived fairness* of the PMR system reflects the employees can perceive the fairness of their appraisals by comparing the relative ratings they received in return for the work they contributed (Greenberg, 1982) and the ratings should not be influenced by the personal opinions of the supervisors.

### 3.2. List of Variables, Constructs and Indicators

The researcher adopts the questionnaire from the article “The performance appraisal congruency scale-an assessment of person-environment fit” (Whiting, Kline, Sulsky, 2008). The questionnaire includes 46 questions structured into four sections: General Information (4 questions), Overall Satisfaction (3 questions), Perceived Usefulness (15 questions), Perceived Fairness (24 questions). The below table presents the list of variables used in the questionnaire:

Construct	Type of Variables	No. of indicators	Indicators
Employee Satisfaction	Dependent	3	<ul style="list-style-type: none"> <li>◇ Usefulness of PMR system</li> <li>◇ Fairness of PMR system</li> <li>◇ Satisfaction with PMR system</li> </ul>

Table 6. List of indicators - Employee Satisfaction

<b>Construct</b>	<b>Type of Variables</b>	<b>No. of indicators</b>	<b>Indicators</b>
Perceived Usefulness	Independent	15	◇ PMR used for promotion decisions
			◇ PMR used for making salary adjustments
			◇ PMR used for recognition purposes
			◇ PMR used for demotion decisions
			◇ PMR used for firing decisions
			◇ PMR used for training need identification
			◇ PMR used for succession planning
			◇ Employees are given feedbacks via PMR
			◇ PMR assists employees in setting work-related goals
			◇ Assessments conducted by immediate supervisor
			◇ Assessments done by employees
			◇ Assessments conducted bi - annually
			◇ Assessments done by company's clients
			◇ Employees keep their performance records weekly or bi-weekly
			◇ PMR used for identifying career path

*Table 7.* List of indicators - Perceived Usefulness

<b>Construct</b>	<b>Type of Variables</b>	<b>No. of indicators</b>	<b>Indicators</b>
Perceived Fairness	Independent	24	<ul style="list-style-type: none"> <li>✧ Supervisor collects information from other sources for PMR</li> <li>✧ A grievance procedure is in place to challenge assessments</li> <li>✧ Assessment frequency depends on experience or tenure</li> <li>✧ PMR is assessed by more than one assessor</li> <li>✧ Any negative information is included in the assessment</li> <li>✧ PMR considers the improvement</li> <li>✧ All employees's performance evaluated</li> <li>✧ Employees evaluated on their individual performance or behaviors</li> <li>✧ PMR includes a written assessment</li> <li>✧ A numerical rating indicating overall performance</li> <li>✧ Performance feedback is given in writing</li> <li>✧ Employees evaluated on their competencies</li> <li>✧ A formal meeting is held for PMR assessment</li> <li>✧ PMR conducted for "less then standard" employees</li> <li>✧ Evaluations are checked by an independent source</li> <li>✧ PMR includes numerical ratings</li> <li>✧ Raters are provided adequate training in conducting PMR</li> <li>✧ Employees are provided adequate training in conducting PMR</li> <li>✧ PMR system focuses more on positive aspects</li> <li>✧ PMR emphasizes on team performance</li> <li>✧ PMR compares to other employees in the same job family</li> <li>✧ PMR meetings will take one or two hours</li> <li>✧ Assessment included situational constraints</li> <li>✧ Employee is assessed on appropriate aspects</li> </ul>

Table 8. List of indicators - Perceived Fairness

### 3.3. Measurement of Variables and Indicators

The dependent and independent variables are measured in two different scales: Likert scale and categorical scale (choosing True/False/Don't know). The measurement is summarized in the below table:

<b>Construct</b>	<b>Measurement scale</b>
Employee Satisfaction	Likert 5 - point scale
Perceived Usefulness	Catergorical measurement scale
Perceived Fairness	Catergorical measurement scale

Table 9. Measurement scales of variables

### **3.4. Introduction about Navigos Group Vietnam JSC**

Navigos Group Vietnam JSC is a leading company in Vietnam market on online job website business. The management team always concentrates on building a good working environment for the employees, therefore many procedures and activities are organized to engage the employees, and PMR session is one of important procedure in NGV.

The PMR session takes place on March and September every year. HR department will remind all employees to fill in the form of self – assessment about their own results in last six months and their targets for the next six months. The filled forms will be submitted to managers for comments, and the managers will arrange the individual meetings with their subordinates to discuss about the evaluation as well as to set new targets. In the meetings, the employees can raise ideas about training needs or promotion suggestion as well as receive feedbacks from managers.

However, recently the company is facing with high turnover rate situation. Many key talents have left the company as they are not happy with their jobs anymore. There are many reasons giving out and some is considerably relevant to the usage of performance appraisal system.

### **3.5. Research Approach**

#### **Characteristics of the Population**

The target population of this research is all existing employees of NGV. All the employees working for the company for more than 6 months must take part in the PMR session twice a year. Majority of the employees, about 85%, is staffs with the age from 25 to 32. The rest of the population includes directors (about 5%) and managers or team leaders (about 10%) with the age around the above range, or just a bit higher. Therefore, the researcher will not focus on the age but the job level to analyze the satisfaction on the PMR system of the company.

The gender of the population is also important in this case as 90% of the company is female. The difference about satisfaction level will not be significant between male and female employees. Hence, this factor is also ignored in this research.

#### **Sample size and Response rate**

Total headcounts of the company is 304 employees in March 2015. Total responses are 214, about 70% of the population.

De Coster J. (2004) stated that to generate reliable results of a survey, a required minimum sample size should be five times of the number of items, but not less than 100 responses.

This research has 5 independent variables with 42 items, thus the required responses of this research is:  
 $n = 5 \times 42 = 210$

Therefore, 214 valid responses meet the requirement of minimum sample size of this research.

#### **Data collection and cleansing process**

The survey timing took place within March 2015. An online survey was sent to all employees of the company via email by HR department. The first time was on 6<sup>th</sup> March, 2015, then reminded on 13<sup>th</sup> March, 2015. The online was closed on 20<sup>th</sup> March. All the data were automatically collected via internet.

After the deadline at 20<sup>th</sup> March, 2015, all the data collected via Google docs was exported to excel for cleansing process to remove all the typos to assure that they would be accurate and consistent.

The responses were classified into two categories: joined or not joined in PMR session in NGV. All the “not joined” responses were considered invalid for the analysis, hence they were removed from the list. The leftover was coded and imported into SPSS for the statistics and analysis.

**Data analysis method**

The method used in the research will be Reliability Analysis, Exploratory Factor Analysis (EFA), Single Regression Analysis and Multiple Regression Analysis.

***Exploratory Factor Analysis (EFA)***

EFA is a technique to identify the underlying relationships or latent constructs among the measured variables (Norris and Le cavalier, 2010).

In the edition in 1998, Hair et al. present if a factor loading of the attribute is higher than 0.3 for the sample size from 350, it will be considered significant. However, with the smaller sample size of about 200, the factor loading must be higher than 0.4. This study has the sample size at 214, but takes 70% of total population, hence the rate 0.4 is taken into account.

Factors with “Extraction Sums of Squared Loadings” is equal or higher than 1 will be counted.

***Reliability Analysis***

Cronbach’s Alpha is used to estimate the reliability of the constructs (Cronbach, 1951). As the Cronbach’s Alpha will increase when the inter-correlation among the indicators increases, it is known a technique to estimate the internal consistency of the tested items.

George and Malley (2003) describes the commonly accepted rule of thumb for the internal consistency on the below table:

<b>Cronbach's alpha</b>	<b>Internal consistency</b>
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

*Table 10.* Internal consistency

***Simple and Multiple Linear Regression***

Regression analysis is a statistical technique used to explore the relationship between two or more variables. To explore the relationship between the dependent variable and each independent variable, the Simple Linear Regression technique is used. When the relationship between the dependent and a set of independent variables need to be determined, the Multiple Regression Technique will be used.

The formula of a regression will be:

$$Y = a + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + \varepsilon$$

In which:

Y is the dependent variable

a is the constant

$\beta$ , so – called beta weight, is the standardized regression coefficient

X is the independent variable or the predictor

$\varepsilon$  is the residual. This value is the difference between the actual and the predicted value of dependent variable (Hair et al., 2010)

Besides, there is one more value is considerable when conducting Regression analysis. It is the  $R^2$ , the idea introduced by Meyers, Gamst and Guarino (2006). This value presents how much the variance of a dependent variable can be explained by the set of independent variables. Hair et al. (2010) argue that the higher value of  $R^2$  will lead to the greater explanatory power of the regression equation.

## 4. Results

### 4.1. Descriptive Statistics

#### General Information

Group	Department	Director	Manager	Staff	Total	%	Current HC	%
Vietnamworks	VNW Sales North	0	4	52	<b>56</b>	26.2%	<b>58</b>	97%
	VNW Sales South	0	6	62	<b>68</b>	31.8%	<b>74</b>	92%
	JBU North	0	1	3	<b>4</b>	1.9%	<b>8</b>	50%
	JBU South	0	0	8	<b>8</b>	3.7%	<b>9</b>	89%
	KBU North	0	1	1	<b>2</b>	0.9%	<b>3</b>	67%
	KBU South	0	0	2	<b>2</b>	0.9%	<b>4</b>	50%
	VNW Customer Experience	0	0	5	<b>5</b>	2.3%	<b>10</b>	50%
	Tech Development	0	0	7	<b>7</b>	3.3%	<b>13</b>	54%
	VNW Marketing	0	0	4	<b>4</b>	1.9%	<b>10</b>	40%
Navigos Search	NS South	0	2	15	<b>17</b>	7.9%	<b>35</b>	49%
	NS North	0	2	9	<b>11</b>	5.1%	<b>34</b>	32%
	NS Corporate	0	1	2	<b>3</b>	1.4%	<b>4</b>	75%
Indirect Supports	Business Intelligence	0	0	1	<b>1</b>	0.5%	<b>2</b>	50%
	F&A & legal	0	0	8	<b>8</b>	3.7%	<b>11</b>	73%
	Operations	0	2	7	<b>9</b>	4.2%	<b>12</b>	75%
	IT	0	1	2	<b>3</b>	1.4%	<b>4</b>	75%
	DMC	0	0	3	<b>3</b>	1.4%	<b>6</b>	50%
	Talent Acquisition	0	0	2	<b>2</b>	0.9%	<b>4</b>	50%
	Corporate Management	0	0	1	<b>1</b>	0.5%	<b>3</b>	33%
<b>Total</b>		<b>0</b>	<b>20</b>	<b>194</b>	<b>214</b>	<b>100%</b>	<b>304</b>	<b>70%</b>
Response Rate					<b>70%</b>			

Table 11. Frequency of response rate by departments and job levels

As the survey was taken place within NGV, the general information is simply classified by departments and job levels. The survey was sent out by HR department (in NGV it is called “DMC – Dream Maker Care”) as the first step in their project to improve PMR system. It is an advantage as the response rate is rather good.

Stated in the above table, all the departments of the company attended in the survey, indicating that there is a demand to reflect the perception about the current PMR system of the company.

VNW Sales North and VNW Sales South are two departments with highest responses rates at 97% and 96% respectively, means 26.2% and 31.8% in total responses, while NS North, Corporate Management and VNW Marketing are three departments with lowest response rate with 32%, 33% and 40% respectively.

In below table, all departments are classified into three groups: Vietnamworks (including its direct supports), Navigos Search and Indirect Supports. With this classification, group Vietnamworks has highest response rate at 83%, means 73% in total responses, following by Indirect Supports with 64% response rate, taking 13% in total responses. Navigos Search is the lowest with 42% of employees responded, taking 14% in total amount.

Group	Director	Manager	Staff	Total	%	Current HC	%
Vietnamworks	0	12	144	<b>156</b>	73%	<b>189</b>	83%
Navigos Search	0	5	26	<b>31</b>	14%	<b>73</b>	42%
Indirect Supports	0	3	24	<b>27</b>	13%	<b>42</b>	64%
<b>Total</b>	<b>0</b>	<b>20</b>	<b>194</b>	<b>214</b>	<b>100%</b>	<b>304</b>	<b>70%</b>

Table 12. Summary of response by group of departments and job levels

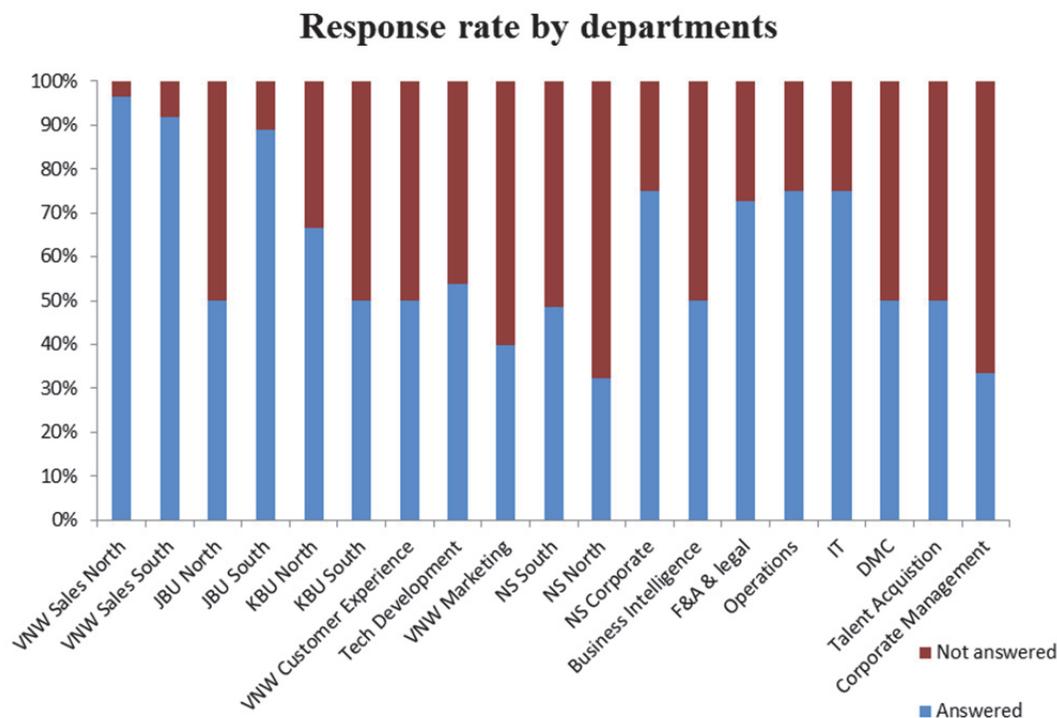


Figure 3. Summary of response rate by departments

91% of the responses came from the staff level while only 9% from managers and none of them from directors in the company.

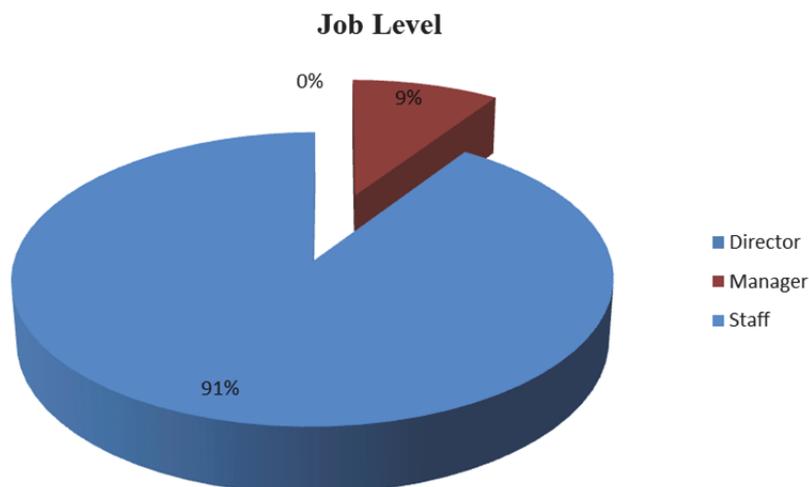


Figure 4. Summary of response rate by Job level

The demographic questions about the sex or age are not applied in this survey as 90% of the employees are female from 25 to 32 years old.

#### Overall Satisfaction on the System

Code	Overall Satisfaction	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
SA1	Current PMR system is useful	0%	2	25	171	16	3.94	0.48
SA2	Current PMR system is fair	0%	36	36	142	0%	3.50	0.77
SA3	Satisfied with current PMR system	0%	39	45	130	0%	3.43	0.78

Table 13. Descriptive analysis of overall satisfaction on PMR

In this part, there are three items to assess the overall satisfaction of the employees on the current PMR system. The answers are using the 5 – point Likert scale with 1 is "Strongly disagree" and 5 is "Strongly agree".

Firstly, the employees were asked whether they perceived the PMR useful. The answers show that 87% of total responses, or 187 responses agreed or strongly agreed that PMR was useful to them, while 1% disagreed, and 12% are neither disagreed nor agreed. The average (mean) of the responses is high, 3.94 over 5, indicating that PMR is really helpful to the employees in their career development.

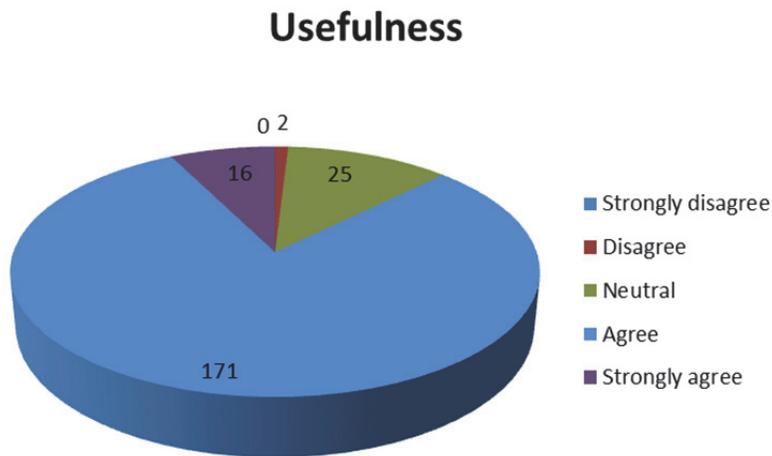


Figure 5. Overall perceived usefulness

Secondly, the employees were asked for their perception about the fairness of the system. The agreed level reduced versus the usefulness perception with only 66% or 142 responses agreed, while the disagreed and neutral ideas are at the same rate, increased to 17% or 36 responses.

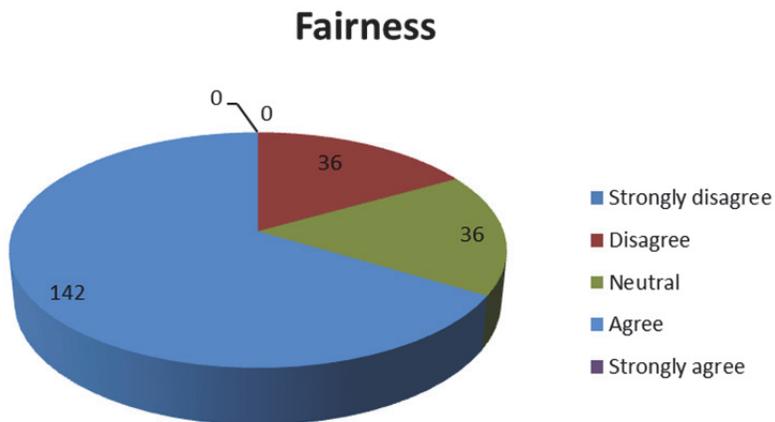


Figure 6. Overall perceived fairness

Finally, the researcher seeks for the overall satisfaction and the agreed rate continued to decrease, only 61% or 130 responses agreed that they satisfied with the current PMR system, while 18% disagreed and 21% were neutral answers. The average points (mean) was only 3.43 over 5.

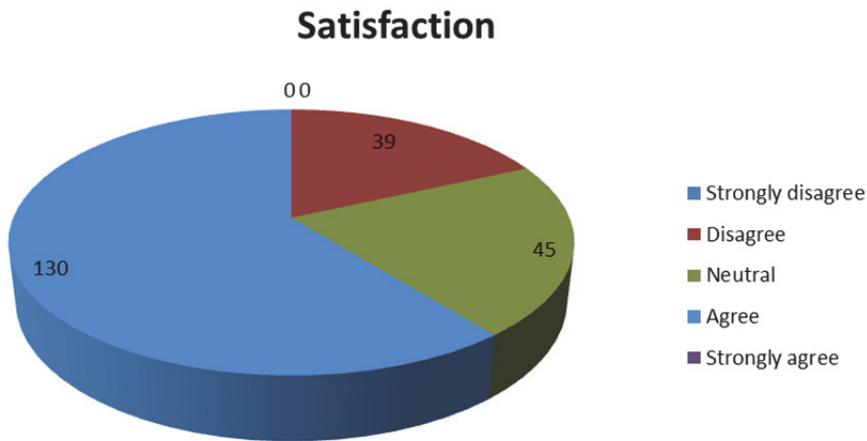


Figure 7. Overall satisfaction on PMR

#### Perceived Usefulness

After asking for the over perception in the above part, there are 15 questions to clarify why the employees perceived that the PMR was useful. The answers are using 3 – point scale with -1 is “False”, 0 is “Don’t know” and 1 is “True”.

In the below table, the item of “assessment was conducted by immediate supervisor” got 96% or 206 “True” answers with the mean at 0.96, indicating that the most of the cases, the person in charge of rating are right level, as the immediate supervisors are the ones who understand and manage the employees’ work. However, there were 4% or 8 responses said it was “False”, showing that in some cases, the raters are some different from the supervisors. This can be one of the reasons leading to the “unfair” perception of the subordinates.

In contrast, the items about “PMR used for firing decisions” and “Assessments conducted by our company’s clients” have the lowest mean with 31% or 67 “True” responses and 38% or 81 “True” responses respectively. The reason may be the “firing decision” not obviously appeared to be affected by the PMR rating. Normally, in NGV, the supervisors will find a way to “manage out” the employees rather than directly link the decision to the PMR result. Besides, not all the departments directly work with customers, therefore, there are less responses agreeing that their result related to the customers.

Code	Perceived Usefulness	False	Don't know	True	Mean	Std. Deviation
UP1	PMR used for promotion decisions	28 13%	19 9%	167 78%	0.65	0.70
UP2	PMR used for making salary adjustments	18 8%	31 14%	165 77%	0.69	0.62
UP3	PMR used for recognition purposes	11 5%	12 6%	191 89%	0.84	0.49
UP4	PMR used for demotion decisions	81 38%	50 23%	83 39%	0.01	0.88
UP5	PMR used for firing decisions	98 46%	49 23%	67 31%	(0.14)	0.87
UP6	PMR used for identify training needs	22 10%	20 9%	172 80%	0.70	0.65
UP7	PMR used for succession planning	24 11%	65 30%	125 58%	0.47	0.69
UP8	PMR includes a component where employees are given feedback on their assessment	14 7%	3 1%	197 92%	0.86	0.51
UP9	PMR assists employees in setting work-related goals	9 4%	10 5%	195 91%	0.87	0.45
UP10	Assessments conducted by immediate supervisor	8 4%	0 0%	206 96%	0.93	0.38
UP11	Assessments done by myself	21 10%	0 0%	193 90%	0.80	0.60
UP12	Assessments conducted bi - annually	14 7%	0 0%	200 93%	0.87	0.50
UP13	Assessments conducted by our company's clients	92 43%	41 19%	81 38%	(0.05)	0.90
UP14	I keep weekly or bi-weekly records of my own performance	68 32%	24 11%	122 57%	0.25	0.91
UP15	PMR conducted to identify my career path within the organization	10 5%	12 6%	192 90%	0.85	0.47

Table 14. Descriptive analysis of Perceived Usefulness

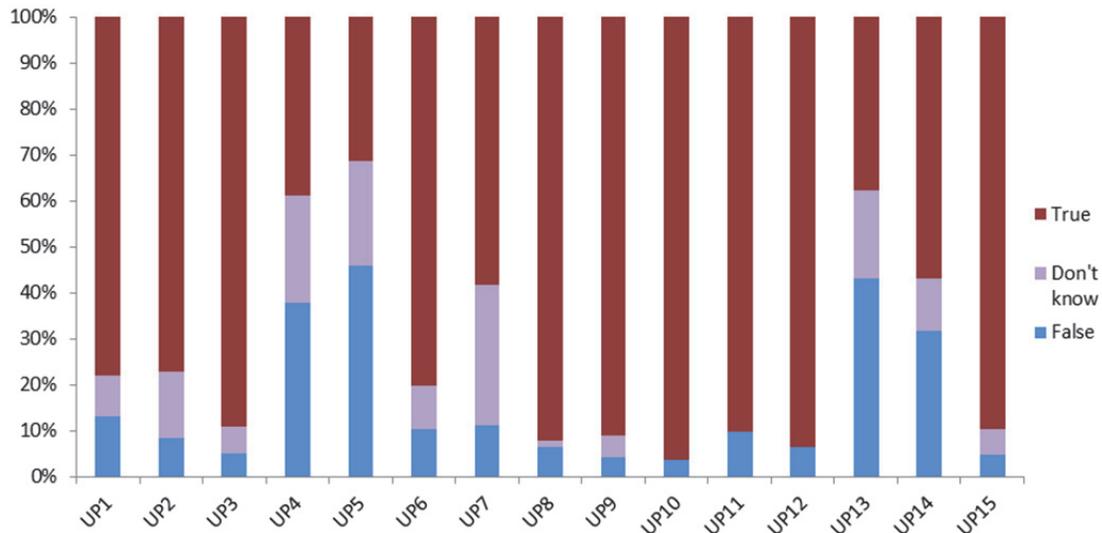


Figure 8. Summary of responses of Perceived Usefulness

Although the order of the questions follow the original version of Whiting, Kline, Sulsky (2008), the researcher decided to divide them into two groups for analysis purpose. The two groups are “Purpose” and “Process”.

- “Purpose” includes 9 items related to the purpose of using PMR, they are questions UP1, UP2, UP3, UP4, UP5, UP6, UP7, UP9, UP15.
- “Process” includes 6 items related to the process to conduct a PMR session, they are questions UP8, UP10, UP11, UP12, UP13, UP14.

**Purpose:**

This group reflects the perception of the employees why they should use the PMR. The statistics shows that the employees understand clearly the purpose of using PMR. This tool can positively help them to be recognized (UP3), to be promoted (UP1), to adjust salary (UP2), etc. Hence, the “True” choices for these purposes are high, from 89% to 91% of the responses, and the mean value vibrates from 0.84 to 0.87.

However, the negative usage of the PMR (UP4 - demotion, UP5 - firing) appears not to be obviously applied in the company as the “False” and “Don’t know” answers increase in comparison with other questions, totally from 70% to 80% for these two purposes, leading to a very low mean value, only 0.01 or even -0.14.

Code	Perceived Usefulness	False	Don't know	True	Mean	Std. Deviation
UP1	PMR used for promotion decisions	28 13%	19 9%	167 78%	0.65	0.70
UP2	PMR used for making salary adjustments	18 8%	31 14%	165 77%	0.69	0.62
UP3	PMR used for recognition purposes	11 5%	12 6%	191 89%	0.84	0.49
UP4	PMR used for demotion decisions	81 38%	50 23%	83 39%	0.01	0.88
UP5	PMR used for firing decisions	98 46%	49 23%	67 31%	(0.14)	0.87
UP6	PMR used for identify training needs	22 10%	20 9%	172 80%	0.70	0.65
UP7	PMR used for succession planning	24 11%	65 30%	125 58%	0.47	0.69
UP9	PMR assists employees in setting work-related goals	9 4%	10 5%	195 91%	0.87	0.45
UP15	PMR conducted to identify my career path within the organization	10 5%	12 6%	192 90%	0.85	0.47

Table 15. Descriptive analysis of Perceived Usefulness – “Purpose” group

**Process:**

The “Purpose” group shows the perception about how to conduct the PMR. In the below table, three necessary components (UP8, UP10, UP12) of a PMR process got high “True” responses with over 90% for each. This indicates that the company follows the right way of a PMR session.

The lowest item is UP13 – assessment done by clients. As explained above, some departments in the company will not directly deal with the customers, hence this item seems not to affect to many employees, that’s why they chose “False” or “Don’t know”, leading to a very low mean value (-0.05).

Besides, the item UP14 tells that many employees do not track their working records regularly. These employees can come from support teams where the jobs do not have many financial indicators to be recorded.

Code	Perceived Usefulness	False	Don't know	True	Mean	Std. Deviation
UP8	PMR includes a component where employees are given feedback on their assessment	14 7%	3 1%	197 92%	0.86	0.51
UP10	Assessments conducted by immediate supervisor	8 4%	0 0%	206 96%	0.93	0.38
UP11	Assessments done by myself	21 10%	0 0%	193 90%	0.80	0.60
UP12	Assessments conducted bi - annually	14 7%	0 0%	200 93%	0.87	0.50
UP13	Assessments conducted by our company's clients	92 43%	41 19%	81 38%	(0.05)	0.90
UP14	I keep weekly or bi-weekly records of my own performance	68 32%	24 11%	122 57%	0.25	0.91

Table 16. Descriptive analysis of Perceived Usefulness – “Process” group

### Perceived Fairness

(Osmani, Maliqi, 2012) Organization will get some adverse impact if (1) the supervisors are not competent enough to assess the subordinates' performance, (2) supervisors have personal bias. Therefore, the perception about the fairness in PMR session is very important to the company. This part will present the result of how the employees see the PMR that they attended.

There are 24 items in this part to evaluate the employees' fairness perception. The researcher also divided into different groups for analysis purpose. There will be four groups:

- “Who”: the participants in the PMR session, including 6 items (FP1, FP4, FP7, FP14, FP17, FP18)
- “What”: the documents or process or forms needed in PMR session, including 8 items (FP2, FP9, FP10, FP11, FP13, FP15, FP16, FP24)
- “When”: the timing to conduct the PMR, including 2 items (FP3, FP22)
- “How”: the way to conduct the PMR, including 8 items (FP5, FP6, FP8, FP12, FP19, FP20, FP21, FP23)

Code	Perceived Fairness	False	Don't know	True	Mean	Std. Deviation
FP1	Supervisor collects performance information from other sources such as peer/customer before making an assessment	42 20%	64 30%	108 50%	0.31	0.78
FP2	A grievance procedure is in place to challenge assessments if necessary	84 39%	69 32%	61 29%	(0.11)	0.82
FP3	When my experience or tenure increases, assessments are made less frequently	155 72%	33 15%	26 12%	(0.60)	0.70
FP4	There is more than one assessor to assess my performance	83 39%	36 17%	95 44%	0.06	0.91
FP5	Any negative information is included in the assessment	73 34%	53 25%	88 41%	0.07	0.87
FP6	PMR considers the improvement	14 7%	13 6%	187 87%	0.81	0.54
FP7	All employees in my company have their performance evaluated	5 2%	25 12%	184 86%	0.84	0.43
FP8	I am evaluated on how well I perform my individual tasks or behaviors	12 6%	16 7%	186 87%	0.81	0.52
FP9	Performance evaluation forms include a written (i.e. narrative) assessment	9 4%	2 1%	203 95%	0.91	0.41
FP10	Numerical ratings of performance included in the assessment report	14 7%	22 10%	178 83%	0.96	0.23
FP11	Any performance feedback is given in writing	74 35%	21 10%	119 56%	0.21	0.93
FP12	I am evaluated on my competencies	14 7%	22 10%	178 83%	0.77	0.56
FP13	A formal meeting is held where I am given verbal feedback on my performance assessment.	38 18%	26 12%	150 70%	0.52	0.78
FP14	PMR is only conducted for employees considered less than "standard" in their performance.	151 71%	23 11%	40 19%	(0.52)	0.79
FP15	Evaluations are checked by an independent source	113 53%	58 27%	43 20%	(0.33)	0.79
FP16	A numerical rating indicating overall performance is calculated	5 2%	20 9%	189 88%	0.86	0.41
FP17	Raters are provided adequate training in conducting performance appraisals	24 11%	70 33%	120 56%	0.45	0.69
FP18	Employees are provided adequate training in conducting performance appraisals	25 12%	39 18%	150 70%	0.58	0.69
FP19	PMR system focuses more on positive aspects	78 36%	44 21%	92 43%	0.07	0.89
FP20	The PMR system puts adequate emphasis on team performance	28 13%	50 23%	136 64%	0.50	0.72
FP21	PMR compares myself to other employees in the same job family	110 51%	33 15%	71 33%	(0.18)	0.90
FP22	The formal PMR meeting between employer and employee takes from one to two hours	60 28%	24 11%	130 61%	0.33	0.89
FP23	Situational constraints are taken into account when the assessment is conducted	35 16%	39 18%	140 65%	0.49	0.76
FP24	The various aspects of performance on which an employee is assessed are appropriate	17 8%	36 17%	161 75%	0.67	0.62

Table 17. Descriptive analysis of Perceived Fairness

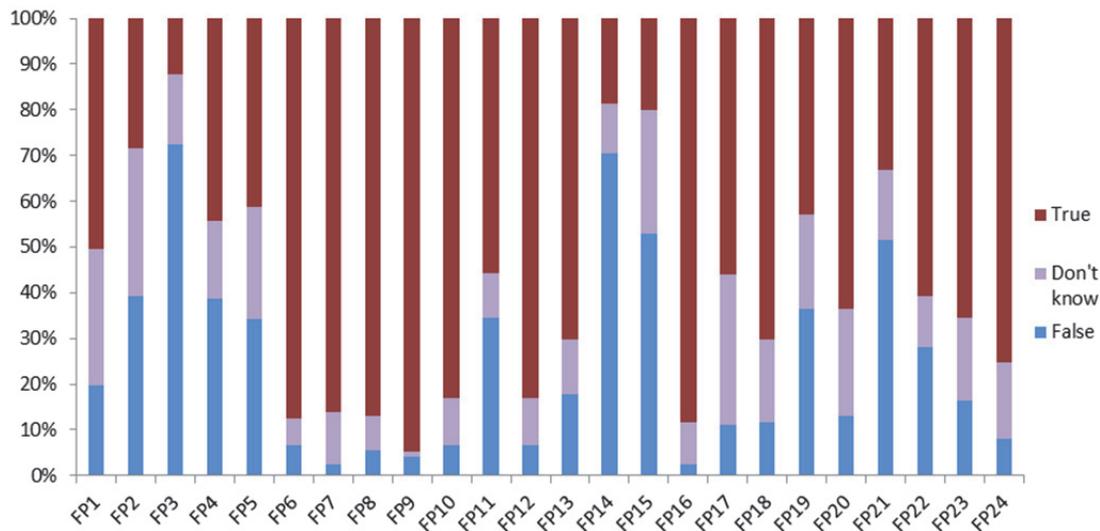


Figure 9. Summary of responses of Perceived Fairness

**Who:**

In this table, the item show that the PMR is conducted to all the employees (FP7) has the highest “True” responses, 86% or 184 answers. This is one of the “fair” sign as every employees should be evaluated regardless who they are.

The item FP14 has 71% or 151 responses with “False”, resulting a negative mean value, however, this is not contrast to the above item FP7, it supports the idea that all the employees should be evaluated, not only the ones with “under standard”.

The item FP4 states that in some cases, there is more than one assessor during the PMR. This can reflect a need to have a higher-level manager to supervise the PMR or it also can be a redundant in the assessment process.

Code	Perceived Fairness	False	Don't know	True	Mean	Std. Deviation
FP1	Supervisor collects performance information from other sources such as peer/customer before making an assessment	42 20%	64 30%	108 50%	0.31	0.78
FP4	There is more than one assessor to assess my performance	83 39%	36 17%	95 44%	0.06	0.91
FP7	All employees in my company have their performance evaluated	5 2%	25 12%	184 86%	0.84	0.43
FP14	PMR is only conducted for employees considered less than “standard” in their performance.	151 71%	23 11%	40 19%	(0.52)	0.79
FP17	Raters are provided adequate training in conducting performance appraisals	24 11%	70 33%	120 56%	0.45	0.69
FP18	Employees are provided adequate training in conducting performance appraisals	25 12%	39 18%	150 70%	0.58	0.69

Table 18. Descriptive analysis of Perceived Fairness – “Who” group

**What:**

In the below table, items FP9, FP10, FP16 with high “True” answers and high mean value, reflection that the PMR documents follow the right instruction to be narrative format with the overall score on that. Nevertheless, the items FP2 and FP15 raise a fact that the company does not apply an independent auditing system to avoid the faults or bias during PMR session. This can impact the satisfaction of the employees on the result of the evaluation.

Code	Perceived Fairness	False	Don't know	True	Mean	Std. Deviation
FP2	A grievance procedure is in place to challenge assessments if necessary	84 39%	69 32%	61 29%	(0.11)	0.82
FP9	Performance evaluation forms include a written (i.e. narrative) assessment	9 4%	2 1%	203 95%	0.91	0.41
FP10	Numerical ratings of performance included in the assessment report	14 7%	22 10%	178 83%	0.96	0.23
FP11	Any performance feedback is given in writing	74 35%	21 10%	119 56%	0.21	0.93
FP13	A formal meeting is held where I am given verbal feedback on my performance assessment.	38 18%	26 12%	150 70%	0.52	0.78
FP15	Evaluations are checked by an independent source	113 53%	58 27%	43 20%	(0.33)	0.79
FP16	A numerical rating indicating overall performance is calculated	5 2%	20 9%	189 88%	0.86	0.41
FP24	The various aspects of performance on which an employee is assessed are appropriate	17 8%	36 17%	161 75%	0.67	0.62

Table 19. Descriptive analysis of Perceived Fairness – “What” group

**When:**

There are only 2 items in this group. FP3 support the ideas in “Who” part, all the employees will be evaluated without concerning about their tenure or experience. FP22 shows that in most of the cases, the timing to conduct the PMR is enough for the employees to discuss about the score they receive.

Code	Perceived Fairness	False	Don't know	True	Mean	Std. Deviation
FP3	When my experience or tenure increases, assessments are made less frequently	155 72%	33 15%	26 12%	(0.60)	0.70
FP22	The formal PMR meeting between employer and employee takes from one to two hours	60 28%	24 11%	130 61%	0.33	0.89

Table 20. Descriptive analysis of Perceived Fairness – “When” group

### **How:**

This part reflects how the PMR conducted. The statistics shows that the supervisors in the company pay more intention to the improvement and competencies of the employees during the assessment (items FP6, FP8, FP12), this may positively impact on the satisfaction of the employees.

The item FP21 says that in most of the cases, there is no comparison between the ratee and others in the same job level. This can result a good impact on satisfaction as they will not feel “hurt” when being compared with others, however, it also can result an adverse effect that the employees will not have the motivation to try their best to achieve the goal, especially in the revenue generating teams.

<b>Code</b>	<b>Perceived Fairness</b>	<b>False</b>	<b>Don't know</b>	<b>True</b>	<b>Mean</b>	<b>Std. Deviation</b>
FP5	Any negative information is included in the assessment	73 34%	53 25%	88 41%	0.07	0.87
FP6	PMR considers the improvement	14 7%	13 6%	187 87%	0.81	0.54
FP8	I am evaluated on how well I perform my individual tasks or behaviors	12 6%	16 7%	186 87%	0.81	0.52
FP12	I am evaluated on my competencies	14 7%	22 10%	178 83%	0.77	0.56
FP19	PMR system focuses more on positive aspects	78 36%	44 21%	92 43%	0.07	0.89
FP20	The PMR system puts adequate emphasis on team performance	28 13%	50 23%	136 64%	0.50	0.72
FP21	PMR compares myself to other employees in the same job family	110 51%	33 15%	71 33%	(0.18)	0.90
FP23	Situational constraints are taken into account when the assessment is conducted	35 16%	39 18%	140 65%	0.49	0.76

*Table 21.* Descriptive analysis of Perceived Fairness – “How” group

### **4.2. Exploratory Factor Analysis (EFA)**

During the Research Report, the researcher identified that two original factors can be divided into at least five sub – factors. Hence, the number of factors decided to be fixed at 5. At the first iteration, there were 7 indicators were removed from the list as their extraction below 0.4 (items UP10, FP4, FP7, FP14) or having complex structure (high loading on more than 1 components such as items UP14, FP8, FP13).

The number of indicators now became 32 (13 for UP and 19 for FP). EFA was done again without above 7 items. The factor loading in this step still showed a good number for all 5 factors with total loading higher than 1.0:

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.396	16.862	16.862	5.396	16.862	16.862	4.182	13.068	13.068
2	3.491	10.909	27.772	3.491	10.909	27.772	3.863	12.073	25.141
3	2.794	8.730	36.502	2.794	8.730	36.502	2.944	9.199	34.340
4	2.041	6.377	42.878	2.041	6.377	42.878	2.445	7.642	41.982
5	1.991	6.222	49.100	1.991	6.222	49.100	2.278	7.118	49.100

Table 22. Factor loading

All 32 items were re-arranged as in Table 5 below. Some items were transferred among UP and FP to form new factors.

	Old code	Component				
		1	2	3	4	5
PMR used for promotion decisions	UP1	0.655				
PMR used for making salary adjustments	UP2	0.474				
PMR used for recognition purposes	UP3	0.544				
PMR used for demotion decisions	UP4	0.628				
PMR used for firing decisions	UP5	0.597				
PMR used for identify training needs	UP6	0.419				
PMR used for succession planning	UP7	0.531				
PMR includes a component where employees are given feedback on their assessment	UP8	0.608				
PMR assists employees in setting work-related goals	UP9	0.417				
PMR conducted to identify my career path within the organization	UP15	0.690				
Numerical ratings of performance included in the assessment report	FP10	0.506				
PMR considers the improvement	FP6		0.736			
Any performance feedback is given in writing	FP11		0.464			
I am evaluated on my competencies	FP12		0.755			
Raters are provided adequate training in conducting performance appraisals	FP17		0.687			
Employees are provided adequate training in conducting performance appraisals	FP18		0.653			
PMR system focuses more on positive aspects	FP19		0.470			
Situational constraints are taken into account when the assessment is conducted	FP23		0.456			
The various aspects of performance on which an employee is assessed are appropriate	FP24		0.677			
Assessments conducted bi - annually	UP12			0.814		
Performance evaluation forms include a written (i.e. narrative) assessment	FP9			0.858		
A numerical rating indicating overall performance is calculated	FP16			0.678		
Supervisor collects performance information from other sources such as peer/customer before making an assessment	FP1				0.600	
A grievance procedure is in place to challenge assessments if necessary	FP2				0.434	
When my experience or tenure increases, assessments are made less frequently	FP3				0.638	
Evaluations are checked by an independent source	FP15				0.592	
Assessments done by myself	UP11					0.701
Assessments conducted by our company's clients	UP13					0.455
Any negative information is included in the assessment	FP5					0.484
The PMR system puts adequate emphasis on team performance	FP20					0.578
PMR compares myself to other employees in the same job family	FP21					0.463
The formal PMR meeting between employer and employee takes from one to two hours	FP22					0.517

Table 23. EFA - Components

The researcher named the new factors to revise the research model.

**Factor 1: Perceived Usefulness**

As this factor includes most of the indicators of original factor “Perceived Usefulness”, 11 items, the researcher decided the keep that name for the first factor, only change the code from UP to PU for differentiating purpose.

Factor 1	Perceived Usefulness	
	Old code	New code
PMR used for promotion decisions	UP1	PU1
PMR used for making salary adjustments	UP2	PU2
PMR used for recognition purposes	UP3	PU3
PMR used for demotion decisions	UP4	PU4
PMR used for firing decisions	UP5	PU5
PMR used for identify training needs	UP6	PU6
PMR used for succession planning	UP7	PU7
PMR includes a component where employees are given feedback on their assessment	UP8	PU8
PMR assists employees in setting work-related goals	UP9	PU9
PMR conducted to identify my career path within the organization	UP15	PU10
Numerical ratings of performance included in the assessment report	FP10	PU11

*Table 24. Factors 1 - Perceived Usefulness*

The item FP10 is moved from the factor “Perceived Fairness” to “Perceived Usefulness” considering reasonable as it shows the numerical result of the assessment, useful for the employees to know at what rate their supervisors evaluate their performance.

**Factor 2: Perceived Fairness**

This factor includes 22 indicators, mixed from both original factors and split into four sub – factors

*Sub – factors 1: Positive feedbacks*

Including 8 indicators to determine whether the employees perceives the PMR session fair or unfair if they receive positive feedbacks from the supervisors.

<b>Sub - Factor 1</b>	<b>Positive feedbacks</b>	
	Old code	New code
PMR considers the improvement	FP6	PF1
Any performance feedback is given in writing	FP11	PF2
I am evaluated on my competencies	FP12	PF3
Raters are provided adequate training in conducting performance appraisals	FP17	PF4
Employees are provided adequate training in conducting performance appraisals	FP18	PF5
PMR system focuses more on positive aspects	FP19	PF6
Situational constraints are taken into account when the assessment is conducted	FP23	PF7
The various aspects of performance on which an employee is assessed are appropriate	FP24	PF8

Table 25. Sub - factor 1 - Positive feedbacks

*Sub – factors 2: Frequency and Form*

This sub – factor includes three indicators, in which one is moved from original “Perceived Usefulness” factor. This combination considers acceptable as together, “how often” and “how” to conduct a PMR can influence on the satisfaction of an employee.

<b>Sub - Factor 2</b>	<b>Frequency and Form</b>	
	Old code	New code
Assessments conducted bi - annually	UP12	FF1
Performance evaluation forms include a written (i.e. narrative) assessment	FP9	FF2
A numerical rating indicating overall performance is calculated	FP16	FF3

Table 26. Sub - factor 2 - Frequency and Form

*Sub – factors 3: Impartial (unbiased) judgment*

This sub – factor is built from four indicators which directly mentions about the fairness in performance assessment.

<b>Sub - Factor 3</b>	<b>Impartial (unbiased) judgment</b>	
	Old code	New code
Supervisor collects performance information from other sources such as peer/customer before making an assessment	FP1	IJ1
A grievance procedure is in place to challenge assessments if necessary	FP2	IJ2
When my experience or tenure increases, assessments are made less frequently	FP3	IJ3
Evaluations are checked by an independent source	FP15	IJ4

Table 27. Sub - factor 3 - Impartial (unbiased) judgment

*Sub – factors 4: Proper process*

This sub – factor with six indicators shows a proper process that the supervisor should follow when conducting a PMR session. There are two items moved from original “Perceived Usefulness”. These items are about “who will conduct the assessment”, so it is reasonable to be in this new group of indicators.

<b>Sub - Factor 4</b>	<b>Proper process</b>	
	Old code	New code
Assessments done by myself	UP11	PP1
Assessments conducted by our company’s clients	UP13	PP2
Any negative information is included in the assessment	FP5	PP3
The PMR system puts adequate emphasis on team performance	FP20	PP4
PMR compares myself to other employees in the same job family	FP21	PP5
The formal PMR meeting between employer and employee takes from one to two hours	FP22	PP6

Table 28. Sub - factor 4 - Proper process

**4.3. Reliability Analysis**

<b>Constructs</b>	<b>No. of items</b>	<b>Cronbach's Alpha</b>	<b>Internal Consistency</b>	<b>Eliminated Items</b>
Perceived Usefulness	11	0.775	Acceptable	N/A
Perceived Fairness	21	0.700	Acceptable	N/A
<i>Positive feedbacks</i>	8	0.773	<i>Acceptable</i>	<i>N/A</i>
<i>Frequency and Form</i>	3	0.776	<i>Acceptable</i>	<i>N/A</i>
<i>Impartial (unbiased) judgment</i>	4	0.579	<i>Poor</i>	<i>N/A</i>
<i>Proper process</i>	6	0.587	<i>Poor</i>	<i>N/A</i>

Table 29. Cronbach’s Alpha of Independent Variables

Cronbach’s alpha is a technique to measure the internal consistency or scale reliability. Benchmarking with the table of Cronbach’s alpha value mentioned in part 3.5.4 Data analysis method above, the inter - correlation among the items of both factors “Perceived Usefulness” (PU) and “Perceived Fairness” (PFs) with the “Overall Satisfaction” (SA) are at “Acceptable” level. PU is nearer to “Good” level while PFs is at the minimum value to be classified as “Acceptable”, implying that the items to measure this variable is not strongly correlated to one another.

Two of four sub – factors of PFs, “Positive Feedbacks” (PF) and “Frequency and Form” (FF) have the Cronbach’s alpha nearly as high as PU, indicating that the scale to measure those sub – factors are reliable and consistent with one another. However, the other two sub – factors, “Impartial (unbiased) judgment” and “Proper process”, have “Poor” consistency. This can be resulted from the EFA process, when the items are reclassified from the original factor to form the new factors, which may not be really correlated to measure the same thing.

However, the value “Cronbach's Alpha if Item Deleted” in these two sub – factors show an idea that deleting any item cannot improve the reliability of the scale, hence all the indicators are remained unchanged.

#### 4.4. Correlation Analysis

The researcher conducts Kolmogorov – Smirnov method to test the normal distribution of the dependent variable “Overall Satisfaction”. Then the transformation is applied for further testing. However, all transformation techniques such as Squareroot, Logarithm and Inverse, and even outliers eliminating present the significance lower than 0.001, stating that the dependent variables is not normally distributed.

	Kolmogorov-Smirnov <sup>a</sup>		
	Statistic	df	Sig.
Overall Satisfaction	.325	214	.000
Squareroot of SA	.324	214	.000
Logarithm of SA	.323	214	.000
Inverse of SA	.320	214	.000
Overall Satisfaction - eliminated outliers	.508	82	.000

Table 30. Normality tests

Therefore, Spearman Rank Correlation or Spearman’s rho method, is suggested to determine the relationship between independent and dependent variables.

	Overall Satisfaction		
	Correlation Coefficient	Sig. (2-tailed)	N
Perceived Usefulness	.353**	0.000	214
Perceived Fairness	.421**	0.000	214
<i>Positive feedbacks</i>	.560**	0.000	214
<i>Frequency and Form</i>	.156*	0.023	214
<i>Impartial (unbiased) judgment</i>	.257**	0.000	214
<i>Proper process</i>	(0.051)	0.457	214

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 31. Spearman’s rho

The factors “Perceived Usefulness” has a low positive  $r_s$ , implying that when the employees’ perception about usefulness of the PMR system increases, the overall satisfaction about the system will also increase, however this relationship is weak, means the usefulness perception does not have strong impact on the satisfaction of the employees.

The factor “Perceived Fairness” has a higher positive that the impact of fairness perception on overall satisfaction is stronger than the usefulness perception. A deeper look into four sub – factors shows an interesting

implication with different level of correlation. The “Positive Feedbacks” has the highest  $r_s$ , presenting a strongest relationship with the “Overall Satisfaction”, while “Frequency and Form” and “Impartial (unbiased) judgment” have much lower correlation with that dependent variable. The “Proper process” has inverse relationship with “Overall Satisfaction” as  $r_s$  is negative, implying that the administration process of PMR session can have an adverse impact on the employees’ satisfaction.

#### 4.5. Hypothesis Confirmation

To examine the relationships between pairs of dependent and independent variables, the Simple Linear Regression method is used.

##### Perceived Usefulness

**Research question 1:** *Is the relationship between “Perceived Usefulness” (PU) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?*

Null hypothesis:  $H_0: \beta_{PU} = 0$

Alternative hypothesis:  $H_1: \beta_{PU} \neq 0$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.891	.230		43.071	.000
1 Perceived Usefulness	.144	.030	.315	4.838	.000

a. Dependent Variable: Overall Satisfaction

b.  $R = .315^a$ ,  $R^2 = .099$ , Adjusted  $R^2 = .095$ ,  $d_{\text{Durbin-Watson}} = 1.858$

c. ANOVA:  $F = 23.411$ ,  $\text{Sig.} = .000$

Table 32. Simple Regression analysis – PU

The result of simple linear regression in above table presents a correlation between the usefulness perception and the overall satisfaction on PMR system with the significant level at .000.

Pallant (2011) states that the higher coefficient an independent variable has, the stronger effect on the dependent variable is. In the above table, the coefficient  $\beta$  is .315, reflecting a rather weak relationship between usefulness perception and the overall satisfaction of the employees. However, with this  $\beta$ , the alternative hypothesis is accepted.

The value  $R^2$  at .099 also shows a weak prediction in variance of overall satisfaction by perceived usefulness, as the perceived usefulness can predict only 9.9% of the overall satisfaction.  $F$  is 23.411 and sig. at .000 means that the perceived usefulness cannot explain well the variation in the overall satisfaction on PMR system.

In addition, the  $t$  value is 4.838, higher than 2, with the significant level at .000 means that this independent variable is significantly contributing to the equation to predict the overall satisfaction.

The hypothesis can be expressed by the following equation:

$$Y = 9.891 + 0.144 X_{PU}$$

In which: Y : Employee’s overall satisfaction on PMR system  
 X<sub>PU</sub> : Perceived usefulness

**Perceived Fairness**

**Research question 2:** Is the relationship between “Perceived Fairness” (PFs) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?

Null hypothesis: H<sub>0</sub>: β<sub>PFs</sub> = 0  
 Alternative hypothesis: H<sub>1</sub>: β<sub>PFs</sub> ≠ 0

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.804	.169		57.858	.000
1 Perceived Fairness	.142	.018	.477	7.892	.000

a. Dependent Variable: Overall Satisfaction

b. R = .477<sup>a</sup>, R<sup>2</sup> = .227, Adjusted R<sup>2</sup> = .223, d<sub>Durbin-Watson</sub> = 2.132

c. ANOVA: F = 62.285, Sig. = .000

Table 33. Simple Regression analysis – PFs

The above result presents the coefficient β at .477 showing that fairness perception has a stronger relationship to the overall satisfaction of the employees than usefulness perception. With this β ≠ 0, the alternative hypothesis is accepted.

The value R<sup>2</sup> at .227 means that 22.7% of the variance of overall satisfaction can be predicted by perceived fairness. F is 62.285 and sig. at .000 means that the perceived fairness can highly explain for the variance in the overall satisfaction on PMR system.

The t value is 7.892, higher than 2, with the significant level at .000 means that the fairness perception significantly contributes to the equation of the overall satisfaction.

The hypothesis can be expressed by the following equation:

$$Y = 9.804 + 0.142 X_{PFs}$$

In which: Y : Employee’s overall satisfaction on PMR system  
 X<sub>PFs</sub> : Perceived Fairness

A further analysis on the relationship of four sub – factors will explore more clearly which components of “Perceived Fairness” really impact on the Employees’ satisfaction on the PMR system.

## Positive Feedbacks

**Research question 3:** Is the relationship between “Positive Feedbacks” (PF) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?

Null hypothesis:  $H_0: \beta_{PF} = 0$   
 Alternative hypothesis:  $H_1: \beta_{PF} \neq 0$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.684	.143		67.953	.000
1 Positive Feedbacks	.290	.026	.603	11.012	.000

a. Dependent Variable: Overall Satisfaction

b.  $R = .603^a$ ,  $R^2 = .364$ , Adjusted  $R^2 = .361$ ,  $d_{\text{Durbin-Watson}} = 2.055$

c. ANOVA:  $F = 121.269$ ,  $\text{Sig.} = .000$

Table 34. Simple Regression analysis – PF

The coefficient  $\beta$  of “Positive Feedbacks” is .603 indicating a strong relationship this predictor with the overall satisfaction of the employees, hence the alternative hypothesis is accepted.

The value  $R^2$  at .364 also means that the overall satisfaction can be predicted at 36.4% by the positive feedbacks.  $F$  is 121.269 and sig. at .000 means that the variance of the overall satisfaction on PMR system is strongly explained by the “Positive Feedbacks” factor.

The  $t$  value is 11.012, higher than 2, with the significant level at .000 means that this independent variable is significantly contributing to the equation to predict the overall satisfaction.

The hypothesis can be expressed by the following equation:

$$Y = 9.684 + 0.290 X_{PF}$$

In which:  $Y$  : Employee’s overall satisfaction on PMR system  
 $X_{PF}$  : Positive Feedbacks

## Frequency and Form

**Research question 4:** Is the relationship between “Frequency and Form” (FF) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?

Null hypothesis:  $H_0: \beta_{FF} = 0$   
 Alternative hypothesis:  $H_1: \beta_{FF} \neq 0$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.317	.305		33.783	.000
1 Frequency and Form	.206	.107	.131	1.926	.055

a. Dependent Variable: Overall Satisfaction

b.  $R = .131^a$ ,  $R^2 = .017$ , Adjusted  $R^2 = .013$ ,  $d_{\text{Durbin-Watson}} = 1.893$

c. ANOVA:  $F = 3.709$ , Sig. = .055

Table 35. Simple Regression analysis – FF

The above coefficient  $\beta$  shows that the “Frequency and Form” of a PMR session can have significant relationship with the overall satisfaction. However, with Sig. at .055, slightly higher than 0.05, suggests that the changes in “Frequency and Form” do not associate with the changes in employees’ satisfaction on PMR system. Therefore, there is not a regression equation between these two variables.

### Impartial (unbiased) judgment

**Research question 5:** Is the relationship between “Impartial (unbiased) judgment” (IJ) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?

Null hypothesis:  $H_0: \beta_{IJ} = 0$

Alternative hypothesis:  $H_1: \beta_{IJ} \neq 0$

Model	Unstandardized Coefficients		zed Coefficien	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.046	.120		92.250	.000
1 Impartial (unbiased) judgment	.255	.055	.303	4.633	.000

a. Dependent Variable: Overall Satisfaction

b.  $R = .303^a$ ,  $R^2 = .092$ , Adjusted  $R^2 = .088$ ,  $d_{\text{Durbin-Watson}} = 2.043$

c. ANOVA:  $F = 21.461$ , Sig. = .000

Table 36. Simple Regression analysis – IJ

In the above table, the coefficient  $\beta$  is .303, showing a weak relationship between the unbiased judgment and the overall satisfaction of the employees. However, with this  $\beta$ , the alternative hypothesis is accepted.

The value  $R^2$  at .088 also shows a weak prediction in variance of overall satisfaction by unbiased judgment, as it can predict only 8.8% of the overall satisfaction.  $F$  is 21,461 and sig. at .000 means that this predictor can explain well the variation in the overall satisfaction on PMR system.

In addition, the  $t$  value is 4.633, higher than 2, with the significant level at .000 means that this independent variable is significantly contributing to the equation to predict the overall satisfaction.

The hypothesis can be expressed by the following equation:

$$Y = 11.046 + 0.255 X_{IJ}$$

In which: Y : Employee's overall satisfaction on PMR system  
 $X_{IJ}$  : Impartial (unbiased) judgment

### Proper Process

**Research question 6:** Is the relationship between “Positive Feedbacks” (PF) and “Employees’ satisfaction on PMR system” (or Overall satisfaction (SA)) statistically significant?

Null hypothesis:  $H_0: \beta_{PP} = 0$   
 Alternative hypothesis:  $H_1: \beta_{PP} \neq 0$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	10.915	.133		81.781	.000
Proper process	-.037	.042	-.061	-0.887	.376

a. Dependent Variable: Overall Satisfaction

b.  $R = .061^a$ ,  $R^2 = .004$ , Adjusted  $R^2 = -0.001$ ,  $d_{\text{Durbin-Watson}} = 1.895$

c. ANOVA:  $F = 0.786$ ,  $\text{Sig.} = .376$

Table 37. Simple Regression analysis – PP

Similar to the case of the “Frequency and Form”, the above coefficient  $\beta$  at  $-.061$  suggests that the “Proper Process” can have negative relationship with the overall satisfaction. However, with  $\text{Sig.} = .376 > 0.05$ , presents that the changes in this predictor do not associate with the changes in employees’ satisfaction on PMR system. Therefore, there is not a regression equation between these two variables.

### Multiple Regression

The multiple regression analysis will be used to determine whether independent variables “Perceived Usefulness” and “Perceived Fairness” simultaneously impact the dependent variable “Employees’ Satisfaction on PMR system”. The analysis will be done to evaluate the relationship between:

- “Employees’ satisfaction on PMR system” (SA) and the set of variables “Perceived Usefulness” (PU) and “Perceived Fairness” (PFs)

- “Employees’ satisfaction on PMR system” (SA) and the set of variables “Perceived Usefulness” (PU) and the components of “Perceived Fairness” (four sub – factors: Positive feedback (PF), Frequency and Form (FF), Impartial (unbiased) judgment (IJ), Proper Process (PP)).

### Multiple Regression between SA – PU & PFs

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.453	.221		42.784	.000
1 Perceived Usefulness	0.072	.029	.157	2.441	.015
Perceived Fairness	.124	.019	.417	6.464	.000

a. Dependent Variable: Overall Satisfaction

b.  $R = .498^a$ ,  $R^2 = .248$ , Adjusted  $R^2 = 0.241$

c. ANOVA:  $F = 34.849$ ,  $\text{Sig.} = .000$

Table 38. Multiple Regression analysis – PU & PFs

The multiple R and  $R^2$  in the above table present a measurement of the strength of the relationship between the set of PU, PFs and SA. The set of PU and PFs can explained 24.8% of the variance of SA. PU and PFs statistically significantly predict the overall satisfaction of employees on the current PMR system of the company. The F value at 34.849 determines that this relationship can be generalized to the satisfaction of all the employees in the company.

The t value of PU at 2.441 and PFs at 6.464 indicates that the individual relationship between PU and SA is weaker than between PFs and SA. It means that “Perceived Fairness” has stronger impact on the overall satisfaction on PMR system.

The relationship can be determined by the following equation:

$$Y = 9.453 + 0.072 X_{\text{PU}} + 0.124 X_{\text{PFs}}$$

In which: Y : Employee’s overall satisfaction on PMR system  
 $X_{\text{PU}}$  : Perceived Usefulness  
 $X_{\text{PFs}}$  : Perceived Fairness

**Multiple Regression between SA – PU & PF, FF, IJ, PP**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.360	.276		33.912	.000
Perceived Usefulness	0.091	.026	.201	3.567	.000
Positive feedbacks	0.254	.027	.527	9.387	.000
1 Frequency and Form	0.045	.085	.029	0.535	.593
Impartial (unbiased) judgment	0.127	.046	.151	2.749	.007
Proper process	-.117	.034	-.190	-3.468	.001

a. Dependent Variable: Overall Satisfaction

b.  $R = .665^a$ ,  $R^2 = .442$ , Adjusted  $R^2 = 0.429$

c. ANOVA:  $F = 32.988$ ,  $\text{Sig.} = .000$

Table 39. Multiple Regression analysis – PU & PF, FF, IJ, PP

In the above table,  $R^2$  is at .442, presenting a statistically significant relationship between PU, PF, FF, IJ, PP and SA. It means that the combination of all the mentioned independent variables can predict 44.2% the variance of SA. The F value at 32.988 shows that this relationship getting from the samples can be used to represent for the whole employees in the company.

The t value of four sub – factors ranks the impact of PF at the highest level and FF at the lowest level. Three sub – factors PF, FF, IJ have the positive t value, showing that the when the perception about these factors increases, the overall satisfaction will increase accordingly, while PP has a negative t value, means that if the process increase can result an adverse impact on the overall satisfaction on PMR system.

The significance of PU, PF, IJ, and PP are lower than 0.05, indicating a linear relationship with the SA, while FF has a sig. at .593, much higher than 0.05, implying that the relationship between FF and SA might not be linear. Therefore, the relationship can be determined by the following equation:

$$Y = 9.360 + 0.091 X_{PU} + 0.254 X_{PF} + 0.127 X_{IJ} - 0.117 X_{PP}$$

In which: Y : Employee's overall satisfaction on PMR system  
 $X_{PU}$  : Perceived Usefulness  
 $X_{PF}$  : Positive Feedbacks  
 $X_{IJ}$  : Impartial (unbiased) judgment  
 $X_{PP}$  : Proper Process

## 5. Discussion

### 5.1. Relationship between PU and SA

The outcome of the factors loading reduces the number of indicators in comparison with the original research. The removed indicators include the questions about who conducts the assessments and how often the

employee records their job performance. The indicator about the results of PMR assessment displayed in numeric form is moved from “Perceived Fairness” (PFs) factor to “Perceived Usefulness” (PU) factor, as the fact that such results will give the employees an exact understanding about what level their performances are. This directly relates to the decision of salary review or promotion, hence, it is considered an item of “Usefulness” rather than “Fairness”.

The test rejected the null hypothesis. The result confirms the findings in the original research, where the perceived usefulness is proved significantly impact on the overall satisfaction on the system (Whiting, Kline, Sulsky, 2008). All the items to measure the usefulness perception are practically applied in the company where the survey was spread out. However, majority of the employees recognize the positive usage of the PMR system while lesser people agree that the negative usage exists. It is a consequence of the culture of the company, pay more attention to the positive, “to help people achieve their dreams” (slogan of NGV) rather than to demotivate or terminate someone.

Nonetheless, as the PMR system is an obligatory procedure in NGV, PU factor appears not strongly impact on the SA. This practice can be reinforced by the result of the regression analysis. In comparison to the PFs, the PU has weaker influence on the SA as the explanatory power of it to the variance of SA is weaker than PFs’.

## ***5.2. Relationship between PFs and SA***

This fairness perception factor was separated into four smaller factors. There were 5 indicators were removed from the portfolio. Those mention about the obvious practices in the company, such as an official meeting is held for the assessment, or more than one assessor will attend the evaluation, or all the employees will attend the session. As it is applied automatically in NGV, their sense of fairness will not be as strong as in the original research, thus they became redundant in this case.

In the simple regression analysis, the alternative hypothesis is accepted with the PFs’ ability to explain the variance of SA at a rather high level, 22.7%. The reason is that the fairness perception is important in reality, the employees in NGV actually reflect their experience about the fairness from the assessment, hence it affects their satisfaction on the current PMR system. The multiple regression also shows that the PFs has much stronger influence on the SA than the PU.

A deeper consideration into the components will give a clearer picture about what really impact on the NGV’s employees’ satisfaction.

The first component is the “Positive Feedbacks” (PF). The alternative hypothesis is accepted to confirm that the feedbacks are really matter to the SA. In reality, some supervisors in NGV often deliver the compliments, appreciation to recognize employees’ efforts or advices for them to improve their performance. Normally, these feedbacks are given immediately when the services are delivered in a verbal communication or via email. The supervisors do not wait until the formal session to provide the feedbacks. The prompt action really makes the employees satisfied as they perceive the recognition regularly and it becomes the motivation for them to aspire a higher achievement. Adams (2005) proves in her research the importance of feedbacks giving in the right way, for the right level of performance can help the receivers enhance their career development. To achieve the positive influence from the PFs, the supervisors and employees should discuss to set the measurement indicators, to determine what to do and how to reach those indicators. The indicators should focus on the outcomes rather the personalities of the employees.

The second consideration is about the “Frequency and Form” (FF). In the analysis, the null hypothesis is rejected, implying that the FF has the statistically significant relationship with SA. However, the relationship is nonlinear hence there is no linear equation is formed. The reason can be the employees do not prefer the formal frequency or form, says twice a year with written format. They expect the immediate and frequent feedbacks from

the supervisors. There might be some employees consider the formal ones are more professional, but the others think that way is rigid, not flexible and not timely. Hence, a change in this factor will not lead to a corresponding change in the overall satisfaction.

The next factor is the “Impartial (unbiased) judgment” (IJ). The simple regression analysis accepts the alternative hypothesis as the IJ has the significant impact on the SA. Many researchers state the fairness in evaluation as a vital element to attract the satisfaction to the performance appraisal system as it predicts the attitudes of the employees toward the company (Jehad et al., 2011). In practice, a few supervisors present a bias to the employees they like and put an unnecessary pressure to the staffs they do not favor by giving negative comments on their performance, or give them low scores. However, there is not a system or a third party to check the objective manner of the assessments, and the supervisors have all the power to decide how much to rate, how many percentages to review the salary, who to be promoted, etc. This is really demotivating the employees and make them frustrated on both the PMR system and the company.

The final factor is similar to the FF when there is a significant relationship with the SA, but not a linear one. It is the “Proper Process” (PP). With the acceptance of the alternative hypothesis, the research result shows an important determinant on the employees’ satisfaction on PMR system. As recommended by Cheng, Bai and Li (2009) an accurate and effective process will result a fair and effective outcome for the assessments, then reinforce the satisfaction of the employees on the system. However, as the perception of the employees about the procedure is different, the change in the PP might not lead to a parallel change in SA.

The multiple linear regression confirms the relationship between the above factors to the overall satisfaction on the current system. Nevertheless, an interesting finding is the final component of PFs. It does not present a linear relationship with SA individually, but when combined to the other components, it has the adverse effect on the SA, means that an increase in PP can lead to a corresponding decrease in SA.

## **6. Conclusion and Recommendation**

### **6.1. Conclusion**

This study provides the answers for two target questions suggested in conducting the research.

All the above analysis confirms two factors affecting the satisfaction on the current PMR system are “Perceived Usefulness” (PU) and “Perceived Fairness” (PFs). In which, PFs has stronger impact on the employees’ satisfaction on the PMR system (SA).

As PFs includes four components: Positive Feedbacks (PF), Frequency and Form (FF), Impartial (unbiased judgment) (IJ), Proper Process (PP), PF is the component having high and positive relationship with the SA, and the PP has negative impact on the SA.

The descriptive statistics shows that in 70% of employees joined the survey, there are 80% of them perceives that the current PMR system is useful and 66% perceive the fairness of the assessment, and the rate of employees have overall satisfaction is even lower, at 61%. A considerable sign is from the “dissatisfied” employees. 17% of them response that they do not believe the PMR system is fair, and this rate is nearly same with the overall dissatisfied on the system usage, 18%. This implies that the dissatisfaction is mostly resulted by the “perceived fairness” of the PMR process.

Among the responses about the usefulness perception, the positive purpose of the PMR usage is well recognized by the responders with the rate about 80%, they understand that the system will assist them in their career development, they know what expect them at work, what they should do to achieve their work – related goals via their discussion with their supervisors. This is a good implication of PMR system as it can be a motivation for

the employees to use the tool. However, the negative usage of the PMR system (for demotion and firing decisions) appears not to be applied popularly in the company with the rate under 40%, as in practical not so many supervisors use this tool for this purpose. This is both advantage and disadvantage for the company. The advantage is that if the supervisors use it in the right way, at the right case, it will help the company to reduce the incompetent or unproductive staffs. However, if it is used wrongly, it will demotivate the staffs who suffer the demotion or firing decision and the other in the same department as well. Besides, the procedure to conduct the PMR assessment is followed by the supervisors and the subordinates, presenting by the high agreement on the related questions.

The first impression about the fairness perception from the survey result is that the company strictly applies the PMR assessment to all the employees, regardless their experience or tenure. This is a “fair” sign of the system. However, during regression analysis, the procedure can have an adverse impact on the overall satisfaction. This can be linked to the fact that the assessment can be done by more than one assessor, sometimes it is unnecessary as increasing the pressure on the subordinates. Or in the case the raters or their subordinates are not well trained to conduct the assessment, they also feel that the procedure is waste of time and they can perceive the unfairness as the raters is not competence enough to evaluate their performance.

Moreover, the employees appear to unsatisfied with the system as they experience the feedbacks in a negative way, for example, the negative information is included in the assessment, or sometimes the situation constraints are not considered during the assessment. These negative experiences seem to impact on the fairness perception of the employees.

Generally, the current PMR system of NGV has both effective and ineffective aspects in helping the employees to aspire higher achievements. The recommendation to improve the ineffective section will be mentioned in the below part.

## **6.2. Recommendation**

### **Implication for the management of NGV**

The research exposes that the fairness perception of the employees plays a pivotal role in the success or failure of the PMR system. Therefore, the management should take into account this perception when modifying the current or designing a new performance appraisal system.

The end – users of the system will be the ones who decide whether the system is worthwhile to use, hence they should be get involved into every stage and step to improve the system. Their ideas should be positively listened and considered to add into the strategy to develop the system.

The result of the survey shows that the company is in a lack of “a grievance procedure” or “an independent party” to challenge the assessment when necessary. This will help to prevent the supervisors from biased evaluation on subordinates’ performance and to improve the fairness perception when the checking system is in place.

Current PMR system is for the supervisors to assess the performance of the subordinates. There is a need for a system where the subordinates can reflect their comments about their supervisors. Accompanying with the checking system, the company should apply the evaluate the leadership of the supervisors, such as the 360-degree feedback, Gallup12 or Dale Carnegie surveys, etc.

Feedbacks is statistically recognized as the factors having the most positive impact on the employees’ satisfaction on PMR system. London, Smither (2002) recommend many ways to improve the employees’ satisfaction on the performance appraisal system via improving the quality of the feedbacks from the supervisors. Some of them are:

- Enhancing the feedbacks' quality by training the supervisors to provide the useful feedbacks, setting clear standards related to organizational goals as well as clear performance measurements;
- Emphasizing the importance of a useful feedback in the company by using feedbacks to guide development, or encouraging the informal or frequent feedbacks rather than periodically feedbacks.

### Recommendation for further research

This study is an initial effort to understand the impact of the employees' perception on their satisfaction about the PMR system. The study reveals the importance of the fairness perception on the overall satisfaction on PMR system. Although the research is adopted from a published study, the analysis result may not be representative of the situation of the whole community as it is conducted for NGV employees only. The impact of the usefulness and fairness perceptions on the overall satisfaction may not represent or be similar to the impact in other organizations.

In the circumstance of NGV, certain factors might affect on the employee perceptions still does not considered in the research. Some more areas can be investigated in further research:

- The impact of the gender of raters and subordinates on the fairness perception
- The impact of the organization's industries on the feedbacks giving
- The impact of job level on the satisfaction on performance appraisal
- The role and level of the satisfaction on performance appraisal among the factors contributing to the job satisfaction
- How the perception of supervisors' feedbacks impacts on job satisfaction?
- The causal relationship among the factors impacting the employees' satisfaction on performance appraisal System. What could be more important determinants than "Perceived Usefulness" and "Perceived Fairness"?

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## Appendix

### Questionnaire

The questionnaire is designed to measure the satisfaction of the employees on the performance appraisal system (PMR system) in Navigos Group Vietnam JSC.

#### Demographic:

1. Which department are you working in? (multiple choices)
2. Your rank (multiple choices) (Director; Manager; Staff)
3. When did you join the company? (date choosing)
4. Have you ever taken part in a Performance Measurement Review session (PMR) in this company? (Yes/No)

#### Questions about the PMR system:

Please indicate the degree of your agreement on each statement by using the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

#### PMR satisfaction

SA1. (1) My current PMR system is useful

SA2. (2) My current PMR system is fair

SA3. (3) I am satisfied with my current PMR system

Please choose “True/False/Don’t know” to express your opinion about the statement:

#### PMR usefulness perception

UP1. (4) The PMR system is used for promotion decisions.

UP2. (5) The PMR system is used for making salary adjustments.

- UP3. (6) The PMR system is used for recognition purposes.
- UP4. (7) The PMR system is used for demotion decisions.
- UP5. (8) The PMR system is used for firing decisions.
- UP6. (9) The PMR system is used to identify training needs.
- UP7. (10) The PMR system is used for succession planning.
- UP8. (11) The PMR system includes a component where employees are given feedback on their assessment.
- UP9. (12) The PMR system assists employees in setting work-related goals.
- UP10. (13) Assessments are conducted by my immediate supervisor.
- UP11. (14) Assessments are done by myself.
- UP12. (15) Assessments are conducted bi - annually.
- UP13. (16) Assessments are conducted by our company's clients.
- UP14. (17) I keep weekly or bi-weekly records of my own performance.
- UP15. (18) Performance appraisal is conducted to identify my career path within the organization.

**PMR fairness perception**

- FP1. (19) My supervisor collects performance information from other sources such as peer/customer before making an assessment.
- FP2. (20) A grievance procedure is in place to challenge assessments if necessary.
- FP3. (21) When my experience or tenure increases, assessments are made less frequently.
- FP4. (22) There is more than one assessor to assess my performance.
- FP5. (23) Any negative information (e.g. missing a deadline) is included in the assessment regardless of whether there has been improvement.
- FP6. (24) The PMR system considers the improvement when an evaluation is conducted.
- FP7. (25) All employees in my company have their performance evaluated regardless of rank or tenure.
- FP8. (26) I am evaluated on how well I perform my individual tasks or behaviors.

FP9. (27) Performance evaluation forms include a written (i.e. narrative) assessment.

FP10. (28) Numerical ratings of performance are included in the assessment report.

FP11. (29) Any performance feedback is given in writing whether or not there is a formal meeting with the supervisor to discuss the assessment.

FP12. (30) I am evaluated on my competencies.

FP13. (31) A formal meeting is held where I am given verbal feedback on my performance assessment.

FP14. (32) PMR is only conducted for employees considered less than “standard” in their performance.

FP15. (33) Evaluations are checked by an independent source other than the primary assessor for accuracy and fairness.

FP16. (34) A numerical rating indicating overall performance is calculated as part of the assessment.

FP17. (35) Raters are provided adequate training in conducting performance appraisals.

FP18. (36) Employees in my company are provided adequate training in how to actively participate in the appraisal process.

FP19. (37) The PMR system focuses more on positive aspects of performance than on negative aspects of performance.

FP20. (38) The PMR system puts adequate emphasis on team performance.

FP21. (39) For each area of performance, the PMR system provides information concerning how myself compares to other employees in the same job family.

FP22. (40) The formal PMR meeting between employer and employee takes from one to two hours.

FP23. (41) Situational constraints are taken into account when the assessment is conducted.

FP24. (42) The various aspects of performance on which an employee is assessed are appropriate.

## ***Performance Evaluation of Indian Cement and IT Companies: An Efficiency-Profitability Matrix Approach***

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### **Abstract**

*The major purpose of this paper is to evaluate the performance and to classify various Indian cement and IT companies in relation to efficiency and profitability. Finally, study investigates the effect of cash profit on this classification of cement and IT companies in India. To accomplish the above objectives, financial statements for the year 2013-14 of top ten cement and IT companies were obtained from their annual reports. The present study incorporates data envelopment analysis input-oriented CCR (Charnes, Cooper and Rhodes) constant returns to scale model and BCC (Banker, Charnes, and Cooper) variable returns to scale model to determine relative overall technical, pure technical and scale efficiency by considering operating expenses and net fixed assets at the beginning of the year as inputs, and sales and profit after tax as outputs. Further, profitability is measured in terms of return on equity. An efficiency-profitability matrix is constructed based on the characteristics of DEA scale efficiency and ROE to classify these companies from best to worse. The findings of the study show that out of 10 cement companies, two companies namely Sree Cements and Dalmia Bharat Cement are in the stars quadrant as efficient and highly profitable. Three companies are inefficient but highly profitable and plotted in the cash cows quadrant. Half of the companies are found in dogs quadrant as inefficient and low profitable. In case of IT companies three companies namely HCL, TCS and Tech Mahindra out of ten companies are found in stars quadrant as efficient and highly profitable. Larson & Turbo Infotech is found in cash cows quadrant as inefficient and highly profitable and Tech Mahindra is found in sleepers quadrant, as efficient and less profitable, respectively. Sixty percent of IT companies are found in dogs quadrant as inefficient and low profitable. Effect of cash profit has been measured by observing the changes in position of cement and IT companies in efficiency-profitability matrix. For this purpose cash profit has been used as output variable instead of profit after tax in the DEA model to determine the relative efficiency. The results highlight that there is no change in the position of cement companies in efficiency-profitability matrix. However, in case of IT companies TCS position got changed from stars quadrant to cash cows quadrant. This shows that cash profit effects the performance of IT companies.*

**Keywords:** *Cash profits, Efficiency, financial, Profitability, Matrix etc.*

### **Introduction**

Financial performance evaluation either at business level or industry level is a central focus for any business entity, such that financial strengths and weaknesses can be identified, and necessary measures can be taken to avoid huge losses. Financial ratios are the common and widely used tool to assess the financial performance of any business entity. With the developments and increased competition, there is a demand for more comprehensive and strategic measures of financial performance. Uncertainty and increased competition had made decision-makers to incorporate more of econometric and mathematical models in financial analysis. Further, business complexity has made it essential to assess the performance from multi-dimension and with multi-variables from each dimension. Further, classification of the business entities as best performer to worse performer based on multiple measures of performance may help the business entity to adapt appropriate strategy for the longer sustainability. The present study attempts to classify the Indian Cement and IT companies as best to worse performer based on efficiency and profitability.

## Review of Literature

There are many research works done on financial performance at the national and international level for varied industries. Studies like Manjula and Sabarinatham (2015), Mohan et.al. (2015), Ajamal (2015), Geetha and Ramsamy (2014), Gandhimathi and Ramasamy (2014), Naik and Patel (2014), Venkateswaraulu (2014), Panigrahi (2013), Rajesh et.al (2012), Franklin and Revathi (2011), Sofat (2010), Chandrasekhara (1993), and Nagarajrao and Chandar (1980) assessed the financial performance of cement companies in India. Most of these studies particularly focused on comparing profitability, liquidity, and solvency of the Cement companies in India. Further, few of these studies attempted to understand the influence of liquidity, solvency on profitability.

Studies like Selvakumar and Paneerselvam (2014), Usha (n.d.), Shenbagam Kannappan (2015), assessed and compared the financial performance of software companies in India with respect to ratio analysis. Shah and Sengupta (n.d.) assessed the financial performance of various software companies in India with reference to economic value added, market value added, cash value added, and total shareholder's return. However, these studies have assessed the financial performance of Cement and IT companies using financial ratios, further, business complexity has made it essential to assess the financial performance from multi-dimension and with multi-variables from each dimension.

## Research Objectives

1. To examine the financial efficiency and profitability of Indian Cement and IT companies.
2. To classify Cement and IT companies from best to worse based on the efficiency-profitability matrix.
3. To investigate the affect of cash profit on the classification of Cement and IT companies based on efficiency-profitability matrix.

## Research Hypothesis

- H01: Financial efficiency does not affect the profitability in the Cement companies.  
H02: Financial efficiency does not affect the profitability in the IT companies.

## Research Methodology

To accomplish the above objectives, financial statements for the year 2013-14 of top ten cement and IT companies were obtained from their annual reports. The present study incorporates data envelopment analysis input-oriented CCR (Charnes, Cooper and Rhodes) constant returns to scale model and BCC (Banker, Charnes, and Cooper) variable returns to scale model to determine relative overall technical, pure technical and scale efficiency by considering operating expenses and net fixed assets at the beginning of the year as inputs, and sales and profit after tax as outputs. Further, profitability is measured in terms of return on equity. An efficiency-profitability matrix (Boussofiane and Dyson 1991; Camanho and Dyson 1999; Avkiran 2006) is constructed based on the characteristics of DEA scale efficiency and ROE to classify these companies from best to worse.

## Results and Discussion

### Efficiency analysis

Efficiency of unit can be judged in two ways. The first way is producing maximum output with given inputs and second ways is producing given output with the minimum inputs. Former is an output-oriented approach and latter is input-oriented approach to determine the efficiency. CCR model with the assumption of constant returns to scale is incorporated to examine the overall technical efficiency (OTE) of various manufacturing industries.

The CCR with the assumption constant returns to scale model is suitable when all the entities are operating at an optimal scale. There are many internal and external factors like Constraints in the operating environment, for instance, imperfect competition, financial and human resource constraints, amongst other factors, causing an entity to operate at non-optimal scale. To overcome the drawback of CCR constant returns to scale model BCC variable returns to scale model is appropriate (Banker et.al, 1984). The technical efficiency measured under constant returns to scale model is annoyed by scale efficiency for a reason all the units or industries may not be operating at optimal scale. Therefore, VRS model of examining efficiency is a better measure than CRS model as it excludes the scale efficiency (SE) effects. Pure Technical Efficiency was for various manufacturing industries were determined by incorporating BCC variable returns to scale input-oriented model.

There is a possibility the technical efficiency scores estimated using CRS and VRS model may differ for a particular DMU. Scale inefficiency is the cause of this difference. This contradiction in the two efficiency scores demands the estimation of Scale Efficiency (SE) score. Scale Efficiency is determined by dividing the overall technical efficiency (OTE) score by pure technical efficiency (PTE) score. A DMU is said to be operating at optimal scale if it gets the SE score of equal to one, SE score of less than one shows scale inefficiency indicating the DMU is not operating at optimal scale this indicates entity is either too big or too small. In the present study two different models were used to determine and compare the relative efficiency of cement and IT companies.

**EXHIBIT-1: TWO MODELS USED TO DETERMINE THE RELATIVE EFFICIENCY OF CEMENT & IT COMPANIES**

<b>First DEA Model:</b>	Inputs Variables: Operating Expenses and Net Fixed Assets at the beginning of the year Output Variables: Revenue from Operations and Profit after tax
<b>Second DEA Mode:</b>	Inputs Variables: Operating Expenses and Net Fixed Assets at the beginning of the year Output Variables: Revenue from Operations and Cash Profit (PAT + Depreciation)

Table-1 shows the overall technical efficiency, pure technical efficiency, scale efficiency and super efficiency scores of top ten cement companies for the year 2013-14. The results of the first models shows that Shree cements and Dalmia Bharat Cement are the only two companies found efficient with OTE, PTE and SE score of equal to one. Ultra Tech Cement Ltd, Ambuja Cement and ACC Ltd were also found efficient with PTE score of equal to one. Super efficiency scores help in identifying the most efficient unit. It is evident from the Table-1 that Dalmia Bharat Cement is most efficient company among all, followed by Shree Cement and so on. The results of the second model in Table-1 show the similar pattern of the results, however there are some changes witnessed in case of overall technical efficiency, scale efficiency and super efficiency scores for few companies. Ambuja Cement overall technical efficiency, scale efficiency and super efficiency reduced to 0.941, 0.941 and 0.941, respectively. Dalmia Bharat Cement witnessed low super efficiency score of 8.690 in comparison to first model's super efficiency score of 14.07, whereas, Shree Cement witnessed little higher super efficiency score of 1.153 in comparison to score in first model.

**TABLE-1: TECHNICAL, SCALE AND SUPER EFFICIENCY OF CEMENT COMPANIES FOR THE YEAR 2013-14**

Companies	First Model				Second Model			
	O TE	P TE	SE	Super Efficiency	O TE	P TE	SE	Super Efficiency
Ultra Tech Cement Ltd.	0.941	1.000	0.941	0.941	0.941	1.000	0.941	0.941
Shree Cement	1.000	1.000	1.000	1.108	1.000	1.000	1.000	1.153
Ramco Cements	0.873	0.877	0.995	0.873	0.873	0.877	0.995	0.873
Prism Cement	0.786	0.787	0.999	0.786	0.786	0.787	0.999	0.786
Orient Cement	0.898	0.915	0.981	0.898	0.898	0.915	0.981	0.898
J K Cement	0.882	0.888	0.993	0.882	0.882	0.888	0.993	0.882
India Cements	0.869	0.871	0.998	0.869	0.869	0.871	0.998	0.869
Dalmia Bharat Cement	1.000	1.000	1.000	14.071	1.000	1.000	1.000	8.690
Ambuja Cement	0.970	1.000	0.970	0.970	0.941	1.000	0.941	0.941
ACC Ltd	0.876	1.000	0.876	0.876	0.876	1.000	0.876	0.876

Table-2 shows the overall technical efficiency, pure technical efficiency, scale efficiency and super efficiency scores of top IT companies for the year 2013-14. The results of the first models shows that HCL, TCS, and Tech Mahindra are the three companies found efficient with OTE, PTE and SE score of equal to one. KPIT, Zensar Technologies and Hexaware Technologies were also found efficient with PTE score of equal to one. Super efficiency scores help in identifying the most efficient unit. It is evident from the Table-2 that Tech Mahindra is most efficient company among all, followed by HCL, TCS and so on. The results of the second model in Table-2 show the similar pattern of the results, except for the TCS. TCS found inefficient with OTE and SE score of less than one, further its super efficiency score also reduced to 0.980. HCL witnessed a higher super efficiency score of 1.555 in comparison to the score obtained using first model.

**TABLE-2: TECHNICAL, SCALE AND SUPER EFFICIENCY OF IT COMPANIES FOR THE YEAR 2013-14**

Companies	First Model				Second Model			
	O TE	P TE	SE	Super Efficiency	O TE	P TE	SE	Super Efficiency
HCL	1.000	1.000	1.000	1.521	1.000	1.000	1.000	1.555
Infosys	0.887	0.906	0.979	0.887	0.887	0.906	0.979	0.887
KPIT	0.770	1.000	0.770	0.770	0.770	1.000	0.770	0.770
Larson & Turbo Infotech	0.949	0.958	0.991	0.949	0.949	0.958	0.991	0.949
Mindtree	0.859	0.874	0.983	0.859	0.859	0.874	0.983	0.859
TCS	1.000	1.000	1.000	1.009	0.980	1.000	0.980	0.980
Tech Mahindra	1.000	1.000	1.000	1.559	1.000	1.000	1.000	1.559
Wipro Ltd	0.875	0.889	0.984	0.875	0.875	0.889	0.984	0.875
Zensar Technologies	0.937	1.000	0.937	0.937	0.937	1.000	0.937	0.937
Hexaware Technologies	0.811	1.000	0.811	0.811	0.811	1.000	0.811	0.811

### Differences in Profitability

The Table-3 shows the influence of efficiency on profitability. For this purpose the efficient companies return on equity is compared with the inefficient companies using t-test. The obtained t-value of -1.157 and 0.749 shows that profitability in both the industries do not differ significantly for the efficient and inefficient companies at 5 percent level of significance.

**TABLE-3: DIFFERENCES IN PROFITABILITY BETWEEN EFFICIENT AND INEFFICIENT COMPANIES**

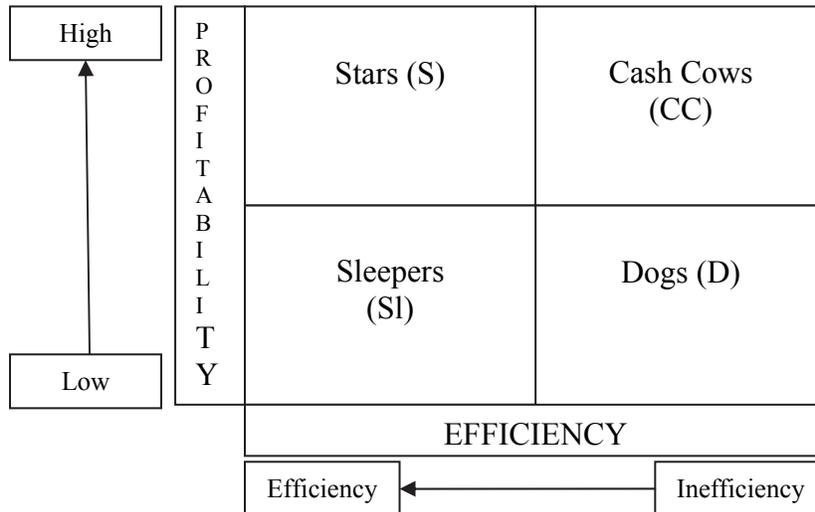
Industry	Efficiency	Mean	Std. Dev	t-value	Sig
Cement	Efficient	12.71	5.65	-1.157	Insignificant
	Inefficient	5.18	8.52		
IT	Efficient	37.07	5.39	0.749	Insignificant
	Inefficient	30.33	14.70		

### Efficiency and Profitability Matrix

The major purpose of the paper is to examine the effect of cash profits on positioning of cement and IT companies in efficiency-profitability matrix. The Efficiency-Profitability matrix was constructed separately for cement and IT industry using both technical efficiency and return on equity of the ten selected companies. The technical efficiency ratio was preferred to scale efficiency because it is a more comprehensive measure of both pure technical and scale efficiency. The resulting matrix was used to identify the companies in each corresponding category. Boussofiane, Dyson and Thanassoulis (1991) proposed efficiency-profitability matrix, later Camanho and Dyson (1999) used it for Cyprus banks. Ioanna Keramidou, Angelos Mimis, Aikaterini Fotinopoulou and Chrisanthos D. Tassis. (2011) incorporated efficiency-profitability matrix to study the relationship between efficiency and profitability for Greek Meat Processing companies. Cheng-Ru Wu et.al (2008) and Hui-Yin Tsai et.al (2011) constructed profitability efficiency and operational efficiency matrix Hong-Kong commercial banks and Chinese banks. Saleem and M. S. Reddy (2015) used efficiency-profitability matrix to identify potential industries in Indian manufacturing sector for the purpose of investment. This study incorporates the dimensions of efficiency-profitability matrix in reference to Keramidou et.al. (2011) and classification of quadrants in reference to Cheng-Ru Wu et.al (2008).

The first quadrant the matrix is Stars and the industries in this quadrant are efficient and profitable. Industries in this quadrant can be taken as benchmark industries for other industries. The second quadrant is Sleepers and industries in this quadrant are efficient but not generating good profits. This is due to many unfavourable environmental factors. Third quadrant represents Dogs where industries are inefficient and low profitable. These industries have greater potential for improvement in efficiency and profitability. And the final quadrant represents Cash Cows, industries which are inefficient but still able to generate high profits come under this category. Further industries in this quadrant are operating in favourable environment and need some improvement in management of various resources.

**FIG.3.1: EFFICIENCY-PROFITABILITY MATRIX (PERFORMANCE MATRIX)**



Source: Hui-Yin Tsai, Cheng-Ru Wu\* and Ya-Mei Wang (2011)

The findings of the study show that out of 10 cement companies, two companies namely Sree Cements and Dalmia Bharat Cement are in the stars quadrant as efficient and highly profitable. Three companies are inefficient but highly profitable and plotted in the cash cows quadrant. Half of the companies are found in dogs quadrant as inefficient and low profitable (Table-4).

**TABLE-4: SCALE EFFICIENCY, RETURN ON EQUITY AND POSITION OF CEMENT COMPANIES IN THE MATRIX (1<sup>ST</sup> MODEL BASED)**

Company	SE	Class	ROE	Class	Position
Ultra Tech Cement Ltd.	0.941	Ineff	12.54	High	CC
Shree Cement	1.000	Eff	16.71	High	S
Ramco Cements	0.995	Ineff	5.55	Low	D
Prism Cement	0.999	Ineff	-8.10	Low	D
Orient Cement	0.981	Ineff	1.22	Low	D
J K Cement	0.993	Ineff	5.52	Low	D
India Cements	0.998	Ineff	-4.22	Low	D
Dalmia Bharat Cement	1.000	Eff	8.71	High	S
Ambuja Cement	0.970	Ineff	14.81	High	CC
ACC Ltd	0.876	Ineff	14.19	High	CC
<b>Average</b>			6.69		

In case of IT companies three companies namely HCL, TCS and Tech Mahindra out of ten companies are found in stars quadrant as efficient and highly profitable. Larson & Turbo InfoTech is found in cash cows quadrant as inefficient and highly profitable and Tech Mahindra is found in sleepers quadrant, as efficient and less profitable, respectively. Sixty percent of IT companies are found in dogs quadrant as inefficient and low profitable (Table-5).

**TABLE-5: SCALE EFFICIENCY, RETURN ON EQUITY AND POSITION OF IT COMPANIES IN THE MATRIX (1<sup>ST</sup> MODEL BASED)**

Company	SE	Class	ROE	Class	Position
HCL	1.000	Eff	38.01	High	S
Infosys	0.979	Ineff	24.22	Low	D
KPIT	0.770	Ineff	14.30	Low	D
Larson & Turbo Infotech	0.991	Ineff	61.42	High	CC
Mindtree	0.983	Ineff	27.50	Low	D
TCS	1.000	Eff	41.94	High	S
Tech Mahindra	1.000	Eff	31.27	Low	SL
Wipro Ltd	0.984	Ineff	25.16	Low	D
Zensar Technologies	0.937	Ineff	29.06	Low	D
Hexaware Technologies	0.811	Ineff	30.69	Low	D
<b>Average</b>			32.36		

#### Cash Profit Influence

Effect of cash profit has been measured by observing the changes in position of cement and IT companies in efficiency-profitability matrix. For this purpose cash profit has been used as output variable instead of profit after tax in the DEA model to determine the relative efficiency.

The results highlight that there is no change in the position of cement companies in efficiency-profitability matrix (Table-3). However, in case of IT companies TCS position got changed from stars quadrant to cash cows quadrant (Table-4).

**TABLE-3: SCALE EFFICIENCY, RETURN ON EQUITY AND POSITION OF CEMENT COMPANIES IN THE MATRIX (2<sup>ND</sup> MODEL BASED)**

Company	SE	Class	ROE	Class	Position
Ultra Tech Cement Ltd.	0.941	Ineff	12.54	High	CC
Shree Cement	1.000	Eff	16.71	High	S
Ramco Cements	0.995	Ineff	5.55	Low	D
Prism Cement	0.999	Ineff	-8.10	Low	D
Orient Cement	0.981	Ineff	1.22	Low	D
J K Cement	0.993	Ineff	5.52	Low	D
India Cements	0.998	Ineff	-4.22	Low	D
Dalmia Bharat Cement	1.000	Eff	8.71	High	S
Ambuja Cement	0.941	Ineff	14.81	High	CC
ACC Ltd	0.876	Ineff	14.19	High	CC
<b>Average</b>			6.69		

**TABLE-4: SCALE EFFICIENCY, RETURN ON EQUITY AND POSITION OF IT COMPANIES IN THE MATRIX (2<sup>ND</sup> MODEL BASED)**

Company	SE	Class	ROE	Class	Position
HCL	1.000	Eff	38.01	High	S
Infosys	0.979	Ineff	24.22	Low	D
KPIT	0.770	Ineff	14.30	Low	D
Larson & Turbo Infotech	0.991	Ineff	61.42	High	CC
Mindtree	0.983	Ineff	27.50	Low	D
TCS	0.980	Ineff	41.94	High	CC
Tech Mahindra	1.000	Eff	31.27	Low	SL
Wipro Ltd	0.984	Ineff	25.16	Low	D
Zensar Technologies	0.937	Ineff	29.06	Low	D
Hexaware Technologies	0.811	Ineff	30.69	Low	D
<b>Average</b>			32.36		

### Conclusion

The purpose of this paper is to assess the performance of Indian cement and IT companies from multi-dimension and to identify its strengths and weaknesses by exploring the relationship between efficiency and profitability. Further, it is clear from the study that cash profit effects the IT companies positioning in efficiency-profitability matrix but not the cement companies. However, the technical efficiency scores in both the industries for few companies witnessed slight differences due to change in the input-output variables used in DEA model. The results of the study may help the companies in developing necessary strategies to improve their performance.

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## ***Relevance of Ethics Program Components in Slovakia***

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### **Abstract**

*The aim of the article is to examine to what extent can the different formal components of an ethics program of the organization influence ethical thinking of managers. As the main source of information an extensive empirical research was carried out on a sample of 810 managers working in the Slovak business environment. The authors studied eleven formal elements of the ethics program and found out that all positively referred to the ethical thinking of managers. Thus organizations, in which formal elements of an ethics program are applied, have a greater ability to influence the ethical thinking of managers than organizations, which avoid the respective ethical mechanisms.*

**Key words:** *business ethics, ethics program, managerial ethical thinking*

### **Introduction**

Long-term and successful development of business ethics in organizations is linked to the functioning of a sound ethics program. In the period when business ethics began to develop in Slovakia, the notion of organizational ethics program was quite unknown in both the theory and praxis. In Slovak conditions, the business ethics began to develop first as an academic discipline in the 90s of the last century. Its subsequent application in praxis is associated with the transition of the economics based on state ownership and central planning to a market economy with the dominance of private property. At that time, the issues of ethical regulation of the economics were at a periphery of attention for both the new businesses as well as for the state authorities. It was generally assumed that the legislative framework is a sufficient normative regulator for business in a market economy (Remišová, 1997).

The end of the 90s introduced several changes in the business philosophy. Especially businesses that introduced strategic plans for a long-term development realized that their economics strategy cannot be applied in unethical business environment and that to reach their objectives, it is necessary to develop and adhere not only to legislative and political frameworks, but also to an ethical framework. Yet, in Slovak environment the latter was in this era completely absent.

The first ethical mechanism that businesses implemented in order to regulate the employee conduct were corporate codes of ethics. In 1997 the first survey was conducted in Slovakia on codes of conduct, which brought an interesting finding: 18.12% of the 276 companies had codes of ethics (Remišová, 1998). This result was comparable with the results of research carried out at that time in Germany and Switzerland (Ulrich, Lunau and Weber, 1996), while in Western Europe the business ethics began to develop about ten years earlier, that is in the 80s of the 20th century, and under considerably different economics circumstances. The crucial impulse to the development of business ethics in Slovakia emerged from business subjects at the mezzo-level of society.

The image of business ethics in Slovakia has significantly changed during the next twenty years. In the academia the business ethics has become a part of social science research at universities and today it occupies an important place in the CEE countries. What still appears somehow problematic is the area of teaching business ethics at universities with business and economics focus, because the subject of business ethics is taught mostly only as an optional course. As a pioneering act we consider the teaching of business ethics at the Faculty of Management

at Comenius University in Bratislava, where business ethics is being taught as a compulsory course in master studies since 2015.

In the considered period of the last 25 years, the lack of long-term systematic state and legislative support still remains to be the weak point in the development of business ethics in business praxis in Slovakia. Although there is no denying that the government and parliament have taken a number of positive measures in order to combat illegal and antisocial practices in business, for instance the Act on reporting of anti-social activities (i), the legal regulation on criminal liability of legal persons (ii), some actions against tax evasion and corruption, etc., the state intervention in such an extent and importance like the directives that have been adopted by the US government known as the Federal Sentencing Guidelines for Organizations, are still unknown in Slovakia.

As aforementioned, the initial development of business ethics in organizations in our country is associated with the adoption of codes of ethics. Praxis has shown that the mere existence of a code of ethics in an organization is not sufficient to guarantee the creation of an ethical organizational culture. Empirical evidence brought ethically sensitive organizations to recognize that in order to have a code of ethics that works effectively, it must be accompanied by a number of other ethical mechanisms and activities that together constitute a comprehensive system. Such a system is in theory labeled as the *ethics program of the organization*.

In Slovak conditions, the theory of business ethics was confirmed, that ethical issues can be developed only when they become an integral part of the *system of organizational management*: business ethics has to be *planned, organized, people have to be led accordingly*, and it must be *monitored and assessed continuously*.

In our country we were so far incapable to enforce ethics program as an interconnected set of comprehensive measures to ensure the long-term ethical development of an organization. We assume that the primary cause is that the management of ethics has been in our country a new cultural issue. Businesses in Eastern and Central Europe were disadvantaged in the application of business ethics not only because they were drawn away from the social sciences theory, and not excluding business ethics, but also because they had no experience with the operation of the market and the way of dealing with private ownership and competition, which form the core of the market economy. The vast majority of applied ethics program elements came to the awareness of our theoreticians and practitioners from the theory and praxis in the USA, where business ethics as a science was founded already in the 70s of the 20th century and from there spread to the Western and later also to Eastern Europe. At the risk of mechanical application of the American experience and on the impact of cultural factors on the effectiveness of ethics development in the organization Gary R. Weaver warned in an article from 2001 titled *Ethics Program in Global Business: Culture's Role in Managing Ethics*. In our conditions a story is being told about the first Slovak book on business ethics, written by the American philosopher and theologian of Slovak origin, Arnold Luknič. This was the first professional publication on business ethics in Central and Eastern Europe. The book entitled *Ethics – The fourth dimension of business* was published in 1994 at own expenses of the author. The book referred to a large amount of theoretical knowledge and practical examples and contained a solid list of references. At the time of the issuing of the monograph, however, Slovak professionals and entrepreneurs were not “mentally” prepared for this useful information because this knowledge did not correspond with their experience and understanding. Until 1991 there was no literature in Slovakia in the field of business ethics or even the knowledge that such a form of applied ethics has evolved into a systematic theory. Many theories and practical experiences published in the respective publication got a sense for our readers just a few years later – when market economy became a reality and scientific knowledge about the integration of ethics and economics has spread (Remišová, 2015).

### **Current approaches to ethics programs**

There are numerous scientific studies dealing with the issue of implementation of ethics in governance and ethics programs in organizations. However, according to Kaptein studies concentrate usually only on some elements of an ethics program, usually on a code of ethics (Kaptein, 2011) or ethics education (Delaney and Sockell, 1992;

Warren, Gaspar and Laufer, 2014). Our research is considered to be the first one that monitors the impact of the main formal elements of ethics program onto the ethical thinking of managers from all areas of social life.

Although in Slovak business practice still ethics programs are not widespread purposefully introduced, the very term organizational ethics program (OEP) has been known on the theoretical level for a longer time. It was first used by already mentioned author A. Luknič (1994). According to Luknič, OEP “is established by values, policies and activities that support the organization’s righteous operations. Although not all corporate activities are part of the OEP, their large part has an ethical “charge” (Luknič, 1994, p. 213).

From the academic discourse on OEP, we focused on those issues that we consider to be significant with respect to our research subject. In particular, we noticed that the term OEP is often defined through the enumeration of elements that make it up. Such a practice is obviously linked to the fact that the organizational praxis originated first individual forms of institutionalization of ethics, such as for instance codes of ethics, helpdesks, ethics trainings, boards of ethics, and ethics officers, whose operations logically required a systematic approach to the development of business ethics in the organization, that is to the adoption of a ethics development program in organization. Metaphorically speaking, the OEP begins by creating the first form of ethics institutionalization. Brenner commented on this that “all organizations have ethics program, but most do not know they do” (Brenner, 1992, p. 391).

Theorists have tried to create a comprehensive picture of the phenomenon by clarifying the structural elements OEP. In the discussion on the OEP components, a strong tradition has the differentiation of OEP to *explicit and implicit components*. Explicit elements are considered codes of ethics, ethics committees, ethics hotlines, ethics audit, ethics trainings, educational materials, as well as managerial declarations, decisions of the board of directors, conclusions of the members of boards of ethics, and formalized actions of staff responsible for business ethics in organization. Implicit OEP elements entail issues like organizational cultures, changes in the organizational structure, incentive systems, and evaluations of behavior, promotion policies, performance appraisal systems, or daily conduct of managers (Luknič, 1994, p. 213–214 (iii)).

Some authors differentiate *structural and behavioral dimension* of OEP components (Brenner, 1992, p. 391), or some others distinguish *formal and informal* OEP elements (Weaver, Trevino and Cochran, 1999; de Colle and Werhane, 2008). The *formal* ethics program consists of a code of ethics, the ethics committee, ethics communication system, ethics officer or ombudsman, ethics training, and disciplinary processes. Weaver, Trevino and Cochran (1999) note that formal ethics programs can be conceptualized as organizational control systems aimed at standardizing employee behavior within the domains of ethics and legal compliance. Apart from the various terms used to describe OEP components, the substance of its classification remains in our opinion the same – on the one hand there are the elements of an ethics program that arise by institutionalization of ethics into the organization and take the form of specific mechanisms, and on the other hand, there are policies, actions and mental entities implementing the mission of OEP into all processes within the organization (Majluf and Navarette, 2010; Jose and Thibodeaux, 1999; Koonmee, Singhapakdi, Virakul and Lee, 2010). Studies on OEP that are concerned with the OEP structure in the framework of such a two-dimensional understanding of OEP, yielded a number of new OEP research suggestions. However, we think that today it is already insufficient to distinguish only two basic categories of OEP elements, because such an approach explains rather insufficiently the essence of the program, whose main mission is to develop business ethics in the organization.

A more complex differentiation is found in Johnson and Abramov (2004, p. 53) who argue that an effective OEP contains the following elements: 1. Standards and procedures to guide member behavior and foster reasonable stakeholder expectations; 2. Adequate structures and systems that provide for authority, responsibility, accountability, and sustainability; 3. Communication of standards, procedures, and expectations to the enterprise's Members; 4. Programs that monitor and audit member conduct; 5. Encouragement of members to seek advice and report concerns; 6. Due diligence in hiring, especially for sensitive positions in, for example, management, finance,

and contracting; 7. Encouragement of members to follow standards and procedures; 8. Appropriate responses when standards and procedures are violated; 9. Regular evaluations of program effectiveness. Such structuring of the ethics program already reflects the complexity of managing ethics in organizations, and helps to create a comprehensive picture of the OEP as a working system.

In our research, we understand OEP as a *complex system of logically related ethics assumptions, values, rules, procedures and methods of communication that implements the organization in order to ensure long-term and continuous development of ethics in its organizational culture* (Remišová, 2015). Remišová underlines that the core of any ethics program is the code of ethics as a complex of ethics values, standards and principles that have become a standard of conduct for organizational members. In order these ethics requirements could become true ethical behavior regulators, organization has to establish transfer channels for their transmission; that is to create an infrastructure for regulation of the conduct of each organizational member. Without such an infrastructure, code of ethics is only a sheer marketing tool. Construction of the infrastructure requires metaphorically speaking, an engine; being it the complete and all-inclusive organizational communication, which aims to transform and promote ethics in every sphere of organizational activity. We consider that the OEP analysis should place greater emphasis on the fact that it is a *program* that includes a variety of elements – from values, through ethics infrastructure, till enforcement of its ideas into all organizational activities. And we incline to the idea that a particular ethics program consists of the following components (Remišová, 2015):

1. Set of values and ethical requirements (norms, principles).
2. Ethics infrastructure.
3. Forms and means of communication in the organization.

This approach to OEP correlates with our understanding of OEP as a *comprehensive system of regulation of conduct and dissemination of ethics in the organization*, as opposed to prevalent and relatively popular understanding of OEP as a control system (Weaver, Trevino and Cochran, 1999; Stansbury and Barry, 2007; Kaptein, 2009, 2014 (iv)).

In our research, we aimed to study the impact of structural (formal) OEP components on the ethical thinking of managers. When defining the structural elements of OEP we derived especially from the works of authors Wieland (1993), Joseph (2002), Weber and Fortun (2005), Ulrich, Lunau, and Weber (1996), Jose and Thibodeaux (1999), Weaver, Trevino and Cochran (1999), Johnson and Abramov (2004), Maak and Ulrich (2007), Kaptein (2009, 2014), Koonmee Singhapakdi, Virakul and Lee (2010), Majluf and Navarette (2011), as well as from works and practical experiences with the application of business ethics in Slovakia by Remišová (1998, 2011a, 2011b, 2015).

For easier orientation in a large number of formal OEP elements we considered to be it more effective to divide them into five main categories (Remišová 2011b, 2015); each of these categories contains separate forms of institutionalization of ethics, as shown in Table 1.

TABLE 1: FORMAL ELEMENTS OF ETHICS PROGRAM IN ORGANIZATION

<b>Forms of ethics institutionalization in organization</b>				
<b>Documents and written materials</b>	<b>Information channels</b>	<b>Subjects and bodies</b>	<b>Education forms</b>	<b>Control mechanisms</b>
Code of ethics	Hotlines (boxes, internet)	Ethics council	Seminar on ethics	Ethics monitoring
Ethical leitmotiv	Ethics roundtables	Ethics director	Seminar section on ethics	Ethics control
	Ethics discussion forums	Ethics officer	Ethics workshop	Personal talks on ethics
		Ombudsman	E-learning activities	
		Ethics advisor	Ethics advisory column	

Source: Remišová, 2011b, p. 71.

Which of the forms of institutionalization of business ethics will become indeed a component of the ethics program of any particular organization depends on the specific social, economic, political and cultural factors, in which the organization operates, further on its economic situation, field of activity, size, organizational culture, quality of management, and also on demographic and the educational background of employees (Brenner, 1992; Trevino and Weaver, 2001; Kaptein, 2009).

Next part of the paper refers briefly on research design and methodological background of our study of the perceived impact of selected formal OEP elements on the ethical thinking of Slovak managerial personnel (v).

### Research methodology

This study is part of a broader designed research on ethical leadership and other relevant managerial ethics issues in Slovakia (see Remišová, Lašáková, Rudy, Sulíková, Kirchmayer and Fratričová, 2015). The sample consisted of 810 Slovak managers working at different levels of management (25.8% of the sample was populated by top managers, 36.2% by middle managers, and 35.2% by low-level managers). As for other demographic characteristics, most of respondents occupied managerial position for a relatively long time; 38.4% of them worked as managers for more than 10 years, and 37% of the sample was active on a management positions from three to ten years. Nearly 22% of respondents had served on a managerial position for less than three years. As for their educational background, 6.2% of respondents had high school education, 13.1% had bachelor university degree, 66.8% had earned a master degree, and 12.1% completed doctoral studies at universities. Further, nearly 60% of the sample studied economics- or management-oriented study programs at universities and 53.5% of them indicated that they have attended at least once during their professional career an ethics training course offered by their employers. The majority of the sample (73%) was in the age cohort of 27 – 49 years, 15.6% in the age of 50 – 62 years, 7.3% was 18 – 26 years old, and 2.3% of the sample population had more than 62 years. As for the gender, 40.2% of the sample was populated by women.

We derived from a premise that the more OEP elements work in the organization, the greater the development of business ethics in its organizational culture (Kaptein, 2009). However, managers can apply various OEP elements only if they know them and consider them as suitable for shaping and influencing their ethical awareness and ethical orientation. We assume that a purposeful introduction of OEP will become a trend in the future development of business ethics in Slovak business praxis.

Our main objective was to determine which of the formal elements of an ethics program utilized and suitable in Slovak business environment, managers consider being appropriate, i.e. applicable factor for the formation of their ethical orientation. Our research focused on eleven elements of ethics program that respondents evaluated based on their capability to foster ethical development of managerial personnel. Their responses were classified into three response categories, namely “the element is suitable for the development of ethical thinking of managerial personnel”, “the element is not suitable for the development of ethical thinking of managerial personnel”, and “I do not know whether the element is or is not suitable”. Respondents were asked to evaluate the following elements of an ethics program:

- Functioning code of ethics.
- System of reporting mechanisms that ensures reporting of code of ethics violations.
- System of regular control of adherence to code of ethics.
- Regular solution of case studies focused on ethics at workplace.
- Regular ethics trainings at workplace.
- Regular ethics workshops at workplace.
- Regular ethics roundtables focused on resolution of ethics issues at workplace.
- Permanent opportunity to consult ethical issues with an external expert on ethics.
- Permanent opportunity to consult ethical issues with an ethics council.
- Permanent opportunity to consult ethical issues with an ethics director.
- Permanent opportunity to consult ethical issues with an ethics officer.

We posed three research questions:

1. Which of the ethics program elements Slovak managers perceive as being suitable for fostering managerial ethical thinking?
2. And vice versa, which of the elements of an ethics program are perceived by Slovak managers as being not suitable for fostering managerial ethical thinking?
3. Which category of ethics program components is the most and the least suited for development of managerial ethical thinking according to Slovak managers?

## **Research results**

Table 2 shows the research results on the perceived suitability of eleven ethics program components for fostering managerial ethical thinking from Slovak managers' point of view:

TABLE 2: RESULTS SUMMARY

Element of ethics program in organization	Suitable (in %)	Not suitable (in %)	Don't know (in %)
Functioning code of ethics	<b>89.32</b>	1.43	9.25
System of reporting mechanisms that ensures reporting of code of ethics violations	73.92	10.76	15.32
System of regular control of adherence to code of ethics	70.42	10.87	18.71
Regular solution of case studies focused on ethics at workplace	62.22	10.58	27.20
Regular ethics trainings at workplace	62.17	18.16	19.67
Regular ethics workshops at workplace	63.98	15.99	20.03
Regular ethics roundtables focused on resolution of ethical issues at workplace	60.68	15.83	23.49
Permanent opportunity to consult ethical issues with an external expert on ethics	47.79	19.42	32.79
Permanent opportunity to consult ethical issues with an ethics council/comitee	36.92	<b>23.64</b>	39.44
Permanent opportunity to consult ethical issues with a ethics director	36.16	23.01	<b>40.83</b>
Permanent opportunity to consult ethical issues with an ethics officer	62.64	12.20	25.16

As far as codes of ethics are concerned, we were interested in managers' opinion of **functioning codes of ethics**, i.e. we wanted our respondents to distinguish between functioning and lively codes of ethics that do serve as regulators of behavior and those that were adopted only for marketing purposes. A functioning code of ethics was considered as the most influential factor to foster managerial ethical thinking by 89.32 % respondents. On the second and third positions were placed **system of reporting mechanisms that ensures reporting of code of ethics violations** (73.92 %, 2<sup>nd</sup> place) and **system of regular control of adherence to code of ethics** (70.42 %, 3<sup>rd</sup> place). As the next were placed **regular ethics workshops** in the workplace (63.98 %, 4<sup>th</sup> place), **permanent opportunity to consult ethical issues with an ethics officer** (62.64 %, 5<sup>th</sup> place). More than a half of respondents consider as suitable factors for fostering managerial ethical thinking also regular educational activities such as **solution of case studies (vi) focused on ethics** (62.22 %, 6<sup>th</sup> place), **trainings focused on ethics in workplace** (62.17 %, 7<sup>th</sup> place) and **ethics roundtables focused on resolution of ethical issues at workplace** (60.68 %, 8<sup>th</sup> place). The last places in the order of factors enhancing managerial ethical thinking were taken by elements, which belong to the sphere of **subjects and bodies of institutionalisation of business ethics**. **Possibility to consult ethical issues with an external ethics professional** was marked as suitable factor by 47.79 % of respondents (9<sup>th</sup> place), and only 36.92 % of respondents (10<sup>th</sup> place) acknowledges this quality to possibility to consult ethical issues with an **ethics council or comitee**, and 36.16 % (11<sup>th</sup> place) to possible consultations with an **ethics director**.

We find it very positive that **each of the eleven given factors** was marked by minimum 36, 16 % of managers. We can state, that at least one third of all managers positively and comprehensively perceives the impact of individual components of OEP on managerial ethical thinking.

During the data analysis we have found out that the eleven researched elements have **sequenced into three basic groups** (see Table 3). There are only slight quantitative differences in the responses within

each group; on the other hand, when comparing the mean values of overall responses to the three possible answers, the differences between groups are noticeable. The groups are as follows:

1. **Formal behavior regulators.**
2. **Educational activities.**
3. **Subjects and bodies managing the ethics development.**

TABLE 3: SEQUENCES OF OEP ELEMENTS

Rank	OEP group	Suitable (mean value in %)	Not suitable (mean value in %)	Don't know (mean value in %)
1.	Formal behavior regulators	77.89	7.69	14.42
2.	Educational activities	62.26	15.14	22.60
3.	Subjects and bodies managing the ethics development	45.88	19.57	34.55

As shown in Table 3, codes of ethics together with measures that directly guarantee its functionality (i.e. control system and reporting mechanisms) have received the highest mean value for suitability as factors that positively affect managerial ethical thinking (77.89 %). The mean values for response category “not suitable” for this group (7.69 %), as well as the mean value for “not knowing” whether these factors positively affect managerial ethical thinking (14.42 %) were the lowest of all groups. The group was named **formal behavioral regulators** as together they form a basis for regulating employees’ behavior within an organization.

The second grouping of OEP factors was formed by different types of **educational activities** – workshops, training lectures, roundtables, case studies. The mean score for describing these activities as suitable to foster managerial ethical thinking was 62.26 %, and similarly they took second place in both "I do not know" (15.14%) and "not suitable" (22.60 %) response categories.

The third group of factors consisted of **subjects and bodies managing the ethics development**, i.e. ethics director, ethics officer, ethics council/comitee, and external expert on ethics. This group scored lowest in all three response categories; 45.88 % of respondents considered these elements “suitable” for fostering manaregial ethical thinking, 19.57 % considered them “not suitable”, and 34.55 % of respondents did not know whether they can contribute to enhancing ethical thinking.

## Discussion

The fact, that **codes of ethics** were dominating factors influencing ethical thinking of Slovak managers, is not surprising. The codes of ethics belong to the most well-known and the most spread forms of ethics institutionalisation (Ulrich, Lunau and Weber, 1996; Majluf and Navarrete 2007; Ferrel and Gresham 1985; Koonmee, Singhapakdi, Virakul and Lee, 2010).

As is known, code of ethics represents basic and binding ethical orientation for every member of an organisation. In medium and large enterprises it is not possible to develop ethics without codes of ethics. Therefore, it is revelant to call this document a backbone of an entire ethical programme of an organization. The fact that managers in Slovakia have sufficient knowledge about codes of ethics and their function is reflected in the lowest percentage of answers in the response categories “**not suitable**” (1.43 %) and “**I do not know**” (9.25 %).

Even though code of ethics is an inevitable tool for long-time development of ethics in organisation, it is not the only precondition for it. If codes of ethics were not accompanied by other forms of institutionalisation of

ethics, and if ethics infrastructure did not develop within a company, the code of ethics would only be a non-functional document. Implementing code of ethics into organisational culture requires several mechanisms, which control, whether ethical demands given in the code of ethics are respected and define procedures and processes, how employees can report its violation. The results of our research seem to be pleasant as the other forms suitable to foster ethical thinking of managers, which were placed on the second and the third position, were “**system of reporting mechanisms that ensures reporting of code of ethics violations**” and “**system of regular control of adherence to code of ethics**”.

The reporting and control systems have not only been placed just after code of ethics in the suitability response category, but their importance is proved also by responses in the area of “not suitable factors” and “I do not know” category. Only 10.76 % of respondents (2<sup>nd</sup> lowest value) of respondents consider the “**system of reporting mechanisms that ensures reporting of code of ethics violations**” as “not suitable” and 15.32 % of respondents (2<sup>nd</sup> lowest value) “does not know”. The results of assessing a “**system of regular control of adherence to code of ethics**” show, that 10.87 % (3<sup>rd</sup> lowest value) of respondents believes this factor is “not suitable” and 18.71% (3<sup>rd</sup> lowest value) “does not know” whether it is suitable or not.

Permanent opportunity to consult ethical issues with an **ethics officer** was marked as suitable factor influencing managerial ethical thinking by 62.64 % of respondents. Ethics officer is an internal staff member, who is a part of ethics program of an organization. It is an employee whose responsibility is to solve ethical problems. Often, this person is also responsible for compliance. Such working positions are quite new in Slovakia; they have no longer tradition than 5-10 years. Therefore, we consider this research result as very important, in particular for university education in the area of business and managerial ethics. In Slovakia, systematic preparation of business ethics managers (or compliance managers) as it is in USA, is completely missing.

The majority of our respondents considered various forms of education and discussion on ethical issues at workplace to be “suitable factors” influencing ethical thinking of managers. That proves, that managers are familiar with these forms of institutionalisation of ethics and they consider them as valid methods for developing the level of their own ethical orientation. All educational activities were assessed as “suitable” for enhancing ethical thinking of managers ranging from 60.68 % to 63.98 % respondents.

As far as “not suitable” factors for development of managerial ethical thinking is concerned, managers answered followingly: **regular round tables** was marked by 15.83 % of respondents, **regular ethics workshops** by 15.99 % ,and **regular ethics trainings** by 18.16 % of respondents.

Despite this, quite surprising is, that almost one fifth of respondents **did not know, whether these are or are not suitable factors** influencing ethical thinking of managers, particularly at **round tables** it was 23.49 % of managers at **workshops** 20.03 % , at **trainings** 19.67 % , what could suggest, that **respondents are not familiar with given educational activities**. We come out of a premise that each manager knows, what educational activities are, but not every manager might know, what educational activities “focused on ethics” are. If our suggestion was right, then it would be alarming, that almost one fifth of all managers would not have the opportunity to take part in ethical education in their organizations.

Among the **least suitable factors** for fostering managerial ethical thinking **subjects and bodies** managing ethics development were marked by our respondents, particularly ethics council/commission and ethics director. Permanent opportunity to consult ethical issues with ethics council or commission was marked as “suitable factor” by only 36.64%, and the opportunity to discuss ethical issues with ethics director by 36.16% of respondents. This was confirmed also by the results of the “do not know” response category to subjects and bodies managing ethics development. The percentage of respondents, who were not able to assess whether ethical elements belonging to this group are or are not suitable, was the highest of all, as 40.83% of respondent chose “I do not know” when assessing ethics director, 39,44% for ethics council/commission, and 32.79% of respondents did not know whether external

ethics professional is or is not useful for enhancing managerial ethical thinking. The results suggest that more than one third of our respondents might not know or be familiar with these forms of ethics institutionalization. It is especially valid for this field that experience from one country cannot be mechanically transferred to another one (Weaver, 2001).

Positive surprise was also the result of factor **”permanent opportunity to consult ethical problems with an external expert on ethics”**, which is almost by a half (47.79 %) of respondents considered as suitable factor for enhancing ethics awareness. Having the opportunity to consult external experts on ethics is not usual in Slovak business environment. Partly it is because there is not very much professionals on business ethics, but also because organisations are not “mentally” prepared to speak up about their ethical problems outside their company. However, experience with this form of application of business ethics on the organisational level is positive (Remišová, 2011, 2015).

### **Sequences of formal OEP elements from the perspective of their significance for managerial ethical thinking**

The first three factors in the list of ethical elements that have positive impact on managerial ethical thinking, as well as, low percentage of respondents who were either not able to assess their suitability or marked these factors as not suitable for development of managerial ethical thinking suggest that **managers in Slovakia have sufficient knowledge about how to achieve the functionality of the codes of ethics**. We deduce it from the fact that factors, which make the functionality of code of ethics possible (i.e. system of reporting mechanisms that ensures reporting of code of ethics violations and system of regular control of adherence to code of ethics) received the highest mean value in the category of suitable factors for enhancing managerial ethical thinking (77.87 %), the mean value for the “not suitable” response category was 7.69 %, and for the “do not know” category it was 14.42 %.

Educational activities and ethical discussions represent the second most important group from the perspective of the significance for developing managerial ethical thinking in the Slovak business environment. The group consists of ethics workshops, ethics training, regular ethics roundtables focused on solving relevant ethical issues at workplace, and ethics case studies. The mean value for describing educational activities as suitable to develop managerial ethical thinking was 62.26 %, and similarly they took second place in both "I do not know" (15.14%) and "not suitable" (22.60 %) response categories. These findings are positive, as they indicate that **managers acknowledge and recognize educational education and permanent discussions about ethical issues as inevitable factors for ethical development**.

Discussion about ethical issues is only possible in organizations with open organizational culture, where no one is sanctioned for an uttered opinion. Ethical dialogues and discussions are demanding on character qualities of discussants, as ethical issues are linked to personal integrity and any kind of questioning personal ethics is perceived sensitively.

The group of factors with the mean value of 44.88 % for being perceived as suitable for enhancing managerial ethical thinking consisted of **subjects and bodies managing the ethics development**, i.e. ethics director, ethics officer, ethics council/comitee, and external expert on ethics. This group scored adequately low in the other two response categories with only 19.57 % of respondents considering these factors “not suitable”, and 34.55 % not knowing whether factors included in this group do contribute to enhancing ethical thinking or not.

When assigning these phenomena to the list of factors affecting the ethical thinking and orientation of managers, we were aware that these phenomena are little known in our economic and cultural environment.

## Conclusion

The analysis of our research results on the perceived impact of 11 elements of organizational ethics program on fostering managerial ethical thinking, based on questioning 810 Slovak managers, led us to the following conclusions:

- Code of ethics is considered by respondents as the most important factor, which fosters ethical thinking of managers.
- We have assumed that there our respondents would acknowledge positive impact of educational activities on ethical thinking of managers. However, even though the positive impact of each educational activity was recognized by at least 60% of our respondents, the research results also exposed that on average; more than one fifth of the respondents was not able to decide whether these activities are or are not suitable factors for developing ethical thinking of managers.
- The sequence of formal OEP elements from the perspective of their significance for enhancing managerial ethical thinking is as follows: 1. Formal behavior regulators; 2. Educational Activities; and 3. Subjects and bodies managing the ethics development.
- As the least suitable factors were considered mechanisms from category subjects and bodies managing ethics development of an organisation, such as ethics director, ethics council/comitee, and external expert on ethic. (Ethics officer was the only exception from this group that received a better score.)
- Taking into account a short history of business ethics development in practice, we consider it significant that at least one third of respondents assessed all 11 OEP elements as suitable for enhancing ethical thinking of managers.

The research results clearly showed that managers in the Slovak business environment perceive OEP elements as factors that have positive impact on developing managerial ethical thinking. These results are positive as they suggest there is an increased possibility to apply this knowledge in managerial decision-making and acting.

The main result of our research is the recognition that organizations with ethics program have a greater ability to shape ethical thinking of their managers than those organizations that either do not have any ethics program or apply only some of its elements.

Our results correlate with results of international studies on the topic. They also complement the mosaic of knowledge about the impact of individual factors of organizational ethics program on ethics development within an organization. Kaptein (2014) found out that unethical behavior occurs less frequently in organizations that have an ethics program than in organizations that do not have one. Kaptein researched the relationship between the number of components adopted and the frequency of observed unethical behavior and found out that the most appropriate sequence for adopting components of an ethics program is as follows: 1. A code of ethics; 2. Ethics training and communication; 3. Accountability policies; 4. Monitoring and auditing; 5. Investigation and correction policies; 6. Ethics office(r); 7. Ethics report line; and 8. Incentive policies. Although our research dealt with formal components of OEP only, (i.e. components 3 and 8 of Kaptein's research were not included in it), it clarifies that ethics program components belong to the positive preconditions for ethical behavior within an organization.

We believe that our research has both theoretical and methodological significance. The methodology can be helpful in further research on organizational ethics programs, as well as organizational ethical development in general. Our knowledge and experience from developing business ethics in specific economic and social conditions (in CEE countries) complement the mosaic of knowledge of developing business ethics on the mezolevel.

## Limitations

One of the main limiting factors of our research is that we cannot derive from the responses of our respondents whether they have an actual experience with researched OEP components or not. Therefore, we cannot be sure whether their responses are built upon their own experience or theoretical knowledge, or whether they responded randomly.

The next limitation lies in a fact that knowledge of ethics does not necessarily come hand in hand with ethical behavior of a manager. At this point we are touching upon managerial integrity in his personal and professional life. Anyway, we consider ethics knowledge to be an inevitable, although not sufficient, precondition for ethical leadership.

The limitation of our research lies also in the size of our sample. In the initial phases of our research we have aspired to gain a representative sample of managers working in the Slovak business environment. However, our financial and human resources available were not sufficient to meet this aspiration.

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## End Notes

i Act no. 307/2014 on some measures related to the reporting of anti-social activities and on amendments to certain laws, which came into force on the 1<sup>st</sup> of January 2015. This Act is conventionally known as the Law on whistleblowing.

ii At the time of writing this article, the Act on criminal liability of legal persons was adopted by Slovak parliament and signed by the president of the Slovak republic, with coming into force on the 1<sup>st</sup> of July 2016.

iii Luknič refers to the works of Center of Business at Bentley College. Are corporations institutionalizing ethics? In *Journal of Business Ethics*, 5, 1986, p. 77-89; Dunham, R. B. *Organizational behavior. People and processes in management*. Homewood, IL, Irwin, 1984; Nichols, M. L., & Day, v. E. A comparison of moral reasoning of group of individuals on the Defining Issues Test. In *Academy of Management Journal*, 25, 1982, p. 201-208; Raelin, J. A. The professional as the executives Aide-De-Camp. In *Academy of Management Executive*, 1, 1987, p. 171-182.

iv The literature distinguished between two bases of such a control – the compliance basis and the value basis. The idea of OEP orientation on compliance and on values is presented by Weaver and Trevino in their work from 1999. Based on research results they conclude that value-driven OEP has more benefits than compliance-based ethics program: „In general, a values orientation makes a greater unique contribution to the measured outcomes when compared to a compliance orientation“ (Weaver and Trevino, 1999, p. 315).

v This article is part of the research project VEGA 1/0333/13 – Critical analysis of the impact of cultural and ethical factors on leadership in current Slovak business environment.

vi We categorize ethics case studies as ethics documents; nevertheless, we consider them also as educational OEP components because case studies entail a cognitive element.

## ***Personality, Gender And Four-Factor Model Of Cultural Intelligence – Are Some People Smarter In Culturally Diverse Situations?***

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### **Abstract**

*This study focuses on 361 respondents when studying relationship of personality, gender and four-factor model of Cultural Intelligence (i.e. metacognitive, cognitive, motivational and behavioral CQ). The results indicated that some personalities are more naturally related to different dimensions of cultural intelligence, but these relationships may often be dependent on the gender. These results could be used when training people to international assignments and cross-cultural environments, or global leadership.*

**Keywords:** *Cultural intelligence, personality, MBTI, gender*

### **Introduction**

International assignments and cross-cultural working environments have become the norm but those situations and environments have not changed to be any less complicated or challenging. Especially leaders have to be able to understand and function effectively “with contrasting economic, political, and cultural practices” (Rockstuhl, Seiler, Ang, Van Dyne, & Annen, 2011, p. 826), but cultural intelligence is beneficial to all since many customers or co-workers come from different cultural backgrounds (Ng & Earley, 2006). It is crucial that the most fitting persons are chosen for the most culturally demanding tasks and assignments.

The possible findings of this study may help in identifying the individuals who will be most fitting for international assignments since it has been found that personality influences for example expatriate adjustment (e.g. Routamaa & Rautanen 2002). Findings can also help when designing appropriate training and determining who will benefit most from international assignments (K.-L. Ng, Van Dyne, & Ang, 2009) or other specific development.

### **Cultural intelligence (CQ)**

Cultural Intelligence is “individual’s capability to function and manage effectively in culturally diverse settings” (Earley & Ang, 2003; as cited in Ang & Van Dyne, 2008, p. 3), that is how well can the individual recognize and reason correctly the demands of the situations of cultural diversity (Ang & Van Dyne, 2008). It is partly similar to social and emotional intelligence (Kerri A Crowne, 2009).

Earley and Ang (2003) conceptualized CQ to consist four dimensions; metacognitive, cognitive, behavioral and motivational CQ. *Metacognitive CQ* can be described as individual’s cultural awareness and it reflects cognitive strategies of how individual can and will cope in cross-cultural situations, thus it is a mental process of planning for and behaving in interactions. *Cognitive CQ* is knowledge of different cultures that is learned in formal education or personal experiences. *Motivational CQ* refers to the desire and self-efficacy, in other words intrinsic motivation, to learn about cultural differences. Behavioral CQ is the ability to exhibit culturally appropriate behaviors that is appropriate verbal and nonverbal actions (as cited in Huff, 2013; Ng, Van Dyne, & Ang, 2012; Ng & Earley, 2006)

### **Earlier studies of cultural intelligence**

High CQ has been found to be positively related to cross-border leadership effectiveness (Rockstuhl et al., 2011) and intercultural negotiation effectiveness (Imai & Gelfand, 2010). High motivational CQ was found to improve expatriates' work adjustment (Chen, Kirkman, Kim, Farh, & Tangirala, 2010) and other positive outcomes in expatriate assignment (Huff, 2013). High metacognitive CQ predicted better decision-making and performance regarding marketing adaptations and exporting (Magnusson, Westjohn, Semenov, Randrianasolo, & Zdravkovic, 2013). See review for more outcome results (Ng, Van Dyne, & Ang, 2012).

When using Big five personality factors, it has been found that extraversion and openness to experience are related to all CQ dimensions, highly extraverted and open individuals operate better in culturally diverse virtual setting (Presbitero, 2016), also Ang, Van dyne, and Koh (2006) found a connection between also Big five personality constructs to all CQ factors, and highlighted the importance of openness to experience being the key to functioning effectively in cross-cultural situations. When developing cultural intelligence during international assignments, it was found that people who are highly extraverted (vs. low extraversion) improved their metacognitive and behavioral CQ, and Motivational CQ was improved more when individual were high on openness (vs. low openness) (Şahin, Gurbuz, & Köksal, 2014).

So far, there very few studies concerning the potential relationship between dynamic personality types and cultural intelligence, but the relationship between big five factors and dimensions of MBTI personality dichotomies have been established (Furnham, 1996). For example, Routamaa et al. (2010a; 2010b) found, however, that dynamic personality types are highly related to values and culture. The differences between personality types are mostly similar between cultures but the strength of the values varies. However, some types are more sensitive to adapt values according to the new cultures, while some types keep their typical values which may go against the new culture, but instead they can adjust their behavior in different cultural contexts (Routamaa et al. 2010a; 2010b). And Potgieter & Coetzee (2013) suggested that extraverted (measured with MBTI) are more culturally competent. Studies of the relations between gender and cultural intelligence are also rare, but it has been suggested that gender does not impact the cultural intelligence on its own, but it was found that men may be more ethnocentric, meaning that they believe that own ethnic group is superior to others (Harrison, 2012).

## **Methods**

### **Participants**

Altogether 366 respondents answered the self-report survey of which five were removed due to missing demographic information. 67 % of the respondents were women and the age of respondents varied between 17 and 62. Mean age was 42 and median 43 years. 29% of the respondents had a degree in business, 13 % in technology, 17 % in social studies, 1% in law, and 37 % in some other.

60 % of the respondents have only lived in Finland, 22 % had also lived in one other country for more than 3 months, 12 % had lived in 2 other countries, and the rest 6% reported having lived in 3 to 7 other countries. 16 % of the men reported having very little experience of encounters with people from other cultures, and 26 % had a lot of experiences, the rest had some experiences. In case of women, 21% had no experiences, 20 % had a lot of experiences and the rest in between. 66% had a university or other higher education degree.

### **Cultural Intelligence**

Earley and Ang's (2003) conceptualization CQ was used and their self-report measure was used to develop a Finnish version of this measure, since it is the only self-report measure and therefore most often used as well (Huff, 2013)

After the data were reviewed and prepared for the actual data analysis, principal axis factoring with Varimax-rotation was performed to ensure the validity of the cultural intelligence in the Finnish context. Owing to the KMO Measure of Sampling Adequacy being .817, there was no reason to examine the anti-image correlation matrix. The value for Bartlett's test of sphericity was statistically significant ( $p < .000$ ), indicating that the data was probably factorable. Based on the theoretical background the factor analysis was forced to extract four components; those explained 45.5 % of the variance.

Based on the items and the literature, the four factors are labelled: 1) Cognitive CQ  $\alpha=.85$  with factor loads ranging between .48 and .87. The factor consists of five items, for example "Which one applies to you better: a) I consider myself being a novice when considering cultures or b) I consider to have quite much cultural knowhow already, 2) Motivational CQ,  $\alpha=.79$  and factor loads range between .73 and .55. The factor consists of eight items, for example: "When you are with a person from another culture, a) do you plan what you say or b) act spontaneously". 3) Metacognitive CQ,  $\alpha=.72$  and factor loads range between .52 and .39. The factor consists of nine items, for example "Would you say that you enjoy more a) starting a conversation with a person from a different cultural background or b) discussion with people who are from a same cultural background as me". 4) Behavioral CQ,  $\alpha=.73$  and factor loads range between .71 and .40. Factor consists five items, for example "In your work, is it more likely that a) you always use the same style of communication or b) you alter your communication style depending on the cultural background of the person". Some items that did not load cleanly were removed.

## Personality

Personality might be considered the one dominant trait a person displays, but usually it is defined as a distinctive pattern of traits or behavior in which thoughts and emotions are included (Mischel, 1986). In this study we used Myers Briggs Type Indicator (MBTI), which was developed to measure 16 personality types based on Carl Gustav Jung's theory (Jung, 1971). MBTI reveals person's habitual preference of orientation of energy (E/I), process of perception (S/N), decision-making function (T/F) and attitude of life (J/P) (Myers, McCaulley, Quenk, & Hammer, 1998). See descriptions below in table 1.

The MBTI's "...validity is determined by its ability to demonstrate relationships and outcomes predicted by [Jung's] theory" (Briggs Myers et al., 1985: 175). The MBTI's construct validity has been proven by independent studies that investigated whether type distributions coincide with the requirements of certain professions. Correlations of other measures with the MBTI's continuous scores and studies of behavioral differences between the types have also validated the system (see e.g., Briggs Myers et al., 1985 for more detail). Gardner and Martinko (1996: 77) considered whether the MBTI is "a reliable and valid instrument for studying relationships among managerial personalities, cognitions, behaviors, effectiveness, and situational variables" and their thorough review suggested that it is. They did recommend some "refinements of type construct and its measures." The construct validity and reliability of the Finnish form (F-version) have been proven during a validation process spanning several years (see e.g., Järnlström, 2000). Järnlström reported an internal consistency (Pearson's correlation coefficients) of .65 to .76 and Cronbach's coefficient alpha of .79 to .86. The four scales consist of eight preferences:

Extraversion (E)	Interested in people and things in the world around them.
Introversion (I)	Interested in the ideas in their minds that explain the world.
Sensing (S)	Interested in what is real and can be seen, heard and touched.
Intuition (N)	Interested in what can be imagined and seen with 'the mind's eye'.
Thinking (T)	Interested in what is logical and works by cause and effect.
Feeling (F)	Interested in knowing what is important and valuable.
Judging (J)	Interested in acting by organizing, planning, deciding.
Perceiving (P)	Interested in acting by watching, trying out, adapting

## Results

First an independent-samples t-test was conducted to compare cultural intelligence dimensions and cultural intelligence overall between different personality preferences. There was only one significant difference (on 0.05 certainty level) in the scores of different personality preference pairs and CQ. In which case motivational dimension, perceiving people (n=119) evaluated to be more motivated (M=.34, SD=.29) than judging people (n=241) (M=.28, SD=0.28);  $t(358)=2.03$ ,  $p = 0.044$ ,  $r=.11$ , thus the effect size is small (see Table 1 for all the results). Next it was tested whether gender of the respondent has a relationship to the CQ or its dimensions. The only statistically significant difference was in case of cognitive dimension; men (n=117) evaluating their cognitive ability higher (M=.47, SD=.37) than women (n=244), (M=.38, SD=0.35);  $t(359)=-2.15$ ,  $p = 0.03$ ,  $r=.11$ , again having only a small effect size (see Table 2 for all the results). Next we wanted to see if personality is more relevant variable when genders are separated.

There were no statistically significant results in case of any comparisons between extraverted and introverted (see appendix for all the results). In case of women, no differences were found between intuitive (n=98) and sensing (n=146) comparisons, but some differences were found in men's evaluations. Intuitive men (n=49) evaluated their metacognitive CQ higher (M=.79, SD=.17) than sensing men (n=67) (M=.70, SD=0.21);  $t(114) = 2.46$ ,  $p = 0.02$ ,  $r=.22$ , effect size being small. However, sensing men (M=.49, SD=.16) had statistically significantly higher scores in overall cultural intelligence than intuitive men (M=.48, SD=0.16);  $t(114) = 2.33$ ,  $p = 0.02$ ,  $r=.21$ , but effect size being small again this relationship is not very strong. Feeling-thinking preference did not yield any differences amongst women respondents. Amongst men, feeling preferences (n=35) had significantly higher score in behavioral CQ (M=.67, SD=.28) than thinking respondents (n=81) (M=.47, SD=0.35);  $t(82) = 3.24$ ,  $p = 0.002$ ,  $r=.34$ .

And finally judging-perceiving pair had no relationship to cultural intelligence amongst men, but in case of women one statistically significant difference was found. Perceiving women (n=84) reported being more motivated (M=.39, SD=.30) than judging women (n=160) (M=.27, SD=0.26);  $t(242) = 3.04$ ,  $p = 0.003$ ,  $r=.19$ , effect size being small. All the statistically significant results are collected below in Table 3.

## Discussion

The results indicate that personality and gender together tell more about the tendency to be or see oneself as culturally intelligent, rather than just personality or gender on its own. Men are more confident about their cultural knowledge than women are, but in other factors the ratings are similar. This may be because men tend to have higher self-esteem than women that their appraisals of their skills are higher (e.g. Järnlström & Brandt, forthcoming). Perceiving is related to conscientiousness (Furnham, 1996), and perceiving ones are described as active, adaptive and spontaneous, thus it appears that these type of people, especially women are more motivated to learn about new cultures. Judging people like to plan in advance thus maybe the spontaneity and constant adaptation according to the situation does not appeal to them. Remaining of the findings are related to men; Intuition is related to openness and it was found that the intuitive men rate themselves having a higher metacognitive CQ, which supports the earlier findings. Metacognitive CQ measures e.g. if one prefers to start conversation with people from other culture rather than own culture. Because of intuitives' open mind they probably are interested more about different cultures than sensing people. However, sensing men have higher cultural intelligence overall than intuitive men, which is a surprising result and needs to be investigated further. One reason may be that intuitives keep their values stronger along cultures than many sensing types. Finally feeling men have higher behavioral CQ than thinking men, and feeling is similar to agreeableness (Furnham, 1996), thus in their behavior feeling men are better at adapting their behavior to what is appropriate in culturally diverse situations. Feeling types tend to be more averse about their surroundings and people's feelings around them, and thus they modify their behavior accordingly. This tendency is more similar for women also regardless of personality, but thinking men do not notice feelings of other people so easily.

MBTI is widely used in training and development in organizations around the globe, these studies give the trainers a bit more information of what issues might need special attention in cross-cultural training and expatriate preparation. For example, in case of thinking men, the actual behavior and the ways of changing the non-verbal language might need extra help. And even though sensing men may be in good position to handle cross-cultural encounters, it may be smart to investigate if they need assistance in improving their awareness and adaptation skills, which comes naturally to intuitive persons.

First thing in developing cultural intelligence is to recognize one's weaknesses and strengths and focus on improving the weaknesses (Earley & Mosakowski, 2004). Cultural intelligence can be improved with cultural exposure if it is versatile, for example being to many different countries and including different lengths and purposes of stay (Crowne, 2013), but this should not be the only or main developmental custom in the organization (Shapiro, Ozanne, & Saatcioglu, 2008). The training should rather be "based on skills in monitoring and adaptation – such as mimicry, control, and role-playing" (Shapiro et al., 2008, p. 15).

These results describe cultural intelligence of Finnish people and it is commonly known that Finnish people are not socially so easy to get to know at first and thus if there would be comparative study the results of Finland would be rather low. Thus in Finland it should be especially important to learn about cultural intelligence, because multiculturalism is increasing also in Finland. Future studies should take into consideration also Finnish people's language skills, because it may prevent many people's connections to others, even if there would be genuine interest otherwise. Since the relationship strengths were not large, we would also recommend investigating these relationships with other methods.

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### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Motivational CQ	Equal variances assumed	2,395	,123	2,153	359	,032	,08653	,04019	,00749	,16557
	Equal variances not assumed			2,105	216,118	,036	,08653	,04111	,00550	,16756
Metacognitive CQ	Equal variances assumed	3,805	,052	-1,751	359	,081	-,05363	,03063	-,11387	,00661
	Equal variances not assumed			-1,827	255,690	,069	-,05363	,02935	-,11142	,00417
Cognitive CQ	Equal variances assumed	,350	,554	1,167	359	,244	,02776	,02379	-,01903	,07455
	Equal variances not assumed			1,196	244,028	,233	,02776	,02321	-,01795	,07347
Behavioral CQ	Equal variances assumed	3,337	,069	-,281	359	,779	-,01032	,03680	-,08269	,06204
	Equal variances not assumed			-,272	212,139	,786	-,01032	,03792	-,08508	,06443
Cultural Intelligence	Equal variances assumed	2,223	,137	,667	359	,505	,01259	,01886	-,02451	,04968
	Equal variances not assumed			,653	216,462	,515	,01259	,01928	-,02542	,05059

TABLE 1. T-TEST RESULTS COMPARING JUDGING AND PERCEIVING PREFERENCES' CULTURAL INTELLIGENCE

TABLE 2. T-TEST RESULTS COMPARING MEN AND WOMENS' CULTURAL INTELLIGENCE

Independent Samples Test			Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference			
Gender			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
Men	Cognitive CQ	Equal var. assumed	.209	.648	.330	114	.742	.02434	.07373	-.12172	.17041	
		Equal var. not assumed			.327	74,731	.744	.02434	.07436	-.12379	.17248	
	Motivational CQ	Equal var. assumed	.024	.877	-.115	114	.909	-.00568	.04955	-.10384	.09249	
		Equal var. not assumed			-.110	69,219	.912	-.00568	.05144	-.10830	.09695	
	Metacognitive CQ (openness)	Equal var. assumed	.881	.350	-.410	114	.683	-.01621	.03955	-.09456	.06214	
		Equal var. not assumed			-.383	64,078	.703	-.01621	.04233	-.10076	.06835	
	Behavioral CQ	Equal var. assumed	3,524	.063	.489	114	.626	.03323	.06799	-.10145	.16792	
		Equal var. not assumed			.465	67,076	.643	.03323	.07145	-.10938	.17585	
	Cultural Intelligence	Equal var. assumed	5,436	.021	.260	114	.795	.00892	.03427	-.05897	.07682	
		Equal var. not assumed			.246	65,785	.807	.00892	.03629	-.06354	.08139	
	Women	Cognitive CQ	Equal var. assumed	5,534	.019	-1,261	242	.208	-.06446	.05110	-.16511	.03620
			Equal var. not assumed			-1,356	124,483	.178	-.06446	.04753	-.15853	.02961
Motivational CQ		Equal var. assumed	.098	.755	-.248	242	.804	-.01028	.04140	-.09183	.07127	
		Equal var. not assumed			-.246	106,214	.806	-.01028	.04182	-.09320	.07264	
Metacognitive CQ (openness)		Equal var. assumed	.149	.700	.222	242	.824	.00705	.03169	-.05538	.06948	
		Equal var. not assumed			.231	115,997	.818	.00705	.03053	-.05342	.06752	
Behavioral CQ		Equal var. assumed	1,655	.200	1,285	242	.200	.05965	.04642	-.03178	.15109	
		Equal var. not assumed			1,331	115,524	.186	.05965	.04481	-.02910	.14841	
Cultural Intelligence		Equal var. assumed	1,824	.178	-.083	242	.934	-.00201	.02408	-.04944	.04542	
		Equal var. not assumed			-.089	123,720	.929	-.00201	.02246	-.04647	.04245	

Appendix.

T-test results comparing Extraverted and Introverted men's and women's cultural intelligence

TABLE 3. SUMMARY OF THE RESULTS

CQ factors	Personality or gender	Personality * gender
Cultural intelligence		Sensing men>Intuitive men
Cognitive CQ	Men>Women	
Motivation CQ	Perceiving > Judging	Perceiving women>Judging women
Metacognitive CQ		Intuitive men> Sensing men,
Behavioral CQ		Feeling men > Thinking men

T-test results comparing Sensing and Intuitive men's and women's cultural intelligence

Independent Samples Test			Levene's Test for Equality of Variances		t-test for Equality of Means			95% Confidence Interval of the Difference			
Gender			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Men	Cognitive CQ	Equal var. assumed	,334	,564	,916	114	,362	,06438	,07030	-,07487	,20363
		Equal var. not assumed			,911	101,659	,364	,06438	,07065	-,07575	,20451
	Motivational CQ	Equal var. assumed	,223	,637	,797	114	,427	,03765	,04727	-,05598	,13129
		Equal var. not assumed			,804	106,865	,423	,03765	,04683	-,05519	,13050
	Metacognitive CQ (openness)	Equal var. assumed	2,531	,114	2,456	114	,016	,09061	,03689	,01753	,16370
		Equal var. not assumed			2,552	113,494	,012	,09061	,03551	,02026	,16096
	Behavioral CQ	Equal var. assumed	3,881	,051	1,653	114	,101	,10635	,06433	-,02108	,23378
		Equal var. not assumed			1,683	109,438	,095	,10635	,06321	-,01892	,23162
	Cultural Intelligence	Equal var. assumed	,699	,405	2,334	114	,021	,07475	,03203	,01129	,13821
		Equal var. not assumed			2,361	107,724	,020	,07475	,03165	,01200	,13750
Women	Cognitive CQ	Equal var. assumed	,137	,712	-,091	242	,928	-,00415	,04577	-,09430	,08600
		Equal var. not assumed			-,091	208,839	,928	-,00415	,04572	-,09429	,08599
	Motivational CQ	Equal var. assumed	2,551	,112	,987	242	,325	,03642	,03689	-,03625	,10908
		Equal var. not assumed			,964	190,553	,336	,03642	,03779	-,03812	,11095
	Metacognitive CQ (openness)	Equal var. assumed	2,924	,089	-1,634	242	,104	-,04597	,02814	-,10141	,00946
		Equal var. not assumed			-1,570	179,166	,118	-,04597	,02928	-,10375	,01180
	Behavioral CQ	Equal var. assumed	,214	,644	-,929	242	,354	-,03855	,04151	-,12031	,04321
		Equal var. not assumed			-,925	205,524	,356	-,03855	,04166	-,12069	,04358
	Cultural Intelligence	Equal var. assumed	,120	,730	-,608	242	,544	-,01306	,02148	-,05537	,02924
		Equal var. not assumed			-,608	207,312	,544	-,01306	,02150	-,05546	,02933

T-test results comparing thinking and feeling men's and women's cultural intelligence

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference				
Gender		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper		
Men	Cognitive CQ	Equal var. assumed	,271	,604	,342	114	,733	,02597	,07588	-,12436	,17630	
		Equal var. not assumed			,337	62,243	,738	,02597	,07715	-,12824	,18018	
	Motivational CQ	Equal var. assumed	,184	,668	-,625	114	,533	-,03181	,05092	-,13267	,06906	
		Equal var. not assumed			-,630	65,963	,531	-,03181	,05046	-,13255	,06894	
	Metacognitive CQ (openness)	Equal var. assumed	,109	,741	-,217	114	,829	-,00884	,04073	-,08952	,07184	
		Equal var. not assumed			-,218	65,217	,828	-,00884	,04056	-,08984	,07216	
	Behavioral CQ	Equal var. assumed	8,524	,004	2,941	114	,004	,19863	,06753	,06485	,33242	
		Equal var. not assumed			3,236	81,481	,002	,19863	,06137	,07653	,32074	
	Cultural Intelligence	Equal var. assumed	,046	,831	1,313	114	,192	,04599	,03502	-,02338	,11536	
		Equal var. not assumed			1,337	67,309	,186	,04599	,03440	-,02268	,11466	
	Women	Cognitive CQ	Equal var. assumed	,042	,838	-,606	242	,545	-,02716	,04485	-,11551	,06119
			Equal var. not assumed			-,606	241,731	,545	-,02716	,04483	-,11548	,06116
Motivational CQ		Equal var. assumed	2,049	,154	,290	242	,772	,01053	,03624	-,06087	,08192	
		Equal var. not assumed			,291	241,875	,771	,01053	,03618	-,06074	,08180	
Metacognitive CQ (openness)		Equal var. assumed	,196	,658	-,690	242	,491	-,01913	,02772	-,07374	,03548	
		Equal var. not assumed			-,689	237,835	,492	-,01913	,02778	-,07386	,03560	
Behavioral CQ		Equal var. assumed	,001	,980	,332	242	,740	,01355	,04077	-,06677	,09386	
		Equal var. not assumed			,332	240,757	,740	,01355	,04079	-,06681	,09391	
Cultural Intelligence		Equal var. assumed	,222	,638	-,263	242	,792	-,00555	,02108	-,04707	,03597	
		Equal var. not assumed			-,263	239,900	,793	-,00555	,02110	-,04712	,03601	

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means								
Gender			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper	
Men	Cognitive CQ	Equal var. assumed	,076	,784	,775	114	,440	,05870	,07572	-,09131	,20871	
		Equal var. not assumed			,784	66,262	,436	,05870	,07490	-,09082	,20823	
	Motivational CQ	Equal var. assumed	,713	,400	-1,233	114	,220	-,06250	,05067	-,16287	,03788	
		Equal var. not assumed			-1,298	72,889	,198	-,06250	,04815	-,15847	,03347	
	Metacognitive CQ (openness)	Equal var. assumed	,001	,971	1,129	114	,261	,04572	,04051	-,03453	,12597	
		Equal var. not assumed			1,104	61,502	,274	,04572	,04141	-,03707	,12851	
	Behavioral CQ	Equal var. assumed	1,854	,176	,283	114	,778	,01982	,07002	-,11890	,15853	
		Equal var. not assumed			,273	59,478	,786	,01982	,07269	-,12562	,16525	
	Cultural Intelligence	Equal var. assumed	,861	,355	,438	114	,662	,01544	,03525	-,05440	,08527	
		Equal var. not assumed			,424	60,234	,673	,01544	,03638	-,05734	,08821	
	Women	Cognitive CQ	Equal var. assumed	,006	,941	-,403	242	,687	-,01902	,04721	-,11201	,07397
			Equal var. not assumed			-,402	167,160	,689	-,01902	,04737	-,11253	,07449
Motivational CQ		Equal var. assumed	3,418	,066	3,044	242	,003	,11391	,03743	,04019	,18764	
		Equal var. not assumed			2,919	150,391	,004	,11391	,03902	,03681	,19101	
Metacognitive CQ (openness)		Equal var. assumed	15,600	,000	-2,154	242	,032	-,06229	,02892	-,11926	-,00533	
		Equal var. not assumed			-1,919	124,405	,057	-,06229	,03246	-,12653	,00195	
Behavioral CQ		Equal var. assumed	2,339	,128	-1,077	242	,283	-,04608	,04280	-,13039	,03823	
		Equal var. not assumed			-1,054	159,190	,293	-,04608	,04371	-,13240	,04024	
Cultural Intelligence		Equal var. assumed	,164	,686	-,152	242	,879	-,00337	,02218	-,04705	,04031	
		Equal var. not assumed			-,152	169,495	,879	-,00337	,02214	-,04708	,04034	

T-test results comparing judging and perceiving men's and women's cultural intelligence

## ***HR Practices In the new Millennium: Balance between Human Touch & Technology***

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### **Abstract**

*It is a challenge for the Organization when it has to constantly strive for innovation and what adds to the complexity part is the changing demographics and culture. Technology is seen as one of the key enablers which have helped the transformation of Human Resources function from being an Administrative Specialist to a Strategic Business Partner. HR by its name represents the human face as well as the human essence of the Organization. This paper explores the most important areas the Indian Organizations needs to focus on so as to improve the “personal touch” with the employees, who are the most important assets of the Organization. This is done by administering a questionnaire to working professionals so as to find the streams of decreasing employee connect. The survey will collect the perception of employees about whether the human touch has been side lined in the day to day operations. It will also help in finding us an answer to whether HR policies are just made because of high sounding concepts. It will also help to explore the possibility of the right balance of human interaction and technology so that neither human touch nor efficiency is compromised*

### **Introduction**

When employers are looking for various ways of saving costs, they should keep in mind that there are some areas which cannot be run solely by technology. Employers should take into account that technology cannot identify and handle human emotions which has a direct effect on productivity. It is important to involve employees in the corporate decision making which also helps in minimising conflicts and increasing retention through motivation.

In times of uncertainty where industrial disputes are on the rise, the management needs to pay attention to the concept of “employee voice”. Employee voice is a key element of Organizational success. It has a direct as well as indirect impact on employee engagement, effectiveness, retention and also creativity. Hence it acts as a tool for increasing productivity at the workplace.

Employee voice at workplace covers the following: - the voice of employees being heard by the management and also the freedom of employees to challenge the status quo and put forward their opinions and suggestions. Organizations can attain business results when its employees are fully engaged and when they are working towards the goals of the Organization. Employees are more likely to speak up when they feel connected to the Organization and also when they have a vested interest in the Organization’s success. Expectancy theory of motivation works when there is a link between performance and outcome and also when people value the outcome. Therefore it is important to make an environment that is easy for the employees to speak up and then reward it with the things they value. If done so, the Return on Investment will be really high.

## Statement of the Problem

There is a need to assess if the role of HR needs a relook in the current business context. Organizations are constantly automating processes in their aim to become more and more efficient, and this extends to the processes in HR as well. This is especially to be expected in more technologically advanced organizations, where there is much scope for automation of well-defined processes. The aim is to find out if this increased dependence on technology is leading to the HR department losing their 'human touch'. We also aim to find out if technology leads to decreased human interaction and face to face contact with employees, and whether this has an adverse effect on employees connect with the organization. Another important parameter is to find out if as a result of the foregoing, 'employee voice' has gone down i.e. if employees feel they are unheard, or not understood.

## Literature Review

Employee voice is frequently defined in literature as an active and direct effort. Freeman and Medoff defined voice as direct communication to bring actual and desired conditions closer together and emphasized on the importance of unions. (Richard B. Freeman and James L. Medoff, 1984) Hirschman(1970)'s definition of voice is 'any attempt at all to change rather than escape from an objectionable state of affairs, whether through individual or collective petition to the management directly in charge, through appeal to a higher authority with the intention of forcing change in management, or through various types of actions and protests, including those that are meant to mobilize public opinions.' According to Marchington and Wilkinson (2005) participation can be differentiated into direct communication, upward problem-solving, or representative participation.

Communication is becoming more electronic, and less face-to-face. One of the negative impacts of this is that non-verbal cues can't be read and the 'personal' touch is lost. Handheld devices are found to be counterproductive to team work( Jane, 2007). Human interaction is required for productive team work, for motivating others and to make effective leaders. It requires management to lead by example, and focus on employee behaviour, and increasing employee interaction. It requires recognising the positive effects of the 'traditional' means of communication.

In the paper by Van Dyne, Soon Ang and Isabel C. Botero (2003) employee silence and voice are conceptualized as separate, multidimensional constructs. Withholding important information is not simply the absence of voice. Building on this conceptual framework, they further propose that silence and voice have differential consequences to employees in work organizations. This paper argues that the key feature that differentiates silence and voice is not the presence or absence of speaking up, but the actor's motivation to withhold versus express ideas, information, and opinions about work related improvements. Thus silence has different motives from voice, which may be active concealment, collective protection of information, etc. It was also found that there is a greater likelihood of misattribution of employee motive for silence than for voice. Recognising this will help managers uncover accurately, the motives behind employee voice and silence. There are 3 types of voice: Acquiescent Voice, Defensive Voice, and ProSocial Voice. And three types of silence Acquiescent Silence, Defensive Silence, and Pro Social Silence. Voice may be seen to impact on employee behaviour and performance is the 'indirect' linkage between the practices used and outcomes (Dundon). Even though it is difficult to quantify the impact of voice, there was widespread agreement that employee voice acted as the gateway to a more open and constructive employment relations climate because it generated a better environment to work. Significantly voice is a part of much broader HR agenda:- including training, induction, culture change, or more open management styles. It was also seen that voice helped to promote a culture of loyalty by reducing exits. The purpose of voice as the articulation of individual dissatisfaction overlapped with notions of employee contribution through communication channels. And also the articulation of voice as collective organisation was rather less central than other (individualistic) definitions of voice.

Voice arrangements of two types were examined i.e. direct and indirect (union) as in the paper by Peter Holland, Amanda Pyman, Brian K. Cooper and Julian Teicher.

Relationship between these voice arrangements and job satisfaction was examined, and direct voice was found to be positively associated with job satisfaction. Thus such arrangements can encourage employee participation and improve their participation in management, to reach a cooperative working style. The paper also stresses the importance of the HR manager in implementing direct voice arrangements at all levels and ranks in the organization.

The second hypothesis that union voice is negatively associated with job satisfaction was not supported. Further, the hypothesis that employees with multiple voice arrangements were found to be more satisfied was only partially supported.

According to Kate Brown, HR director for organisational effectiveness at global insurance firm RSA, Engagement strategies have to be localised, and employee voice is critical to engagement. There are two ways to achieving this - employer branding, and gaining the trust of unions. David Fairhurst, senior vice president and chief people officer at McDonald's defined engagement as the 3 Cs - commitment, competence and confidence.

In technology organizations, the paper by Ahmed A Abdel-Halim (1981) studies the influence of technology on the 3 role variables, i.e. Role conflict, ambiguity and overload. It is hypothesized that role stress variables, job design characteristics, and organizational technology are the interacting variables that affect individuals on simple, low-scope jobs in manufacturing technology as well as individuals on complex, high-scope jobs in service technology. The study covers manufacturing and banking sectors.

In the manufacturing sector, role conflict is found to be negatively correlated with work satisfaction while in services, there is no relation. Role ambiguity and work satisfaction are found to be negatively correlated in both sectors. Role overload and satisfaction however are unrelated in both sectors. Thus role ambiguity affects satisfaction most. The hypothesis is supported as it is found that in manufacturing sector, when simple jobs experience high role ambiguity and role over load, their satisfaction is lower, as compared to low role ambiguity and role overload. In services too, satisfaction of those on complex jobs is significantly lower under high role ambiguity as compared to low role ambiguity. Employees on simple jobs in mfg and those on complex jobs in services are most vulnerable to role stress. Organizations should therefore consider first the type of technology they use, to see how employees on different types of jobs react to role stress variables. Thus this study points out the importance of organizational technology in determining the manner in which role variables and job design characteristics may interact.

The paper by Adrian Wilkinson and Charles Faye (2011) develops a conceptualization of voice and reviews the literature covering employee voice. "Voice" refers to how employees are able to have a say regarding work activities and decision making issues in the organization in which they work. Providing voice mechanisms to employees may provide concrete advantages to employers. The paper conceptualizes voice as drawing from four strands of literature. The HRM strand talks of the benefits of employee voice to the organization and its focus on performance. The political science strand looks at the employee rights point of view, and establishing organizational democracy; focusing on decision making. The IR strand emphasizes the benefits of voice to both management and workers, and focuses on control.

The OB strand, more modern in its approach, speaks of task autonomy, workers discretion and self-led teams. The focus here is on job design. It also addresses other implications of voice such as multiple voice arrangements being more advantageous, and voice important to having diversity. It is seen that that there are

competing visions and expectations of employee voice. Thus management's overall orientation to involvement and development of employees can be more significant than any specific practice.

Individual voice is a valuable component of job quality in its own right, and as a means of ensuring that job characteristics continue to match employee preferences, or at least have compensating advantages (David Marsden, 2012). The author complements here the more macro approaches to voice by stressing the role of individual voice in regulating the 'zone of acceptance' is stressed by the more macro approaches, that is the set of tasks and working conditions over which employees agree to accept management authority to direct their labour.

In a competitive market economy, the ultimate sanction of both parties to the employment relationship is termination, whether in the form of dismissals or quits. This sets a limit on how far either party can abuse the flexibility and tacit nature of the zone of acceptance. However, using quits and dismissals is expensive if there are significant investments in skills or alternative jobs are hard to find. If employees can voice their concerns to management about the acceptability of their task assignments and rectify disagreements before it comes to termination, then both parties can gain. Thus, one can expect that in workplaces where individual voice is effective, employees' job quality will correspond more closely to their aspirations.

Coping strategies did significantly associate with upward, lateral, and displaced dissent

Those who use upward dissent tend to believe that they exercise personal influence in their organizations and that they exert control over the situations that affect them (Kassing, 2011). Moreover, upward dissent is a significant predictor of work engagement. Therefore upward dissent is the purview of employees who feel empowered, in control, and engaged with their organizations—employees who have little need for utilizing denial and disengagement coping strategies.

Employees express lateral dissent when they expect to experience retaliation but still want people in the organization to hear their concerns. Thus, it follows that lateral dissent would associate with emotional venting. It is among co workers that employees can vent their frustrations about troubling issues and about their lack of opportunities to address those issues with management. Thus, venting emotion coincides with lateral dissent expression and clearly aligns with this coping strategy.

Similarly, lateral dissent reflects attributes of disengagement: lower satisfaction, commitment, and identification; poorer quality superior-subordinate relationships and lower organization-based self-esteem. The employee voice is more extensive in terms of its 'scope' and 'impact' than a decade ago, although the 'level' at which employees have a say remains the preserve of managerial control (Wilkinson, 2004).

The link between voice and organisational performance is problematic. Employee voice operated primarily as a loose and imprecise notion that was seen to contribute to competitive advantage, but also as part of a general and broader package of HR practices. The paper also argues that organisations face a diffuse and persistent range of concerns from highly articulate employees. In this respect, managing employee voice will be closely related to managing diversity.

## **Scope**

The scope of the research is constrained to Bangalore city, Karnataka, India, and covers varied industries majorly IT, Manufacturing, Banking and Financial Services, Retail, among others. The location was chosen due to the wide scope for surveying employees in various industries. Respondents covered those of varied ages and different organizations. The online survey questionnaire is employed so as to cover a large pool of employees for their responses. The paper only aims to identify whether HR is losing its human touch due to increased usage of technology, and if so, to find out some basic causes. We also aim to study where this is seen more predominantly,

for example, checking for prevalence in any specific industry. Arriving at concrete solutions to the problem is beyond the scope of this paper.

## Objectives

- To find if technology has impacted the frequency of HR visits
- Whether there is relationship b/w Industry and frequency of interaction with HR
- To check if there is a relationship b/w feedback being taken in the company and employees not getting the opportunity to comment on the proposed changes in the workplace.
- Also to check if the above has a dependence on technology
- Understanding the standing of different industries on the parameter “Social Interaction”
- The standing of different industries on the parameter “Organization Culture”
- The perception about “Feedback” in various Industries
- The effect of “HR Interaction” on the Industries
- The standing of different industries on “Issue Handling”
- To find whether the parameters “Feedback”, “HR Interaction” and “Issue Handling” are instrumental and go hand in hand.

## Research Methodology

An online survey questionnaire was used to gather the data. The study is based in Bangalore. The participants were assured of anonymity and confidentiality of their responses.

The sample consisted of employees working in various industries including IT, manufacturing, retail and others. 126 responses were obtained, of which 84 % were male and 16 % female. The respondents had work experience of 1 year or more, in different organizations. The ages ranged from 24 to 43. 50% of respondents were from the IT industry, while 40% were from manufacturing sector, and the remaining 10% was from other industries. Predominantly, the 5 point Likert scale was employed in most of the questions.

## Results and Discussion

### *Analysis and Findings*

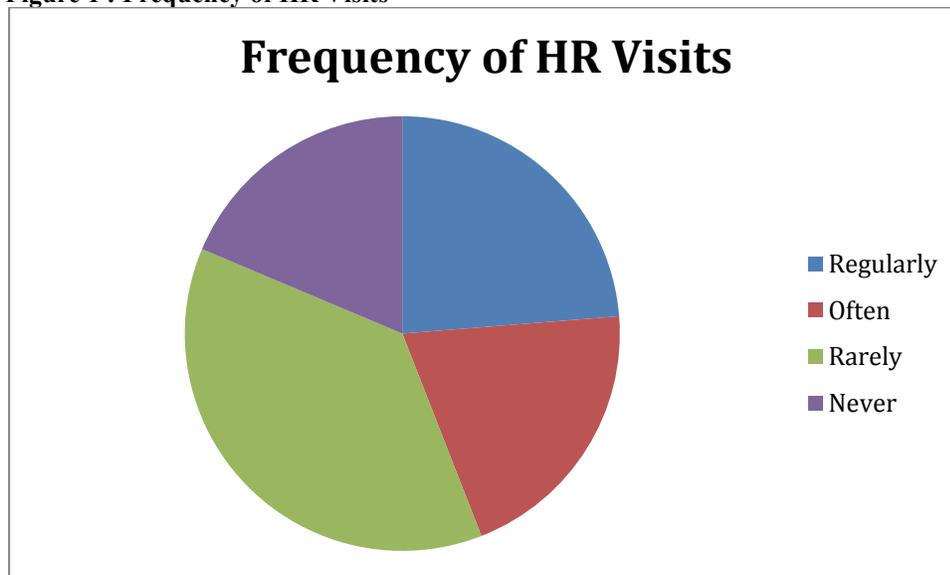
#### *Hypothesis*

Ho: Technology does not impact the frequency interaction with HR

**Table 1 : Hypothesis 1 Frequency Table**

		Percent	Valid Percent	Cumulative Percent
Valid	Regularly	23.72881	23.72881356	23.72881356
	Often	20.33898	20.33898305	44.06779661
	Rarely	37.28814	37.28813559	81.3559322
	Never	18.64407	18.6440678	100
	Total	100	100	

**Figure 1 : Frequency of HR Visits**



The analysis shows that the majority of the people i.e. 37% rarely visit the HR. Hence we can reject the null hypothesis.

***Hypothesis***

Ho : There is no relationship b/w Industry and frequency of interaction with HR

From the crosstab analysis between the variables Industry and Frequency of interaction with HR, it is found that majority of IT Industry respondents rarely interact with HR. Thus the null hypothesis is rejected.

**Table 2 : Hypothesis 2 : Crosstab between the Industry and the Frequency of Interaction with HR**

Industry * HowOften Crosstabulation							
			HowOften				Total
			Regularly	Often	Rarely	Never	1
Industry	IT	% within Industry	24.24242	21.2121	33.3333	21.2121	100
	Mfg	% within Industry	33.33333	0	66.6667	0	100
	BFS	% within Industry	0	33.3333	33.3333	33.3333	100
	Retail	% within Industry	0	66.6667	33.3333	0	100
	Others	% within Industry	37.5	12.5	25	25	100
Total		% within Industry	23.72881	20.339	37.2881	18.6441	100

***Hypothesis***

Ho: There is no relationship between feedback being taken in the company and employees not getting the opportunity to comment on the proposed changes in the workplace. This is because of its dependence on technology.

**Table 3 : Hypothesis 3 : Crosstab between Not getting the opportunity to comment on proposed changes at the workplace and Feedback being taken on a regular basis**

DontgetOpportunity * Feedback Crosstabulation								
			Feedback					Total
			SA	A	NAD	D	SD	1
DontgetOpportunity	SA	% within DontgetOpportunity	33.33333	33.33333	8.333333	16.66667	8.333333	100
	A	% within DontgetOpportunity	0	16.66667	16.66667	50	16.66667	100
	NAD	% within DontgetOpportunity	33.33333	33.33333	16.66667	16.66667	0	100
	D	% within DontgetOpportunity	38.09524	19.04762	28.57143	9.52381	4.761905	100
	SD	% within DontgetOpportunity	37.5	62.5	0	0	0	100
Total		% within DontgetOpportunity	32.20339	30.50847	16.94915	15.25424	5.084746	100

**Table 4 : Legend**

SA	Strongly Agree
A	Agree
NAD	Neither Agree nor disagree
D	Disagree
SD	Strongly disagree

From the crosstab analysis, it is found that majority of the respondents feel that although feedback is taken on a regular basis, they still lack the opportunity to comment on proposed changes at the workplace.

**Table 5 : Frequency Table of the variable BetterHandled**

BetterHandled					
		Percent	Valid Percent	Cumulative Percent	
Valid	Strongly Agree	10	10	10	
	Agree	40	40	50	
	Neither Agree Nor Disagree	20	20	70	
	Diasgree	30	30	100	
	Total	100	100		

After further analysis, it is found that majority of this category of people also think that there are areas currently handled by technology which would be better handled by HR. Therefore accept null hypothesis.

***FURTHER ANALYSIS: – Using Factor Analysis and Perceptual Mapping***

**Table 6 : Communalities Table**

	Initial	Extraction
IFeel	1.000	.717
Avenues	1.000	.688
HaveYou	1.000	.642
IfYes	1.000	.635
DontgetOpportunity	1.000	.575
Socialize	1.000	.709
FeltStressed	1.000	.760
Feedback	1.000	.731
ProperChannel	1.000	.828
DontFeelComfortable	1.000	.695
HowOften	1.000	.769
GotoHR	1.000	.678
HRTakesInterest	1.000	.795
BetterHandled	1.000	.724
Face2Face	1.000	.663

Extraction Method: Principal Component Analysis

**Table 7 : Total Variance Explained**

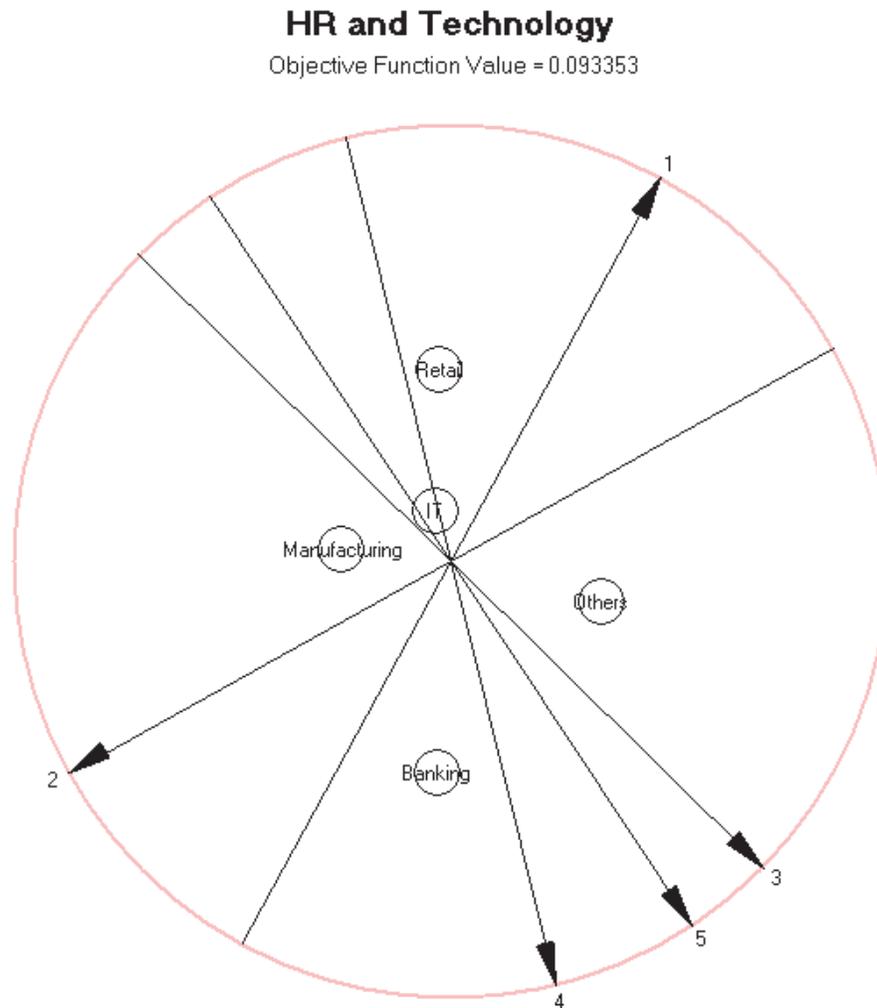
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.296	21.972	21.972	3.296	21.972	21.972	3.129	20.861	20.861
2	2.890	19.269	41.241	2.890	19.269	41.241	2.152	14.348	35.208
3	1.626	10.840	52.082	1.626	10.840	52.082	1.870	12.464	47.672
4	1.568	10.452	62.533	1.568	10.452	62.533	1.858	12.384	60.056
5	1.232	8.210	70.744	1.232	8.210	70.744	1.603	10.687	70.744
6	.846	5.638	76.381						
7	.711	4.737	81.118						
8	.669	4.457	85.575						
9	.574	3.829	89.404						
10	.458	3.055	92.459						
11	.359	2.391	94.851						
12	.279	1.857	96.708						
13	.220	1.468	98.176						
14	.164	1.091	99.266						
15	.110	.734	100.000						

Extraction Method: Principal Component Analysis.

**Table 8 : Rotated Component Matrix(a)**

	Component				
	1	2	3	4	5
IFeel	-.110	.776	.106	-.099	.287
Avenues	.061	-.312	.394	.147	.640
HaveYou	-.368	.346	-.082	-.563	.252
IfYes	-.001	.745	.178	.096	-.198
DontgetOpportunity	.600	-.408	-.188	.074	.092
Socialize	.780	.224	-.118	.186	.046
FeltStressed	.871	-.001	-.015	-.033	-.007
Feedback	-.169	.123	.787	.200	.169
ProperChannel	.039	.230	.879	-.013	-.036
DontFeelComfortable	.758	-.160	.281	-.112	.063
HowOften	.027	.441	.153	.709	.216
GotoHR	.207	.125	-.003	-.772	-.157
HRTakesInterest	.279	.470	.302	.540	-.338
BetterHandled	.254	.192	-.005	.079	.785
Face2Face	.679	-.036	-.170	-.101	.402

**Figure 2 : Perceptual Mapping**



According to the standing of different industries on the parameter “Social Interaction” denoted by 1: People from Retail Industry don’t feel stressed/ burnout due to limited social interaction compared to those from Banking and Manufacturing.

According to the standing of different industries on the parameter “Organization Culture” denoted by 2: Banking and Manufacturing Industries as compared to Retail find their top management is less approachable.

According to the standing of different industries on the parameter “Feedback” denoted by 3: Respondents of Banking Industry don’t find feedback is regularly taken and acted upon compared to Retail, IT and Manufacturing Industries.

According to the standing of different industries on the parameter “HR Interaction” denoted by 4: Respondents from Manufacturing and Retail have more HR Interaction as compared to Banking.

According to the standing on different industries on the parameter “Issue Handling” denoted by 5: Respondents from Retail and Manufacturing Industry feel there are some areas handled by technology that would be better handled by HR, while those from Banking Sector don’t feel so.

## **Conclusion**

While assessing the impact of technology on HR (as per factor analysis and subsequent perceptual mapping), we find the parameters “Feedback”, “HR Interaction” and “Issue Handling” are instrumental and go hand in hand. From the hypothesis we find that majority of the respondents rarely visit the HR. Since our study is concentrated on an Industry that widely uses technology, we are focussing on the IT Industry. Even though the IT respondents rarely visit HR, they visit for a variety of reasons including Administrative queries, Grievances, Day to day matters and Career Planning and Counselling. This is not the case in other industries where they visit primarily for administrative queries. The respondents from IT also feel that the HR takes an interest in their career and work activities which is not the case in other industries. From these findings, we can conclude that even an Industry which extensively uses technology, the confidence in HR is not being compromised.

The IT respondents agree that they get chance to socialize with their co workers. It can be seen that mostly employee suggestions have been taken care of and implemented in IT Industry compared to all the others. Also majority feel that they do get an opportunity to comment on the proposed changes at the workplace. In IT there is more comfort in questioning the practices followed at the Company. So these are all positive signs indicating employee voice. However employee voice is only restricted in the case of the top management being approachable. This is one area where there is scope for improvement. The IT respondents feel that technology has reduced the face to face interaction with HR and also they agree to the fact that there are some areas that needs to better handled by HR and not technology.

Therefore technology has an impact on the human touch of HR, but employee voice is intact as there is opportunity to express their emotions and their concerns are addressed.

## **Limitations**

The study has been constrained to Bangalore, Karnataka, India. The effect of cultural differences had to be left out of the study. Some cultural differences may have made the study specific to the area. Thus we cannot say with some degree of certainty how much the results can be extrapolated for application globally, or even throughout the country.

Also, since the response was collected through a questionnaire, further probing was not possible. So there might be reasons or areas which might not have reflected in the analysis. In certain areas covered by the questionnaire, there was limited scope for further drilling or deep analysis.

## **Scope for further research**

It is important to identify the “low touch” required processes for which technology can be leveraged. This will also give a dimension about the effect in the Organizational climate, the new HR directions and also the productive employee engagement. This will help in HR functioning as a strategic business partner without losing its human touch. Further research will also lead to a deeper understanding of how the Organizations can make use of

their existing processes and other tools to help create opportunities to employees to express their emotions and opinions.

In the perceptual mapping analysis, the standing of different industries based on “Social Interaction” , “Organizational Culture”, “Feedback”, “HR Interaction” and “Issue Handling” were done. The perceptions of these parameters for each of the Industry are reflected here. But the reasons or causes of such perceptions are a matter of importance. Such research can help Industries to rectify their mistake and also make themselves attractive to future employees and also retain existing employees. Thus it will make way for new Employer Branding Strategies. Finally, this research should be done in different cultures globally to see the effect of technology on HR. It may be possible that particular cultures will react differently to technology and have a greater or lesser degree of the ‘human touch’ required by HR.

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## Appendix

### QUESTIONNAIRE

Gender

- Male
- Female

Age -----

Work Experience (In number of years) -----

Industry in which I am working

- IT/ITES
- Manufacturing
- Retail
- Telecom
- Others, please specify -----

Q 1) Do you feel your company's top management is approachable?

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q 2) What avenues are available in the company for you to express your opinions/ suggestions/ complaints?

- Suggestion Boxes/ Fishbowl
- Surveys
- Online Portals
- Feedback Register
- Skip level meetings
- Others please specify \_\_\_\_\_

Q3) Have you ever given any suggestions to your department/company?

- Yes
- No

Q4) If yes, has it been implemented/ taken care of?

- Yes
- No

Q5) I don't get the opportunity to comment on proposed changes at the workplace.

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q6) I hardly get a chance to socialize with my co-workers

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q7) I have often felt stressed/burnout due to limited scope/time to interact with others

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q8) Is the feedback taken in your company on regular basis?

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q9) I feel the company has instituted a proper channel or mechanism for handling grievances

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q10) I don't feel comfortable questioning the practices followed at the Company

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q11) How often do you interact with your HR?

- Regularly
- Often
- Rarely
- Never

Q12) I go to my HR for

- Administrative queries
- Grievances
- Day to day matters
- Career planning and counselling

Q13) I feel the HR takes an interest in my work activities and career

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Q14) I feel there are areas which is currently being handled by technology, which would be better handled by the HR

- Strongly Agree
- Agree
- Neither agree nor dis agree
- Disagree
- Strongly Disagree

Q15) I feel it is a disadvantage that technology has reduced the face-to-face interaction with HR.

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

## ***Global Managers and ASEAN Readiness in Thailand***

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### **Abstract**

*This article studies the profiles of two groups of top executives, including the board of directors and the executive committees of companies listed on the Stock Exchange of Thailand in 2013, covering three business sectors, that is, commercial banks, agriculture and food, and hospitals. It aims to assess the readiness of Thai companies, in terms of human resources, for both the defence against and penetration into the ASEAN Economic Community. By analysing the characteristics of these top executives, the study will find a group of people called 'global managers', who are defined as Thai executives graduated from abroad, Thai executives experienced working in multinational corporations or international organizations, foreign executives who have international experience, and Thai executives who have international experience (including working experience in ASEAN countries). The results show that Thai executives who have international work experience are rare indeed, with less than five per cent of the total (including foreigners). The ASEAN readiness of Thai companies in terms of the 'defence side' is relatively high but the 'penetration side' is quite low. The findings have implications for both the managerial development and international human resource management in Thailand.*

**Keywords:** *top executives; global managers; internal labor market; external labor market; talent management*

### **Introduction**

Talent management of top executives studies have largely been conducted in the context of developed economies. It is very much from a western lens of what has been going on and/or what should be done strategically if companies were to remain competitive in the global economy (Cooke, Saini, and Wang, 2014). Few, if any, comparative studies have been conducted systematically to understand how companies in developing countries train and develop top executives; and the extent to which these practices may be similar or different from those found in western context, particularly those indigenous companies starting to invest abroad or multinationalize. Further, in the case of multinational corporations (MNCs), many talent management studies have targeted expatriate managers (parent-country nationals: PCNs). While there is an extensive and long standing literature on expatriate selection, preparation, adjustment, performance and repatriation, few studies have investigated the talent management of top executives in headquarter (Biemann and Wolf, 2009; Caligiuri, 2006; Mellahi and Collings, 2010).

Thailand is one of developing countries, whose indigenous companies starting to invest abroad vigorously during the past decade. The phenomenon of internationalization of Thai companies has acquired remarkable attention. Different aspects such as globalization, the dilution of trade barriers, or the significant increase in economic business transactions in the ASEAN (Association of Southeast Asian Nations) zone have prompted Thai companies to consider international development as a core component of their managerial strategy. The international activity of companies based in this region has gradually increased, with more and more Thai companies selling a larger proportion of their products in foreign markets (Suehiro, 2014).

The integration of ASEAN Economic Community (AEC) at the end of 2015 have stimulated Thai companies to relate the degree of multinationalization they achieve in human resource management (HRM) with their future survival, growth, and profitability. They are beginning to realize that the future success of their organizations depends on how successfully they can achieve multinational proportions. At the same time, companies

which are domestically oriented have also been affected by the entry of new foreign competitors. Hence, there is an increased need for managers with international business knowledge, cross-national skills, and the like (Caligiuri, 2006; Wailersak, 2013).

In the era of free-trade competition, only organizations embedded with transnational competent managers or global managers can survive (Cappellen and Janssens, 2010). Global managers are people who must effectively perform global leadership activities. According to Caligiuri (2006), ten activities were found to be common among those in global leadership positions. Global managers work with colleagues from other countries. Global managers interact with external clients from other countries. Global managers interact with internal clients from other countries. Global managers may need to speak in a language other than their mother tongue at work. Global managers supervise employees who are of different nationalities. Global managers develop a strategic business plan on a worldwide basis for their unit. Global managers manage a budget on a worldwide basis for their unit. Global managers negotiate in other countries or with people from other countries. Global managers manage foreign suppliers or vendors. Global managers manage risk on a worldwide basis for their unit.

The purpose of this research is threefold. Firstly, to study how many global managers there are in top executives of Thai companies, by considering educational credentials, Thai nationals or foreigners, and international work experience. Secondly, what extent are Thai companies ready for the integration of the AEC, by focusing on the total proportion of top executives (including foreigners) having international work experience. Lastly, what implications may these findings have in modelling the talent management of top executives in developing countries such as Thailand? Certainly, indigenous companies of developing countries have a smaller talent pool than MNCs of developed countries.

## **Literature review**

This article demarks from previous studies of developed countries in two major ways. First, this study focuses on the importance of international experience of upper echelon management teams of Thai companies; and second, it focuses especially on the international composition of top management teams. The current literature characterizes the global manager as a crucial resource for all companies wanting to compete internationally (Black, Morrison, and Gregersen, 1999; Mau, 2009). Practically, international assignment experience may give executives better oversight of the firm's far-flung operations. Such experience may provide the training to help executives think truly globally and to act locally (Bartlett and Ghoshal, 1992). Symbolically, international assignment experience may communicate to other employees that accepting such assignments is highly valued by the firm, sending the most powerful signal you can to employees if the CEO and top executives have international assignment experience or were selected for that reason (Baruch, Altman, and Adler, 2009).

If a firm develops a broad and deep pool of executives with international assignment experience, the quality of its internal labor market compared to that of the external labor market should be higher. In essence, by promoting international assignment experience among lower- and middle-level executives, the firm plants many more high-quality seeds of global executive leadership. Developing global managers within the firm should reduce the probability that a multinational firm must resort to recruiting internationally seasoned top executives from the far more expensive external labor market (Baruch, Altman and Adler, 2009; Doeringer and Piore, 1971).

Others have argued that international work experience is becoming almost a requirement for senior leadership positions in multinational companies and a natural part of career development in such companies (Benson, Peres-Nordtvedt, and Datta, 2009). If international experience is truly valuable to a firm, then such experience may serve as a key differentiator of managerial ability; therefore, we expect that the proportion of executives with such experience should increase as they move up in hierarchical rank. In other words, the higher people ascend in the firm's hierarchy, the more likely they are to have served international assignments earlier in their career (Biemann and Wolf, 2009; Riflin, 2006).

However, despite claims that the upper echelons of US multinationals are going global, the biographical records of their Chief Executive Officers (CEOs) would suggest that few have been even completed international assignments. Surprisingly, among the largest US MNCs, such as IBM, Procter and Gamble and Wal-Mart, CEOs with international assignment experience are not common, less than one in five have over one year of international assignment experience (Cappellen and Janssen, 2010; Carpenter and Sanders, 2001). Similarly, recent research on the boards of directors of the world's largest MNCs, concluded that while there was an increase in the globalization of these boards over the past decade, such globalization does not reach very much deep with almost 55 percent of firms having fewer than 26 percent non-national directors. Furthermore, the most common way that MNCs boards became more globalized is through cross border merger and acquisitions suggesting that global talent management systems has a limited impact in globalizing the corporate elite in these firms (Mellahi and Collings, 2010)

Previous research on Thai managers often focused on the development of leadership skills within the organization and was limited to the local context (Lawler, Siengthai, and Atmiyanandana, 1997; Siengthai, Dechawatanapaisaland Wailerdsak, 2009; Wailerdsak and Suehiro, 2004). None have studied the readiness of Thai executives for international management, their ability to prepare and move forward with the growth of international trade liberalization, and the readiness of Thai companies in ASEAN countries (Wailerdsak, 2013).

It seems that many Thai companies seek global managers, from both the internal labor market, which refers to the nurture and development of managers inside their own organizations, and the external labor market, which refers to the recruitment of managers with working experience from outside the organization. While the labor market of executives in Thailand is still small, the pool of professional managers have been limited to family managers of large family business groups (mostly Chinese-Thai), professional managers from state-owned enterprises, large Thai companies, and MNCs from developed countries such as the United States, European countries, and Japan (Wailerdsak and Suehiro, 2014).

### **Measuring ASEAN Readiness**

This article focuses on the characteristics of top executives in headquarters as a key measurement of the ASEAN readiness of Thai companies. The relationship between the demographic characteristics of executives and the degree of internationalization of firms has been studied by different authors from the upper-echelon perspective. The upper echelon theory posited that executives' demography, such as tenure, education level, and functional background, represents valid proxies for their cognitions, values, skills, and knowledge base and represents powerful explanations for variations in the choice of executives' strategies, policies, and actions. The structure and the characteristics of a corporation's elite can influence corporate strategy, such as a firm's competitive moves and international diversification (Carpenter and Sanders, 2001; Jaw and Lin, 2009).

This article will measure the ASEAN readiness of Thai companies by considering the characteristics of top executive in four dimensions including (1) educational credentials, (2) working experience in MNCs, (3) foreigners, and (4) international work experience. For educational credentials, top executives having a bachelor's or master's degree from universities abroad should have a higher score on ASEAN readiness than those who graduated from domestic universities. An international graduate degree is indicative of their interests in international matters and enhances the manager's global business savvy (Javidan and Bowen, 2013).

Top executives having been working for MNC subsidiaries located in Thailand seem to have a higher score on ASEAN readiness than those working in local companies. Because managers working at MNC subsidiaries tend to be more knowledgeable about their global industry. Assuming that MNCs offer their managers greater variety of global opportunities and more extensive training and development (Javidan and Bowen, 2013). Similarly, foreign managers have higher score on ASEAN readiness than Thai managers because it seems that foreign managers have international work experience more than Thai managers. Most of them have lived in several countries before assigned to work in Thailand.

Lastly, managers having international work experience have highest score on ASEAN readiness. International work experience of executives is extremely important and in many MNCs, international work experience is a *sine qua non* for entering the upper echelons. Therefore, companies with extensive dependence on and activity in global markets should expect a stronger positive relationship between the international work experience of CEO and executives and firm performance than should companies with limited international activity (Fernandez-Ortiz and Lombardo, 2009; Isidor, Schwens, and Kabst, 2011). In addition, the higher proportion of top executives (including foreigners) having international work experience, the higher score on the ASEAN readiness.

#### Four Types of Top Executives in Headquarters

Fig. 1 shows the research framework for analysing the level of global managers (measured by education credentials and work experience) existing in Thai companies on the vertical axis, and the level of ASEAN readiness of Thai companies (measured by the proportion of executives with international work experience including foreigners) on the horizontal axis. Although the readiness of companies also depends on the capabilities of middle-level managers, this is beyond the scope of this empirical study.

Pattern 1 means companies having a low level of ASEAN readiness because they consist of only executives graduating from abroad, and whose level of global managers is moderate. Certainly, those having studied abroad will have wider perspectives on international management and higher language proficiency than those graduated from domestic universities (Fernandes-Ortiz and Lombardo, 2009). In addition, international non-work experiences, including studying abroad or travelling, can have a powerful impact on an individual's outlook toward other countries and other cultures. Although short-term travel experiences are definitely not a substitute for intensive learning in the context of expatriate assignments, they are still helpful in developing global competencies and gaining new perspectives on work (Benson, Peres-Nordtvedt, and Datta, 2009; Cappellen and Janssens, 2005). This study also confirms the notion that living in a foreign country substantially change a manager's views of international work to a certain degree.

FIGURE 1  
THE RESEARCH FRAMEWORK FOR ANALYSING THE LEVEL OF GLOBAL MANAGERS

		Level of ASEAN readiness of companies		
		Low	Moderate	High
Level of global managers of executives	Moderate	1. Abroad graduated executives	2. Multinational corporation or international organization – experienced executives	
	High		3. Foreign executives with international work experience	4. Thai executives with international work experience

Pattern 2 means companies having a medium level of ASEAN readiness because they comprise Thai executives who have working experience in multinational corporations or international organizations located in Thailand, and whose level of global managers is moderate. Companies will hire managers having international management skills from the external labor market when they require such personnel but inside candidates may be unavailable (Groysberg, Lee, and Nanda, 2008).

Part of the human capital that an executive acquires through international work experience is general skill, valuable for all organizations, irrespective of the organization where it was acquired. Such general human capital

includes the ability to deal with the ambiguities, uncertainty, and complexity of a foreign environment, the development of a global management skill set after being exposed to different cultures, languages, and institutional environments, the confidence of managing in foreign environments, and the development of new ways of learning and responding to stimuli (Groysberg, Lee, and Nanda, 2008). Other human capital, such as knowledge on the multinational company's particular foreign division, the development of supplier or customer networks in the foreign country, and knowledge on the firm's competitors in a specific geographic location, is more firm-specific, that is, valuable only for the organization where it was acquired (Hamori and Koyuncu, 2011).

Pattern 3 is formed by 'foreign executives' with international work experience. These companies have a medium level of ASEAN readiness and their foreign executives have spent their working time abroad, so that they have a high level of global managers. We can find foreign executives in Thai companies having joint foreign shareholders or strong exposure to overseas markets. It is believed that foreign partners will bring in production technology, management know-how, and foreign executives with international experience to help run the business – all of which Thai companies are lacking (Wailerdsak, 2005). Particularly, the development of human resources still cannot catch up with the international expansion demand (Daily, Certo, and Dalton, 2000).

Pattern 4 consists of Thai executives with international work experience, who are regarded as having a high level of global managers. Companies in this pattern have a high level of ASEAN readiness. According to the upper echelon theory, nurturing global managers internally through international assignments is costly and time-consuming, but worthwhile because the companies will acquire global managers with firm-specific skills (Bartlett and Ghoshal, 1992). In an environment where effectively managing international business issues is critical to a firm's success, it may be that international work experience provides companies' executives with inimitable knowledge, world views, and professional ties that help them to better manage multinationals' far-flung operations (Choo, Halim, and Keng-Howe, 2010; Khavul, Benson, and Datta, 2010). International work experience may serve as a proxy for the reduction of uncertainty and as a surrogate for accumulating cultural knowledge (Jaw and Lin, 2009). Additionally, Daily, Certo, and Dalton (2000) have noted that with nearly every industry targeting fast-growing foreign markets, more companies are requiring international experience for top executive positions.

## **Overview of Thailand**

The executive survey on which the empirical investigation is based covers companies belonging to three sectors: commercial banks, agriculture and food, and hospitals. Commercial banks and hospitals are in the service sector, including a substantial share of domestic companies, and starting to expand in ASEAN countries. The latter sector aims to be the 'Medical Tourism Hub of Asia' or the 'Wellness of Asia', while the agriculture and food sector is one of the country's major exporters, namely the 'Kitchen of the World'. Although this selection of industries did not result in a statistically representative sample, it is believed to provide reasonable coverage of Thai industry.

### **Commercial Banks**

The banking sector was most directly affected by the Asian financial crisis of 1997. Some old-established banks such as Bangkok Bank of Commerce (founded in 1944) and Bangkok Metropolitan Bank (in 1950) went bankrupt, while Siam City Bank (in 1941) and Union Bank of Bangkok (in 1949) were merged with other banks, and some were sold to foreign banks, such as Bank of Asia (to Singapore's United Overseas Bank, holding a 99.66 per cent stake) and Nakornthon Bank (to the British Standard Chartered Bank, holding a 99.87 per cent stake), making their names disappear from Thai banking history (Wailerdsak, 2008; Wailerdsak and Suehiro, 2010). Other foreign banks maintaining equity stakes are China's Industrial and Commercial Bank of China (97.24 per cent in ICBC (Thai) Bank), Malaysia's CIMB (93.71 per cent in CIMB Thai Bank), Scotiabank (48.99 per cent in Thanachart Bank), and ING (25.12 per cent in TMB Bank).

In 2014, out of the total 14 commercial banks, those owned by Thai include state-owned banks such as Krungthai Bank (KTB) and TMB Bank, the Siam Commercial Bank (SCB) owned by the Crown Property Bureau, and three family-owned large banks, that is, the Bangkok Bank of the Sophonpanich family, the Kasikornbank/KBank of the Lamsam family, and the Krungsri Bank of the Ratanarak family. Until recently, Thai commercial banks have given more weight to local demands, particularly in Bangkok and industrial cities, rather than serving customers outside the country. Therefore, the number of overseas branches is less, especially when compared with Singapore and Malaysia. However, over the last several years Thailand's major banks have further expanded their networks in the ASEAN region, especially in Myanmar, in preparation for the upcoming AEC, but with different strategies for tapping these markets. The KTB and SCB opened their first representative offices in Myanmar in 2012, while KBank opened the first one in 2013. Bangkok Bank opened a representative office in Myanmar almost 17 years ago. All the banks expect the ASEAN market to contribute more revenue in the near future (Pinijparakarn, 2013).

Bangkok Bank is Thailand's only commercial bank with an extensive international network spanning 28 branches plus one representative office in 13 economies, seven of which are in ASEAN. Krungthai Bank (KTB), the country's second-largest, sees its role as the gateway bank in preparation for the AEC, providing financial transactions to Thai businesses from its branches in border provinces, because it has the largest number of branches in those parts of Thailand (Pinijparakarn, 2013). While KBank, the country's fourth-largest bank, has set a strategy called the 'ASEAN Alliance' by joining with bank allies in Asia and ASEAN to serve Thai investors who plan to expand overseas and foreign investors who plan to penetrate Thailand, and to focus more on the provinces instead of Bangkok in order to cash in on the booming border trade. Kbank has no branches in ASEAN but supports Thai customers through local partner banks (Pinijparakarn, 2012).

Toward 2015, both large and small companies in Thailand are preparing for the expanded market, which will bring big opportunities and increased competition. Foreign investors have also been preparing for a stronger, more integrated region by increasing the level of foreign direct investment in ASEAN. Therefore, many commercial banks are set to raise their competitiveness through either the opening of new overseas branches or the engagement with local partner banks to serve the needs of business customers. In line with this, there is an increasing demand on Thai managers working in both headquarters and overseas branches to support the international expansion strategies. Foreign-language-proficient human resources with international business skills and willingness to work overseas are a must to expedite the dream, and this is difficult, since most Thai managers want to pursue opportunities in Thailand rather than in ASEAN or China (Wailerdsak, 2013). Also, they need to have an understanding of the banking regulatory environment in these emerging countries with their strict controls and frequent changes.

## **Agriculture and Food**

Besides commercial banks, Thai companies in two sectors -- agriculture and food, and hospitals -- also show the potential to blossom from the AEC. They are categorized into the food and agricultural processing industry group, and the hospital and wellness group respectively, by the Thailand Board of Investment under the five-year plan on investment promotion strategies (2013–2017) (Wongviwatchai, 2013). This explains why more Thai companies in these sectors are looking for partners in other countries for joint ventures or mergers and acquisitions. With the AEC, the market will be bigger. Their success depends on their preparation to cope with the changes.

Looking at Thailand's 50 wealthiest businesspeople ranked by Forbes Asia in 2014, agribusiness tycoon Dhanin Chearavanont of Charoen Pokphand (CP) Group was ranked 2nd (US\$11.5 billion), Charoen Sirivadhanabhakdi of TCC (Chang Beer) Group was ranked 3rd (US\$11.3 billion), Chalerm Yoovidhya of Red Bull Group was ranked 4th (US\$9.9 billion), Santi Bhirombhakdi of Boon Rawd Brewery (Singha Beer) Group was ranked 7th (US\$2.8 billion), Prasert Prasarttong-Osoth of the Bangkok Dusit Medical Services, Thailand's largest private health-care group, was ranked 8th (US\$2.3 billion), Rit Thirakomen of MK Restaurant Group was ranked 13th (US\$1.5 billion), Wichai Thongtang of the Bangkok Dusit Medical Group was ranked 19th (US\$1.1 billion),

Isara Vongkusolkit of Mitr Phol Sugar Group, Thailand's largest sugar producer by volume, was ranked 20th (US\$1.1 billion), and William Heinecke of the Minor International Group was ranked 23rd (US\$1.1 billion) (Forbes Asia, June 2014). In total, 9 out of the 25 richest are in the agriculture and food, and hospital sectors.

The ongoing integration into the AEC presents both opportunities and challenges for Thailand, especially in the agricultural sector, which has long been the country's economic backbone and main source of employment (Suehiro and Wailersak, 2014). The merger and acquisition and international expansion of Thai companies in this sector recently have been dramatic. For example, the Charoen Pokphand Group (CP), is one of Asia's largest conglomerates. It consists of three core businesses that operate in the agribusiness and food, retail and distribution, and the telecommunications industries, with investment in over 20 countries (Wailersak and Suehiro, 2014). In 2013, CP purchased companies at home and abroad, including the acquisition of a \$3.9 billion purchase of Siam Makro, and a \$9.4 billion stake in China's Ping An Insurance (Group) Co. The CP subsidiary CP All, Thailand's largest convenience chain and third largest operator of 7-Eleven stores globally, purchased the 64 per cent majority stake in Siam Makro, the owner of Makro cash-and-carry stores in Thailand, from the Netherlands-based Dutch trading company SHV Holdings. Makro will be a new distribution channel to export Thai small and medium enterprises (SMEs) and agricultural products as well as fresh and frozen products to ASEAN countries, creating an opportunistic distribution channel for SME operators and Thai farmers. Similarly, CP aims to collaborate with Ping An Insurance, China's second largest insurer, to develop the insurance of agricultural corps in every Chinese rural area which is in line with the policy of modernizing China's agricultural sector (interview with company executives). Additionally, Itochu Corporation, Japan's third largest trading company and the FamilyMart convenience store operator, agreed to a business tie-up with CP to target the rising demand for meat and livestock products in China and other parts of Asia in 2014 (Suehiro, 2014).

Likewise, in 2012, beer baron Charoen Sirivadhanabhakdi of the TCC/Thai Beverage Group, Thailand's largest brewer with the Chang beer brand, clinched a hard-fought US\$11.2 billion takeover of Fraser and Neave (FandN), a 130-years Singaporean conglomerate with beverage and property assets. For Charoen the FandN acquisition marks a pivot from Thailand toward South-East Asia's broader and increasingly open markets. In 2006, he listed Thai Beverage in Singapore and two years later Charoen diversified by buying a stake in green-tea maker Oishi (founded by Tan Passakornnatee). Its latest brand is a range of sodas, bottled water, and carbonated beverages under the brand name 'est' (of Sermsuk Plc, which was purchased from the Bulsook family) which competes with Coke and Pepsi. All these emphasize the TCC's determination to expand into ASEAN, which is among the fastest growing economies, as well as its strategy to expand both alcohol and non-alcohol beverage businesses (Rungfapaisarn, 2012).

## **Hospitals**

The hospital business in Thailand has enjoyed a strong potential for increasing demand for medical treatment and other health-care services from both foreign and local patients. Thailand has an advantage given its international reputation as a 'medical tourism hub', with international standards of health care and its comparatively lower costs (Harkins, 2014). Additionally, private hospitals in provinces bordering Laos, Myanmar, and Cambodia such as Udon Thani, Ubon Ratchathani, Chiang Mai, and Chiang Rai have served a number of patients with good financial status from these countries for whom Thailand is the neighbourhood centre of excellence (Ngamsangchaikit, 2013).

For domestic reasons, the Thai health-care sector is expecting robust growth due to an aging Thai population, rising middle-class income, lack of public hospital facilities, higher insurance coverage and the growth potential from neighbouring countries. Since the Thai government started to make significant improvements in the social-security system (SSS) in order that people with middle to higher incomes would spend money to receive better treatment with the private hospitals, the private hospitals have had to keep up with increasing demand.

Due to the upcoming integration of AEC by 2015 and the growing number of foreign patients, major Thai private hospital operators have prepared themselves by merging with each other, expanding their existing capacities, and diversifying their networks of hospitals. For example, Bumrungrad International Hospital (BH), operating since 1989, is the largest private hospital in South-East Asia with a service capacity of 5,500 outpatients per day and 538 registered inpatient beds. Located in the heart of Bangkok, the hospital serves over a million patients annually. Over a half are international patients, including thousands of expatriates who live in Bangkok and nearby countries, plus visitors from some 190 countries around the world (about 30 per cent from the Middle East, 10 per cent each from the United States and Europe). In 2012, BH announced a plan to invest 4.7 billion baht on developing its new eight-level hospital complex on New Phetchaburi Road in Bangkok (Ngamsangchaikit, 2013).

Likewise, Bangkok Dusit Medical Services (BGH), Thailand's largest hospital chain founded by Prasert Prasarttong-Osoth, plans to increase the number of hospitals under its umbrella to 50 hospitals and 8,000 beds by 2015. With the merger and acquisition, in 2014, BGH comprises 43 prestigious hospitals with 5,616 beds, including Bangkok Hospital, Wattanosoth Cancer Hospital, Samitivej Hospitals, BNH Hospital, the Phyathai Group of Hospitals, Paolo Memorial Hospital, and Sanamchan Hospital. Through the Royal International Hospital, it also operates a hospital each in Siem Reap and Phnom Penh in Cambodia. Economies of scale, through the pooling of lab services and the centralized purchasing of medicines, medical supplies, and key medical equipment, are expected to benefit the company in terms of cost-effectiveness (Kunakornpaiboonsiri, 2012).

Interestingly, hospitals in Thailand move fast to respond to changing world demands on medical services. Many internationally accredited hospitals in Thailand, such as Bamrungrad International Hospital and Bangkok Hospital, are making a point of catering to the specific needs of patients from the Middle East, a huge and largely unexplored market, from a dedicated Arab service desk and Arabic-speaking staff (including doctors, nurses and translators) to kitchen facilities that prepare halal meals. Moreover, patients from neighbouring countries, particularly Myanmar, make up the second largest number of patients at many private hospitals in Thailand. The other key Thai players in medical tourism are Phyathai Hospitals and Samitivej Hospitals, which are equipped with a Japanese-speaking wing, and have in-house interpreters for 22 languages, from Swedish to Khmer (interview with company executives).

### **Research Objective and Data Collection**

The study analysed the career histories of two groups of top executives: (1) the board of directors (*kammakan borisat* in Thai) including the chairman, vice-chairman, director, chairman of audit committee, audit committee, and independent director. Often the same individual will hold more than one of these titles; and (2) executive committee (*kammakan borihan* in Thai) including the president or chief executive officer (CEO), executive vice-president (EVP), senior vice-president (SVP), vice-president (VP), group presidents, and executive director. The executives in EVP, SVP jobs typically head functional or operating areas of the corporation. The VP and group president, who typically head a division of the corporation, were the next level (Wailerdsak, 2005). The database that we constructed contains data on 1,018 executives of the 52 companies.

The data was collected from two printed sources: the Form 56-1 Report and the annual reports of each company, which were submitted to the Stock Exchange of Thailand by 31 March 2013. As publicly traded companies, these organizations are required to file documents with the Securities and Exchange Commission which enabled us to identify the top executives and provided access to the appropriate internationalization information. The information collected on each executive examines demographical attributes, educational background, and career histories. Demographical attributes included the executive's gender, the year when the executive was born, nationality, their family relationship with other executives, and the number of company shares they hold. Educational background included the highest type of degrees that the executives earned (high school, Bachelor's, Master's, Ph.D or equivalent, as well as the field of the degree), the name of the educational institutions from which the executives received their degree, and the country where the educational institutions are located (Thailand or

overseas). Career history-related information included data on executives' entry-level jobs, data on each subsequent job up to their current executive position, and work experience in other companies in the past and the present.

## Findings

### Commercial Banks

Banking has been among the top leading businesses in Thailand for a long time. The sector has gathered a number of capable managers with management skills and financial expertise. In October 2013, commercial banks listed on the Stock Exchange of Thailand numbered 11. The data included 366 executives dividing into 133 directors and 233 executive committees. The results of the survey are summarized in Table 1. In both directors and executive committees, the proportion of men (70.5 percent) is higher than females (29.5 percent). However, it can be said that the proportion of women in the banking business is relatively high compared to other businesses because women comprise more than half of the total enrolment in the fields of accounting and business administration in Thai universities, and successfully grew in such career paths (Wailerssak, 2005). Foreigners also had a relatively high proportion compared to other businesses because many banks are managed by foreigners assigned from parent banks, including Bank of Ayudhya (GE Capital, the United States), CIMB Bank (CIMB Berhad, Malaysia), TMB Bank (ING, Dutch), and Thanachart Capital (Nova Scotia, Canada).

TABLE 1  
CHARACTERISTICS OF EXECUTIVES IN COMMERCIAL BANK BUSINESS

Characteristics	Directors	Executive committees	Total (percent of the total*)
Male	107	151	258 (70.5)
Female	26	82	108 (29.5)
Foreigner	22	15	37 (10.1)
Thailand graduated	31	107	138 (37.7)
Abroad graduated	101	127	228 (62.3)
ASEAN graduated	5	3	8 (2.2)
Multinational-experienced	25	58	83 (22.7)
International work experience	15	15	30 (8.2)
ASEAN work experience	6	4	10 (2.7)

Note: \*Total samples are 366 executives

Then, when considering the education credential, the number of directors and executives who graduated abroad (62.3 percent) are more likely than those who graduated from universities in Thailand (37.7 percent), especially directors, who are more likely to graduate from abroad. Many of them are well known in Thailand, including former high-level military officers, former cabinet ministers, former permanent secretaries, former high-level officials, and so on. This reflects a norm of the Thai banking sector which has a closed relationship with these high-class people. While directors and executives who graduated from ASEAN countries are less (only 8 people or 2.2 percent). They graduated from Singapore, Malaysia and the Philippines (the figure included foreigners).

Interestingly, there are 83 (or 22.7 percent) directors and executives with work experience in multinational corporations or international organizations, which is considered relatively high when compared to other businesses. Not only foreigners included in the figure, but also Thai directors and executives used to work for foreign commercial banks having branches in Thailand and globally, such as Citibank, Deutsche Bank, HSBC, Standard Chartered Bank, UOB, Lehman Brothers Capital, Merrill Lynch and Co. Inc., and so on. This demonstrates that the

career paths of directors and executives in the banking sector clearly show that accumulating work experience in foreign commercial banks is a plus, as well as impacting on the cross-border merger and acquisitions.

Also, directors and executive committees who have experience working offshore are as few as 30 people or 8.2 percent; among these only 10 people or 2.7 percent had working experience in ASEAN countries. As mentioned earlier, the number of overseas branches and representative offices in Asia of Thai banks is limited. Only the Bangkok Bank has a long history of doing business in Asia, while other banks have only a small interest.

## Agriculture and Food

Thailand has leveraged its competitive advantage in manufacturing and natural resources to become one of the world's largest and most advanced producers and exporters of processed food products. It now stands as one of the biggest hubs for agribusiness and food in the world. Thailand has grown to occupy this strong position as a result of an abundance of agriculture resources, domestic know-how, and its geographically strategic location at the centre of the world's fastest growing economies (Wailerssak and Suehiro, 2010). Companies in this sector listed on the Stock Exchange in October 2013 numbered 28, but the data is available for only 27 companies, which include 447 executives divided into 263 directors and 184 executive committees. The survey results are summarized in Table 2.

TABLE 2  
CHARACTERISTICS OF EXECUTIVES IN AGRIBUSINESS AND FOOD BUSINESS

Characteristics	Directors	Executive committees	Total (percent of the total*)
Male	206	126	332 (74.3)
Female	57	58	115 (25.7)
Foreigner	20	3	23 (5.1)
Thailand graduated	91	121	212 (49.5)
Abroad graduated	165	49	214 (50.5)
ASEAN graduated	7	1	8 (1.7)
Multinational-experienced	26	26	52 (12.1)
International work experience	8	3	11 (2.6)
ASEAN work experience	2	1	3 (0.7)

Note: \*Total samples for male/female and foreigners are 447 executives; while total samples for other items are 426 executives due to data unavailability.

It was found that the proportion of men (74.3 percent) is larger than women (25.7 percent), in both the board of directors and executive committees. In fact, women on the board of directors are mostly members of owner families or largest shareholders, so they occupy such positions by status. Some women serve on audit committees and as independent directors (who must be outsiders not holding the company's shares, as determined by the Securities and Exchange Commission) because of their expertise in accounting, finance, and law. Women occupied a higher proportion than men in these professional fields in Thailand. The survey results are consistent with an earlier research on the roles of female directors and executive committees in public companies in Thailand (Wailerssak, 2009).

In addition, there are only 23 foreigners (or 5.1 percent), most of which serve on the board of directors as the founders and representatives of major shareholders, for example, Lam Soon Plc. (Singapore), Thai Wah Food Products Plc. (Singapore) and Minors International, one of the largest hospitality and leisure companies in the Asia Pacific region founded by William Ellwood Heinecke, an American-born Thai businessman. There are some foreign

joint ventures, such as Thai Union Frozen Products which have representatives from Japanese Haboromo Foods Corporation Ltd. and the Mitsubishi Corporation. There were no foreigners at all in the other companies.

When considering education credentials, the number of directors and executives graduated in Thailand (212 executives or 49.5 percent) is equal to that of those graduated overseas (214 executives or 50.5 percent). However, it is likely that the proportion of directors who graduated abroad (165 people) is higher than that of executive committees (49), nearly threefold. In other words, the human capital of the directors in terms of investment in education is higher than the executive committees because studying abroad often means further studying a master's degree or doctoral degree. So that graduation from abroad is regarded as an important factor of career progression in management professionals. We can say that the readiness of Thai managers in terms of living experience abroad, learning new technologies and knowledge in foreign countries, language proficiency, and global perspective through studying abroad is relatively high. However, the number of those graduating from ASEAN countries is very low (only 8 people or 1.7 percent). Most graduated from the United States, England and Australia. For this reason, it can be said that the Thai top executives who know ASEAN countries well are few in number.

Interestingly, there are 52 (or 12.1 percent) directors and executives with experience working in multinational corporations or international organizations. Most had been working in top multinationals operating in Thailand, such as Nestlé (Switzerland), Dole (US), Unilever Group (Anglo-Dutch), Yum's Restaurant International (US), Colgate Palmolive (US), foreign commercial banks, foreign accounting offices, Thai-born multinational corporations, such as Minor Food Group Plc, Minor Corporation, Mitr Phol Sugar Plc., Siam Cement Plc., and retired officials of the Thai Embassy in foreign countries and the Ministry of Commerce. This shows that when organizations are demanding executives with expertise in foreign trade, they will hire executives from the external labor market. For multinational-experienced executives, it is assumed that they experienced import/export activities in agribusiness and food industry that can directly match with the demands of overseas expansion.

However, for retired government officials, it is noted that from the experiences of US multinational corporations, in the early stages of their drive overseas, they hired these elites to head up their international division. Although they had excellent contacts in the governments of many nations and could converse in several languages, they were less familiar with businesses (Bartlett and Ghoshal, 1992).

If we consider the expatriated managers sent to work in many different countries, the number is very small. Only 11 (or 2.6 percent) directors and executives have international work experience and among them just three people (or 0.7 percent) had been working in ASEAN. This figure included foreigners too. Indeed, many companies are top exporters in the agribusiness and food sectors and setting up subsidiaries abroad. The result reveals that international work experience is not a major determinant of advancement opportunities for executives, and the degree of internationalization of Thai companies is not so high. Executives, hence, are required to have knowledge and expertise in the domestic market. In the future, as trade liberalization grows, aggressive expansion overseas will need to create or seek out talented executives with work experience in the destination countries more seriously.

## **Hospitals**

Companies operating hospital businesses that listed on the Stock Exchange of Thailand in October 2013 numbered 15. But the data are available for only 14 of these companies, which include 224 people dividing into 174 directors and 50 executive committees. The number of executive committees is small due to data unavailability. The survey results are summarized in Table 3.

For both directors and executive committees, the proportion of men (73.7 percent) is higher than women (26.3 percent) similarly to other businesses. However, it was found that the ownership structure of these companies is that of a family business. The founder or current management team hold a large percentage of the company's shares. The board of directors is also markedly occupied by family members, especially in small- and medium-sized

companies and in those located in the provinces. For example, Aikchol Hospital of the Vanich family, the Wattana Hospital group of the Tangsubkul family, the Mahachai and Chaophya hospital group of the Patanwanich family, the Vichavej International Hospital group of the Vanadurongwan family, and the Bangkok Chain Hospital group of the Harnphanich family. Only the Bumrungrad Hospital has foreigners and Thai doctors with experience working in hospitals abroad on the board of directors and the executive committees.

TABLE 3  
CHARACTERISTICS OF EXECUTIVES IN HOSPITAL BUSINESS

Characteristics	Directors	Executive committees	Total (percent of the total*)
Male	137	28	165 (73.7)
Female	37	22	59 (26.3)
Foreigner	2	2	4 (1.8)
Thailand graduated	113	36	149 (66.8)
Abroad graduated	60	14	74 (33.2)
ASEAN graduated	3	1	4 (1.2)
Multinational-experienced	7	5	12 (5.4)
International work experience	5	5	10 (4.5)
ASEAN work experience	0	1	1 (0.4)

Note: \*Total samples for country of graduation are 223 executives; while total samples for other items are 224 executives.

It is obvious that companies operating private hospital business in Thailand are family-owned and managed companies and focus mainly on patients domestically. Their patient portfolio covers a wide demographic of the more affluent local patients seeking high-quality private health-care services, foreign patients seeking treatment as part of the medical tourism industry, and those living in Thailand. There is also a growing middle-income class with self-payment private health insurance and lower level patients under the social security scheme in the country, creating a new client target for Thai health-care providers. As mentioned earlier, in recent years, Thai companies in this sector have been active in investing in buildings and personnel to accommodate more Thai and foreign patients and preparing themselves for the competition as a result of the AEC agreements that include liberalization of many sectors, including the private health-care sector, through a merger and acquisition strategy. Meanwhile, only a handful of companies such as Bangkok Dusit Medical Services and Bamrungrad International Hospital are taking the offensive to overseas investment, particularly in ASEAN.

## Conclusion

This study aims to examine the existence of global managers among executives in companies listed on the Stock Exchange of Thailand in three business sectors, including commercial banks, agriculture and food, and hospitals. Four career patterns are identified based on educational credentials, nationality, and international work experience. The database of 1,018 top executives, including directors and executive committees, of 52 listed companies revealed that the level of global managers in Thailand is moderate and the ASEAN readiness of Thai companies is relatively low. This is measured by the proportion of executives having international work experience, including foreigners. If this proportion is high, it will represent high readiness, and vice versa.

When looking at educational credentials, 516 executives (or 50.7percent) of the total graduated from abroad, particularly from the United States, England, and Australia. Among them, the number of those who graduated from ASEAN countries is minimal, just 20 executives (or 1.9percent) of the entire survey. The results reveal the weakness of the managerial development in Thailand that has focused only on educational credentials in

terms of high-level education in master's or doctoral degrees and graduation overseas or not, rather than international work experiences. The level of global leadership of Thai executives is, therefore, at a moderate level, as it is concentrated in Pattern 1 of Figure 1 – 'study-abroad executives'. Until now, as domestic markets are relatively large, and knowing the domestic market is essential to large corporations, the value of international experience seems to be of low relevance to senior executives.

As for nationality, there are 64 (or 6.3percent) 'foreign executives' (Pattern 3 of Figure 1) in the samples. They have a high level of global leadership because almost all have experience working in foreign countries for many years before working in Thailand. The study shows that the greater the pressure from foreign shareholders and the more aggressive strategies on overseas expansion, the greater the number of foreign executives. It can be said that Thai companies are typically family businesses, if they wish to expand abroad, joint ventures with foreign partners and hiring foreign executives are considered as a means of achieving internationalization<sup>1</sup>.

When considering the work experience, executives who have experience working in multinational corporations or international organizations based in Thailand, Pattern 2 of Fig.1, accounted for 147 executives (or 14.5 percent) of the total samples. This reveals that when Thai companies want to expand overseas, this 'buying' method is widely used as a short-term solution, while executives who have international work experience (including foreigners), which is categorized in Pattern 4 of Fig.1, accounted for only 51 executives (or 5.0 percent) of the total. In addition, if we focus on the executives who have experience working in the ASEAN countries, the figure would be much lower (14 executives or 1.4 percent).

This phenomenon might have been necessary given the rapid international expansion of companies in Thailand during the past decade, which has greatly outpaced the growth of educational attainment and international assignment. Therefore we can conclude that Thai executives have specialized mainly in the domestic market. They are ready for the AEC in terms of the 'defence' side, so it will not be so easy for foreign capitals to enter the competition in Thailand, but in terms of 'penetration' into the ASEAN markets, they may not be ready.

In the future, if Thai companies intend to expand overseas markets seriously, they need to plan in the long term to not only hire executives from outside, but also to foster globally savvy executives within the organization, the so-called global managers, globalizers, global citizens, transnational competent managers, or someone with a global perspective and mindset. Indeed, without a pool of global managers, economic growth will slow and outward foreign direct investment aspirations will be thwarted. To address this situation, Thai companies may embark on a two-prong approach to develop global managers: first, linking international assignments to career advancement into top management positions, in order to motivate people to commit to conducting business in foreign countries; second, raising the awareness and mindset of working abroad through rotating staffs, accelerating development of the ability to use English and ASEAN languages, and preparing to communicate and collaborate with foreigners both in Thailand and the destination countries of investment. In addition, leadership in diversity management is another feature that executives should have in order to be able to cope with the changes, create visions, decide the future direction of the organization, and to manage people regarding multiculturalism. This kind of promise requires attention to developing a greater number of managers who can work effectively in global roles.

Lastly, according to interviews conducted by the author with senior executives of several Thai-born multinationals, it is found that expatriates still take longer, on average, to ascend the corporate ladder than managers who continue work within Thailand. That indicates a deficiency in this area, as well as an incentive problem. Furthermore, one of the most common reasons for why Thai managers turn down international assignments is related to their career prospects, more specifically to concerns that they will be forgotten or will not have a position to return to upon completing their assignment. Executives, who gained international experience by staying in the company headquarters, periodically visiting foreign divisions, may reach top positions faster. Therefore, future research regarding middle managers, who are the key personnel in operations abroad (Osterman, 2009) and global

leadership are strongly required. This is a new challenge faced by international human resource managers in the era of globalizing Thailand.

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#### End Notes

1. The Central Group, Thailand's biggest retail conglomerate, is currently managing 23 shopping centres in Thailand and plans to expand the shopping malls to overseas, beginning with the acquisitions of department

stores in Europe (La Rinascente in Italy in 2011 and Ilum in Denmark in 2013) and the opening of shopping malls in Asia. The company employs 38 foreign executives from 13 countries including the United States, China, Singapore, Russia, England, and combines them with the local executives. This is a new HRM paradigm in Thailand.

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**Track: Marketing, Services, E-Commerce, Sports and Tourism**

## ***Impact Of Humor In Advertising Marketing, On Purchase Intent A Study To Investigate The Effectiveness Of Humor When Introduced In Marketing Communication As Advertisement***

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### **Abstract**

*The Intention of a consumer to purchase a commodity or services is often dependent on how the marketer presents his ideas. The purpose of this paper is to investigate the overall impact of using humor in advertising marketing on the purchase intention keeping in view the moderating effect of informativeness of advertisement and attitude towards media as channel of communication.*

*Survey method was employed. A self administered questionnaire was used for this purpose. A sample of 200 students was chosen. Convenient sampling technique was to collect the data from individual respondents, which brought back 179 useable responses.*

*Hypothesis were built around the observation that purchase increases if humor is used in advertisements and that relationship of humor in advertising and purchase intention is moderated by attitude towards advertisement. Dependent variable, Purchase Intention, was observed to be impacted by humor.*

*Implication of research into the theoretical framework proved humor to be one of the strong tools to advertisers in grabbing the attention of consumers. Mediation of interacting variables; informativeness and attitude towards advertisement, was found to strongly influence the relationship between humor in advertisement and buying decisions.*

*These findings will enable advertisers to grab the attention of a consumer, change purchase intention and decide whether or not to use the tool of humor in commercials. This paper adds value to research by testing the role of informativeness & attitude towards advertisement, on consumer's choice.*

**Keywords:** *Humor in Marketing strategy, Purchase Intention, Informativeness, Attitude towards Advertisement*

### **Introduction**

Humor in advertising is like treading on fragile grounds to attract attention of the prospective consumer (viewer, listener) towards a product. It's tricky to use humor in a way for it to be seen in a favorable light, to cash in on it. This is done by introducing humor to the taste of the intended audience with successful communicating strategy. Marketers traditionally present their products to consumers in a favorable light (Eisend, 2006). Using humor in advertising marketing is considered to be a useful & favorable way of delivering message and information to the consumers of a product.

Research tells us that Humor in advertisements and its likability have positive relationship with each other;

the more the advertisement is humorous, the more it will be liked by the customers (Cheng and Duo, 2003). That is why organizations spend a huge amount of money to create humorous ads so that their products could be sold (Spotts, Weinberger, Parsons, 1997). Cheng and Duo (2003) has defined humor in terms of how well the audience perceive the level of hilarity and it can be administered by a pencil and paper test to measure how the audience perceive a particular message as humorous and funny or not."

In the context of Pakistan, Ufone a multinational Telecom operators has employed the funny ad campaign with use of puns, wordplays, punch-lines and taglines. The catchiness of its commercials has lead to increase in sales in the years 2015 & 2016 especially creating a stir is its response to the advertisement JazzX by Mobilink, another telecom operator.

The purpose of advertising is to attract customers towards your product and humor does so very effectively by associating positive image of the product to ad recall, which is proven by research. Cheng and Duo (2003) have strongly supported the use of humor in ads by indicating that humor is widely used in advertisements because campaigners consider humor as a powerful tool to grab the feelings and liking of the client towards the product and advertisement. They further added that if advertisers get successful in grabbing the attention of consumers then they are successful because the relationship of likeability of brand and purchase of brand are mediated by likeability of advertisement of that brand (Cheng and Duo, 2003). Liking of source increases if humor is used, resulting in the increase of persuasive effect of the message (Sterthal and Samuel, 1973). Negative impact of advertisement can also be minimized through humor which clips or truncates the shortcomings or defects in the item and enhance its acceptability (Cheng and Duo, 2003).

#### **Literature Review:**

Advertisements may be effective in gaining and maintaining attention to advertising (Spotts, Weinberger, Parsons, 1997) but in the current world where competition is high, it is becoming increasingly difficult for the firms to attract and establish attention of consumers towards advertisement (Pieters, Warlop and Wedel, 2002). These commercials for want of offering anything different or better may drown out in a pool of alternatives. Now there is growing recognition of the complexity of consumer advertising and the complexity of the relationship between the audience and their advertising so various practitioners and academicians believe that research should be focused on consumers and their responsiveness to advertisement content, rather than how advertisements can affect them (O'Donohoe, 1994).

Marketers traditionally present their products to consumers in a favorable light (Eisend, 2006). A favorable and useful way to deliver message and information to the consumers of a product is usually by using humor in advertising (Cheng and Duo, 2003). Effectiveness of advertisement increases by using humor (Gelb and Pickett, 1983) that is why Humor is often featured in consumer advertisements. A study by Beard (2005) reviewed the history of advertisement of last 100 years. Beard (2005) states that the first decade or so of the twentieth century, where most of the major advertisers in the United States favored a serious and reasonable advertising, was transported to equally serious listeners. Beard (2005) further adds that Humor was mainly avoided because it was considered detrimental to the dignity and a show of poor taste. It was perceived as a professional embarrassment to hide the truth behind entertainment and advertising in the last century and it has also been considered to be inconsistent with what is considered effective advertising. It was pointed out that "humor is not for sale". This dogma was held throughout the twentieth century (Beard, 2005) although the 1980's saw signs of creative revolution in the wake of emotional appeals and image advertising, on the rise (Sivulka, 1998).

Then the question is of effectiveness of advertisement. Scaling the effects of using humor in Advertisements is a complex phenomenon (Spotts, Weinberger, Parsons, 1997) because of the complexity of consumer advertising and the intricacy of the relationship between the audience and their advertising (O'Donohoe, 1994). Even then each year, organizations spend billions of dollars on advertising that uses humor to sell products

(Spotts, Weinberger, Parsons, 1997). An investigation by Spotts, Weinberger, Parsons, (1997) proved the effectiveness of humor through verification of its significance in advertising. Another tool for using humor is creativity, which is a strong contributor to the success of advertisement (Tai, 2007). Also if humor is used in advertisement, then it should be supported by all the elements of advertisement otherwise it will not be effective (Spotts, Weinberger, Parsons, 1997).

A qualitative study was held by Fam and Waller (2006) in which Participants were shown an advertisement after which they were asked about what they liked in the advertisement. This study revealed that television commercials are liked because of its “entertainment value” and not for the product (Fam and Waller, 2006). Fam and Waller (2006) further added that Indian people like to have fun, humor and entertainment. In addition, the adjustment with a touch of warmth, joy, refreshing environment and adherence to tradition was also critical in deciding the fate of its success and receptivity (Fam and Waller, 2006).

The study of Madden and Weinberger (1982) found significant relationship between using humor in advertisement and attitude towards advertisement. Results on the humor appeals are similar to those of many other studies; they were not different than the straightforward information treatment (Brooker, 1981). A research conducted by Wang, Zhang, Choi, and Eredita (2002) suggested that Entertainment, Informativeness, Irritation, Credibility, Interactivity, Demographics are the antecedents of attitude towards an advertisement.

#### **Attitude toward advertisement:**

Attitude toward advertisement is defined as a learned predisposition to respond in a consistently favorable or unfavorable manner toward advertising in general (MacKenzie and Lutz, 1989) Attitude to advertising is a necessary but insufficient condition for ad effectiveness (Pieters, Warlop and Wedel, 2002) that is why this research is focused on Credibility and recall ability also. Knauer (1973) states that there is a very low attitude of public towards advertisement.

The research conducted by Waller, Fam, Erdogan, (2005) aimed to determine the attitude of consumers towards advertisement of certain products and services. They also found that religion and history are important factors in this regard whereas geography is of little importance (Waller, Fam, Erdogan, 2005). Romani (2006) conducted a study regarding effectiveness of advertisements that contained misleading information about the products/services. Romani (2006) states that such ads will have a negative response judged by the consumer attitudes.

A cross cultural study by Fam and Waller (2006) found different patterns of interest between five Cities that stimulated different attitudes; these differences can be attributed to various local cultures, to a lesser extent, other market-related factors, such as the general attitude toward advertising, and point of view of culture , consumer confidence and an hour a week watching television. A positive relationship was found between humor and attitude towards advertisement (Gelb and Pickett, 1983).

#### **Informativeness:**

In order for a commercial to be considered informative, it must permit a typical viewer to make a more intelligent buying decision after seeing the commercial than before seeing it. In other words, it must provide cues that enable viewers to better achieve their own personal sets of purchase objectives (whatever they may be) (Resnik and Stern, 1977). A non-informative advertising policy may self-destruct by virtue of the fact that the consumer, especially in present inflationary times, is seeking relevant product information and will purchase products that can show real benefits over existing alternatives (Resnik, and Stern, 1977). Tai (2007) found strong correlation between informativeness of advertisement and the success of advertisement. The research of Arora (2007) aimed to explore

the validity of information sources to develop and generate credible attitude, intention and belief towards the advertisement.

The results showed that informativeness about a product led to positive development of more effective change in people's attitudes and intentions (Arora, 2007). Although knowledge is important to the association of interest towards buying, the survey results show that the communication strategy did not change the need for product consumption through the introduction of more and more mature ad content (Arora, 2007).

#### **Purchase Intention:**

Arora (2007) conducted a research which aimed to explore the relationship of informativeness of advertisement with attitude towards advertisement and intention to purchase the product. Humorous advertising improves the brand recognition for a particular customer, but does not improve product recall, message credibility, or buying intentions (Levit). If advertisement is non informative or it is giving wrong information about its product, it leads to the decline of intention to purchase the product (Romani, 2006). The purpose of the study was to investigate consumer response to advertisements containing misleading price information. Experimental studies have shown that messaging strategy where an incorrect price approach employs the use of misleading the consumer through a lower level of information source development and breach of information integrity adversely affecting willingness to buy (Romani, 2006). Purchase intention is to be measured on the basis of credibility and recallability. The citation of literature regarding both of these is given below.

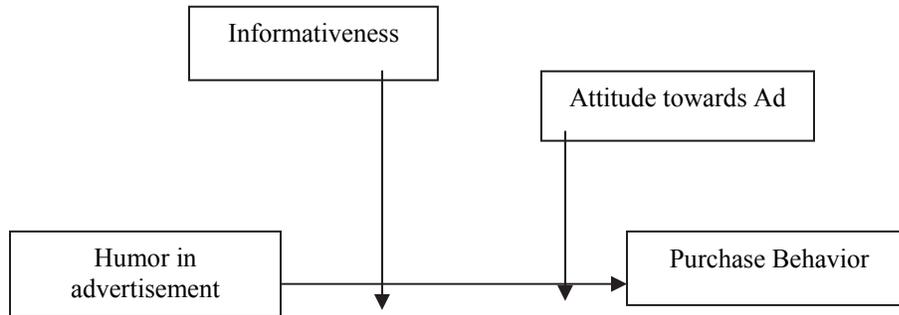
#### **Credibility:**

Ad credibility is defined as the extent to which the consumer perceives claims made about the brand in the ad to be truthful and believable (MacKenzie and Lutz, 1989). Thus the credibility of the source of advertisement is enhanced if humor is used in advertisement (Sternthal and Samuel, 1973). Beard (2005) suggests that Humor was mainly avoided because it is considered detrimental to dignity and a show of poor taste. It was perceived as a professional embarrassment to hide the truth to engage only for the entertainment value during the advertising of patent medicines during the last century. Credibility has a lot to do with informativeness of advertisement, i.e. if advertisement is more informative, it would be more credible (Romani, 2006). Same is for opposite direction, if less or wrong information is given, the credibility goes down (Romani, 2006). Arora (2007) found that credibility has strong influence in changing the intention of consumers towards a product.

#### **Recallability:**

In the current world market, it is very necessary to consider recallability of advertisements, whether people remember the products or not (Pieters, Warlop and Wedel, 2002). People remember those ads for a longer period of time which tend to be funny (Levit). In view of increasing interest and practical importance of the correct attitude and the right ad, we must examine more closely the factors that may at first shape the specific attitudes towards these ads (Muehling, 1987). Muehling (1987) further states an empirical study to show that traditional attitudes and beliefs about a project and a heuristic thought-provoking work, support the concept of advertising as a multi-faceted approach that includes the attitude of the institution as well as the tools used by advertisers to leave an imprint in the consumer mind more effectively .

### Theoretical Framework:



### Hypothesis:

Following hypothesis were generated on the basis of literature review

H1: Intention to purchase increases if humor is used in advertisements.

H2: The relationship of Humor in advertising and purchase intention is moderated by attitude towards advertisement

H3: If a humorous advertisement gives complete information about the product, its intention to purchase increases

### Methodology:

For collecting data, instrument was requested from a researcher in United States of America who previously used this instrument in a study about humour. The instrument was tested in current circumstances through a pilot study for checking its validity and reliability in our region. Sample size of pilot study was 35 respondents from different professions and areas. Convenient Sampling technique was used for targeting population of concern. Due to vast majority having experience of products sold through humour, no specific population was targeted hence the targeted population was general public.

Actual study started after pilot study success was demonstrated through the usage of the instrument designed by foreign researcher. 179 healthy responses selected out of 200 total respondents due to their effective utilization, were observed. The process of data collection was self administered to approve the process. The majority was students from universities for they are expected to be educated and responses are of better quality in comparison with other respondents. Greater youth market in Pakistan is also a reason motivating researchers to research about youth behavior.

### Results & Discussion:

To investigate its effectiveness on purchase intentions, study has been designed to have a look into the probabilities of purchase intention. Dependent variable, Purchase Intention, was observed to be impacted by humor. Formally testing the significance of impact, the scientific study consisting of survey was carried out for this purpose. Results show great relevance to our hypothesis as H1 has been accepted

**Table 1** presented the significant relation of humor and purchase intention. Beta is 0.467 which reports the variation in dependent variable due to independent variable. Change in R Square is 0.218. These results prove

hypothesis 1, that humor in advertising has impact on purchase intention, is true. P value is less than 0.05, so H1 is accepted.

TABLE 1

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta	B	Std. Error
1 (Constant)	2.057	0.188		10.913	.000
Humor	0.327	0.047	0.467	7.018	.000

Dependent variable: Purchase intent (FIG 1)

TABLE 2

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta	B	Std. Error
1 (Constant)	2.403	0.249		9.657	.000
Attitude towards Humor	0.068	0.017	0.523	4.062	.000

Dependent Variable: purchase intent (FIG 2)

Table 2 presented the moderation analysis. By introducing the moderating variable, attitude towards ad, relation of humor in ad and purchase was more meaningful. Before introducing the moderating variable, beta was 0.467. After introducing the moderating variable beta increases to 0.523 which shows the increase in variation by (.056). Furthermore, Change in R Square also increases from 0.218 to 0.235. This variation confirms the moderation impact as well. These results prove that attitude towards an advertisement would be positive with respect to purchase intent if humor was introduced. P value is less than 0.05, so H2 is accepted.

TABLE 3

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta	B	Std. Error
1 (Constant)	2.690	0.2413		11.089	.000
Attitude towards Humor	0.056	0.019	0.497	2.945	.000

Dependent variable: Purchase intent (FIG 3)

Table 3 presents the moderation analysis. By introducing the moderating variable, informativeness of ad, relation of humor in advertisement and purchase grew. Before, introduction of the moderating variable beta was 0.467 after introducing the moderating variable beta increased to 0.497 which shows the increase in variation by

.030. Further Change in R Square also increases from 0.218 to 0.230. This variation confirms the moderation impact as well. These results prove that informativeness of ad would enhance the “humor in advertisement” and “purchase intent”, relationship. P value less than 0.05, so H3 is accepted.

Table 4

		Humor	Purchase intent	Attitude	Informativeness
Humor	Pearson Correlation	1	0.467**	0.074	0.113
	Sig. (2-tailed)		0.000	0.328	.131
	N	179	179	179	179
Purchase intent	Pearson Correlation	0.467**	1	0.090	0.0328
	Sig. (2-tailed)	0.000		0.229	0.668
	N	179	179	179	179
Attitude	Pearson Correlation	0.074	0.090	1	0.062
	Sig. (2-tailed)	0.328	0.229		0.408
	N	179	179	179	179
Informative	Pearson Correlation	0.113	0.032	0.062	1
	Sig. (2-tailed)	0.131	0.668	0.408	
	N	179	179	179	179

Correlation is significant at the 0.01 \*\* level (2-tailed-FIG 4)

Table 4 presented the relations of humor, purchase intention, attitude and informativeness. Relationship of humor, the independent variable, and intention to purchase, the dependent variable, is significant. This shows that association between humor and purchase intention is 0.467. Further relation of moderating variables with independent and dependent variables are reported. All relations are positive which means that direction of independent and dependent variables is same. In other words increased humor in ad would boost the intention to purchase.

### Descriptive Statistics

	Mean	Standard Deviation	N
Humor	3.9106	1.01706	179
Purchase intent	3.3371	0.71369	179
Attitude	3.6518	0.68315	179
Informativeness	3.0894	0.73656	179

## Conclusion:

Intention of a consumer to purchase depends on the style in which an advertiser presents his ideas. Humor is very effective to grab attention of consumers. The purpose of this paper is to discuss the overall impact of using humor in advertisement, on the purchase intention of the buyer keeping in view the moderating effect of Informativeness of advertisement and attitude towards commercials. Humor has been found to be one of the strong tools that can be helpful to advertisers in grabbing the attention of consumers and to change their purchase intention. Moderating effect of Informativeness and Attitude towards advertisement has also been found to strongly influence the relationship of Using Humor in Advertisement and Purchase Intention. These findings will help people working in advertising areas to grab the attention of consumers and to understand how to change purchase intention and whether or not to use the tool of humor in their advertisement.

## Recommendation:

It's a tricky road nevertheless to create humor, since any failed attempts at creating humor can adversely impact the sales of the product and failed humor can be annoyingly irritating. Therefore good quality humor is an art which may be kept under wraps if it cannot be somehow relevant to the product or is ineffective at attracting interest. It's like an attempt at swimming, with successful strokes you reach the shore otherwise you drown completely. In Pakistan the telecom operators continuously have to compete with an endless downpour of advertisements which create such humor that at times cannot capture its relevance with the product, ultimately it fades from people's minds, though they may remember the funny act itself. More research is required to investigate the aspect of relevance with product and hilarity associated with its advertisement.

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## ***Application of Neuromarketing Perception in Commercial Sales in SMEs of Jewellery Industry in Guadalajara***

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### **Abstract**

*Neuromarketing knowledge can be considered as support into a strategy to improve the quality in the service at SMEs. The research analyzed the relationship between neuromarketing perception and the quality of service for sales to the final customer of comercial SMEs in Guadalajara jewelry industry, as the jewelry Capital of America and one of the most profitable industries in the economy of Mexico. The methodology used was correlational, a field research, non-experimental and transactional. Demonstrates a relationship by applying the statistical test of Wilcoxon, among others, the factors of neuromarketing with tangible elements in direct sales, intangible items in sales by social networks and intangibles elements. This is an empirical study supported in scientific studies performed by neuroscience machines. It contributes to the application at a low cost of knowledge which was previously obtained through scientific studies of neuromarketing, allowing a better understanding of the needs and desires of consumers to carry out strategies while retaining a purpose practiced in the business environment.*

**Key words:** *Neuromarketing, Sales, Service Quality.*

### **Introduction**

Neuromarketing is a recent area of knowledge which is believed to represent the twenty-first century in microbiology in the twentieth century, chemistry in the nineteenth or physics in the eighteenth century (Bachrach, 2013). Is defined by Klaric (2011) as the study of the effects of advertising and other communications with the human brain with the intention to get to predict consumer behavior, connecting strategically products, services, brands or categories to the customer's mind.

As part of the foregoing in Mexico SMEs constitute 95% of established companies and contribute 23% to GDP, but it has a number of problems that causes 75% shut down their operations after two years on the market (INEGI, 2010), and the possibility of success is in average 25% to 30%, below the world average that is 40%.

### **Problem statement**

Today, despite being one of the major drivers of the economy, it has a number of problems that cause 75% of SMEs closing their operations after two years on the market (INEGI, 2010). One of its main causes is the lack of proper application of marketing caused by ignorance on the part of entrepreneurs in the new areas of marketing which produces a greater connection between the brand and the consumer (Braidot, 2009).

The problems for the development of SMEs are increased because not only do they have to compete with Mexican companies but also with companies from foreign market, this occurs by the wide trade liberalization happened in Mexico in recent years caused by NAFTA (Haar, 2004). Consequently, it results in a dispute with

companies that offer products and / or services with lower prices than those offered by the domestic market and higher added value, generating a more competitive environment affecting the return on investment achieved prices.

One of the new trends in marketing is being used by more than 80% of the 100 leading companies in the business world to show positive results and its structure has the ability to adapt to different business and sizes is neuromarketing that is defined as the identification of brain areas involved in the process of buying a product or a brand selection (Taher, 2006).

### **Investigation questions**

1. What is the proposal to compare the relationship between neuromarketing and service quality in a sales model led to the end customer?
2. What are the factors influencing neuromarketing commercial SMEs in the jewelry industry in Guadalajara?
3. What is the relationship between the elements of the quality of the service involved in commercial SMEs in industry jewelry in Guadalajara?
4. What is the relationship between the variables of neuromarketing and service quality of commercial SMEs in the jewelry industry in Guadalajara?

### **Theoretical review**

#### **Small and médium-sized enterprises**

Mostly SMEs are intended for the business and a considerable percentage of companies that are engaged in the production of products also sold so discarded intermediaries, thereby achieving a more direct relationship between producer and consumer.

SMEs are mainly focused on the retail although this is one of the most competitive and less profit margin sectors, but the risks in its operations are smaller resulting in more attractive for its establishment (Canning, 2002).

#### **SMEs in the jewelry industry in Mexico**

Mexican craft sector is made about a million people scattered in 31 Mexican states with a higher concentration in the western and central of the country (INEGI, 2010). The jewelery industry in Mexico obtained a growth of 1.5% in 2013 and an annual production of 144 186 000 pesos (The Economist, 2014), representing 0.4% of total production volume (Guzman, 2006). It consists of 40 jewelers' centers, 700 designers, manufacturing workshops 2,000 and 1,000 exporters. Mexico stands out for its extensive jewelry tradition emphasizing in the manufacture of handmade jewelry. Only in the area of Jalisco is one of the national leaders in the production and commercialization is 60% of the jewelry in the country following in order of importance the Federal District produces 30% and Monterrey with 10% (Guzmán, 2006).

### **Neuromarketing and scientific contributions**

#### **Neuroscience**

Neuroscience represents the fusion between the disciplines of molecular biology, electrophysiology, neurophysiology, anatomy, embryology, developmental biology, cell biology, neuroscience, cognitive neuropsychology and cognitive science (Braidot, 2007).

The main aspect of neuroscience is to explain how millions of individual nerve cells work in the brain to generate behavior and in turn are influenced by the environment and the behavior of other individuals (Barrier, 2009). Neuroscience makes it possible to integrate the contributions of studies on the interpretation of the central nervous system in different communication systems to link them with perceptual representations of individuals to gain the knowledge of the inner workings of behavior that reveal the association of thought with feeling, that is, meet the functional structure of the mind and how it interacts with neurons to define human behavior (Malfitano, 2007).

### **Adaptation of neuromarketing in SMEs.**

Today the constant changes have led to the marketing employee in business to be redesigned in order to meet changing consumer needs and achieve greater effectiveness in customer satisfaction, creating a competitive advantage and greater return on investment sales (Kojima, 2010).

In order to survive, achieve thrive in a highly competitive market and distinguish themselves from competitors is necessary to increase the effectiveness of marketing businesses by neuromarketing, knowing what the customer really wants and not what he says he wants, with adequate information to ensure proper planning and distribution of the product and / or service in the target market (Brooksbank, 2002).

Currently neuromarketing is used mostly by large enterprises, but also can be implemented in SMEs by focusing on rational, emotional and instinctive process of the buying process, meeting the needs and desires of consumers to form an emotional attachment to the brand, adapting to the areas and circumstances to be defined business objectives. (Sánchez, 2013).

Neuromarketing can be adapted in SMEs in various aspects: the package that is part of the experience offered by the company being the first thing what the customer perceives to modify it and as a result to make it more pleasing to the eye by organic forms, causing activation zone providing brain reward surprise and joy which improves the perceived experience in buying, it can be used in placing items and decor to provide a comfortable environment to encourage sales providing cross-selling different products, also in the creation , product development and design, and especially in dealing with the client (Ruiz, 2012).

### **General purpose**

Outline a model of sales to the end customer to compare the relationship between neuromarketing and quality of service.

### **Methodological design**

Based on the needs of the research study, the modalities of fieldwork and archival research are used; then graphically described the process that took place in the working methodology.

Using non-experimental research of transversal character, the purpose is the collection of data to describe the variables without prior manipulation and analyze their relationship at a given time (Baptista, al el, 2010). It is composed of:

- Exploratory research- Are survey SMEs belonging to the industries jewellers located in Magno Centro Joyero San Juan de Dios of Guadalajara as the jeweler mall number one in Latin America and its external customers in a period between August to October 2015.

- Correlational research.-Through this research will study the relationship between neuromarketing and quality of service.

The independent variable sales to final customers is comprised of the dependent neuromarketing variable that is made up of the factors of neuromarketing and the dependent variable quality of service that is made up of the elements in the quality of service. It was designed based on the model of the thesis of expertise of the University of Zulia from the Bolivarian Republic of Venezuela with the theme: Neuromarketing and quality service of the pharmaceutical sector in the city of Maracaibo. It is adapted to support a fashion designer school Center Fashion Design and studies in a jewelry school. A specialist in quantitative methods at the University of Guadalajara and a doctor specializing in consumer behavior and brand. (Table 1).

TABLE 1: PROPOSAL MODEL

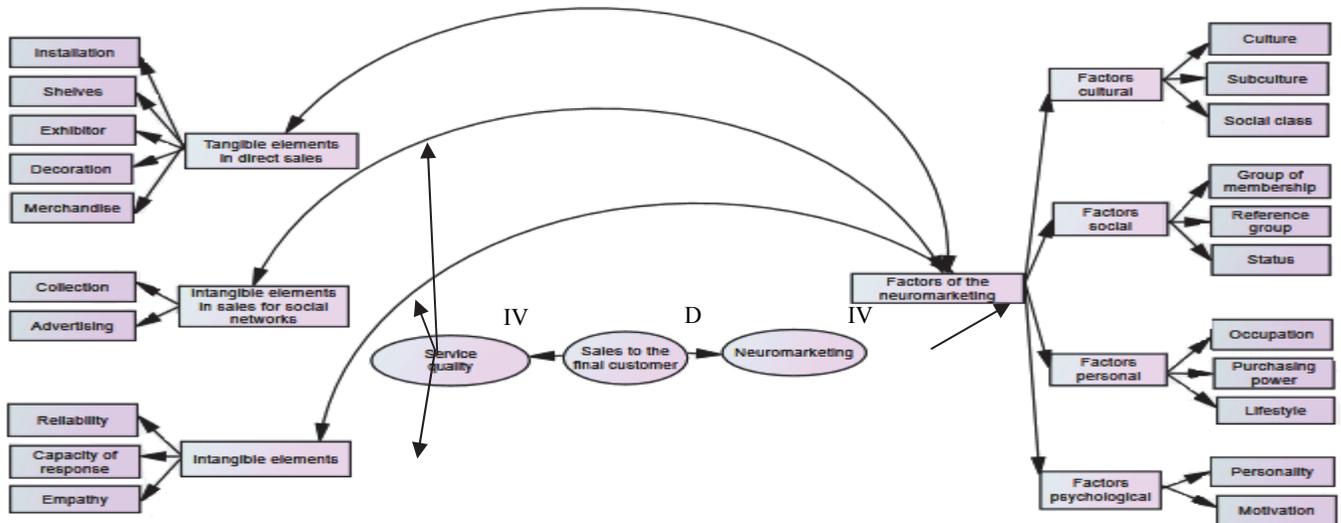
Variables	Dimensions		Sub-dimensions	Indicators	Author
Neuromarketing	Factors of neuromarketing	They influence the behavior of the process of the consumers who are determined in major measure by the unconscious zones that for the conscious zones of the brain. (Braidot 2012)	Cultural factors	Culture	(Braidot, 2007)
				Subculture	
				Social class	
			Social factors	Group of membership	(Kotler, 2003)
				Reference group	
				Status	(Braidot, 2007)
			Personal factors	Occupation	(Vélez,2011)
				Purchasing power	
				Lifestyle	(Kotler, 2003)
			Psychological factors	Personality	(Rivera, Arellano, Moreno, 2009)
Motivation	(Rodríguez, at el, 2006) (Kotler, 2003)				
Quality of service	Elements of the quality of service	Habit developed by an organization to interpret the needs and desires of the clients and to offer an accessible suitable service as well as opportune, sure an reliable, still under unforeseen situations. (Pizzo, 2013)	Tangible elements in direct sales	Installations	(Lovelock & Wirtz, 2009)
				Shelves	
				Exhibitor	
				Decoration	
				Merchandise	
			Intangible elements in sales for social networks	Collection	(Web and Macros, 2015)
				Advertising	
			Intangible elements	Reliability	(Prieto, 2005)
				Capacity of response	
				Empathy	

Source: Made by myself

The study used the following dimensions:

- Reliability. - Capacity of the company to provide the service accurately.
- Ability Answer. - Capacity of the organization to assist customers and serve them quickly.
- Empathy. - The company puts in place the client paying attention individually.

FIG. 1. VARIABLES



Source: Made by myself

**Sample**

TABLE 2: SAMPLE

Population	Sample
Variable neuromarketing	
Commercial SMEs in the jewelry industry center located in the Centro Magno Joyero San Juan de Dios	55
Variable quality of service	
Centro Magno Joyero San Juan de Dios. External customers	270

Source: Made by myself

Sampling applied was probability in which all people have studied the same probability of being selected, studying the population evenly. The simple random sampling method providing the same probability of choice in the people who make the sample it was used in the questionnaire application. (Angels & Münch, 2006)

**Results y analysis:**

**Dimension: Factors of neuromarketing**

TABLE 3: FACTORS RESULTS DIMENSIÓN NEUROMARKETING

Sub-Dimensions	Ítems	Indicators	Alternatives									
			TA		DA		NA/ND		ED		TD	
			FA	%	FA	%	FA	%	FA	%	FA	%
Cultural factors	1	Culture	18	32,7	18	32,7	15	27,3	3	5,5	1	1,8
	2	Subculture	19	34,5	22	44,0	3	5,5	8	14,5	3	5,5
	3	Social class	16	29,1	26	47,3	4	7,3	7	12,7	2	3,6
Social factors	4	Group of membership	19	34,5	20	36,4	12	21,8	3	5,5	1	1,8
	5	Reference groups	14	25,5	29	52,7	6	10,9	4	7,3	2	3,6
	6	Status	18	32,7	13	23,6	13	23,6	6	10,9	5	9,1
Personal factors	7	Occupation	23	41,8	16	29,1	10	18,2	6	10,9	-	-
	8	Purchasing power	18	32,7	25	45,5	7	12,7	4	7,3	1	1,8
	9	Lifestyle	16	29,1	18	32,7	13	23,6	6	10,9	2	3,6
Psychological factors	10	Personality	17	30,9	18	32,7	9	16,4	9	16,4	2	3,6
	11	Motivation	12	21,8	21	38,2	13	23,6	7	12,7	2	3,6

Source. Made by myself

The first thing that stands out from cultural factors in frequency data is that of SMEs surveyed the Magno Centro Joyero San Juan de Dios in the first item 32.7% strongly agree and agree that values affect customers in expressing their decision making with a cumulative total of 65.5%, showing that coexist in the jewelry industry indicators neuromarketing as pointed out by Braidot (2007) values are feelings that people have about the products they select. In relation to the second item it is 40% agree that the profession influences customer purchasing jewelry, as is proposed by Braidot (2007) the target market they operate in an environment that produces different demands of the profession-related products. In the third item 47.3% agree that social class influences customer buying jewelry, being an important factor when choosing because the consumer behavior changes, such differences are observed in attitudes, learning and consumption. On the whole cultural and sub-cultural factors are external factors that have great influence on consumer behavior that produce achieving higher levels of competitiveness.

#### Dimension: Elements of the quality of service

TABLE 3: ELEMENTS OF THE QUALITY OF SERVICE

Sub-Dimensions	Ítems	Indicators	Alternatives									
			TA		DA		NA/ND		ED		TD	
			FA	%	FA	%	FA	%	FA	%	FA	%
Tangible elements in direct sales	1	Installation	59	21,9	161	59,6	39	14,4	11	4,1	-	-
	2		63	23,3	151	55,9	49	18,1	6	2,2	1	0,4
	3	Shelves	50	18,5	121	44,8	81	30,0	15	5,6	3	1,1
	4	Exhibitor	41	15,2	140	51,9	83	30,7	5	1,9	1	0,4
	5		57	21,1	132	48,9	70	25,9	9	3,3	2	0,7
	6	Decoration	44	16,3	95	35,2	89	33,0	37	13,7	5	1,9
	7	Merchandise	20	7,4	97	35,9	119	44,1	29	10,7	5	1,9
	8		49	18,1	131	48,5	77	28,5	13	4,8	-	-
Intangible elements in sales for social networks	9	Colection	29	10,7	122	45,2	99	36,7	18	6,7	2	0,7
	10		41	15,2	132	48,9	87	32,2	10	3,7	-	-
	11	Advertising	27	10,0	84	31,1	116	43,0	39	14,4	4	1,5
Intangible elements	12	Reliability	28	10,4	114	42,2	94	34,8	30	11,1	4	1,5
	13		40	14,8	128	47,4	80	29,6	22	8,1	-	-
	14	Capacity of response	77	28,5	114	42,2	61	22,6	18	6,7	-	-
	15		53	19,6	130	48,1	77	28,5	10	3,7	-	-
	16		60	22,2	134	49,6	64	23,7	10	3,7	2	0,7
	17	Empathy	92	34,1	112	41,5	52	19,3	14	5,2	-	-
	18		58	21,5	113	41,9	87	32,2	10	3,7	2	0,7
	19		58	21,5	130	48,1	75	27,8	7	2,6	-	-

Source. Made by myself

As a result of the work of field applied to the clients of the Magno Centro Joyero San Juan de Dios in their absolute and relative frequency. First item within the tangible elements in direct sales facilities 59.6% agreed that installations are visually attractive according to the expectations of the customer. In the second item 55.9% agreed that facilities provide an environment appropriate to the needs and desires of the client, the tangible elements as the physical aspect of the facilities and presentation of the settlements are a factor that can induce the client perform a commercial activity. The eighth item 48.5% agreed that merchandise is appropriate to the needs and desires of the target, according to Jimenez (2012) in Maslow hierarchy: jewelry is at the level of social acceptance to be a psychological need that is satisfied when people take care of himself physically, covering the needs of belonging to a social group and acceptance; at the level of self-esteem covering the need to achieve success, reputation, respect, prestige and status; and it is also a desire to be a feeling that motivates the desire to own an object to quench a taste.

#### Analysis Wilcoxon test

In analyzing the relationship between the variables of neuromarketing and service quality of commercial SMEs in the jewelry industry in Guadalajara.

TABLE 5. TEST STATISTICS<sup>A</sup>

	Intangible elements in sales of social network - Intangible elements	Tangible elements in direct sales - Intangible elements	Intangible elements in sales of social network - Tangible elements in direct sales	Tangible elements in direct sales – Factors for NMKT	Intangible elements in sales of social network – Factors for NMKT	Intangible elements – Factors for NMKT
Z	-1,265 <sup>b</sup>	-,628 <sup>b</sup>	-,595 <sup>b</sup>	-,360 <sup>c</sup>	-,251 <sup>b</sup>	-,528 <sup>c</sup>
Sig. asintót. (bilateral)	0,206	0,530	0,552	0,719	0,802	0,598

- a. Wilcoxon signed-rank test.
  - b. b. Based on the positive ranks.
  - c. c. Based on the negative ranks
- Source: SPSS

The outcome of the bilateral asymptotic significance is 0,719 so there is no significant difference between factors of neuromarketing and tangible elements in direct sales. The outcome of the bilateral asymptotic significance is 0,802 so that there is no significant difference between factors of neuromarketing and intangible elements in sales of social networks. The outcome of the bilateral asymptotic significance is 0,598 so there is no significant difference between factors of neuromarketing and intangible elements in sales of social networks.

### Conclusions

The purpose of this research was to outline a proposal model of sales to final customers of commercial SMEs in the jewelry industry in Guadalajara comparing the relationship of neuromarketing and quality of service. In applying the tools of neuromarketing can investigate consumer preferences, their motivations, their ability to pay and their values, as well as the quality of service perceived by the customer; the main reason is to meet customer expectations and achieve their loyalty to have a positive economic impact on SMEs through increased sales.

The results allow conclusions highlight the following specific objectives: Regarding the second specific goal focused on identifying factors that influence neuromarketing commercial SMEs in the jewelry industry in Guadalajara for the sales model, with the percentages indicators more favorable of each sub-dimension are subculture, reference group, occupation and personality.

Regarding the third objective aimed at comparing the elements of quality of service affecting trade SMEs in the jewelry industry in Guadalajara for the sales model. In the tangible elements in direct sales indicator having the greater presence of positive is the appearance of the physical facilities in the process of promoting servuction the moment of truth that helps the growth of the industry. In intangible elements in sales of social networks Magno Centro Joyero San Juan de Dios there is weakness in advertising on social networks that handle according to customer feedback. In intangibles elements ServPerfect assessment tool was used to assess customer perception regarding the service received, the items with the highest scores were the responsiveness that is the desire of the

organization to assist customers and serve them quickly and empathy where the organization is put in place to provide individualized customer attention to each element with the lowest score was the reliability is the ability to provide service accurately.

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## End Notes

Within the limitations of the research are that is not a parametric statistics, for what cannot be proofs of inferential statistics such as parametric test t, the correlation coefficient of Pearson and linear regression; because for a parametric analysis you should start with the following assumptions:

1. The population distribution of the dependent variable is normal: the universe has a normal distribution.
2. The measurement of the dependent variable is intervalar or reason.
3. When two or more populations are studied, these have a homogeneous variance: the populations in question have similar dispersion in distributions.

## *The Irresistible Desire for Counterfeit Clothing: The Role of the Symbolic Meaning*

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### **Introduction**

Counterfeiting is a major economic and social problem for many industries all over the world as it leads to job and revenue loss, higher marketing expenditures, brand image damage, and decrease in brand equity (Chakraborty *et al.*, 1996; Grossman and Shapiro, 1988; Chakraborty *et al.*, 1997). Besides these undesired outcomes for companies, counterfeiting also threatens consumer health and safety. Thus, counterfeiting has negative consequences not only for firms, but also for consumers and the society.

Consumers buy counterfeit products either knowingly - deceptive counterfeiting - or unknowingly - non-deceptive counterfeiting (Grossman and Shapiro, 1988). Preliminary studies in the literature on counterfeit consumption indicate that consumers buy counterfeit products only unknowingly in the early 1980s (Bamossy and Scammon; 1985). Later on, with the increasing demand for non-deceptive counterfeiting, the concept became interesting for the academicians. Although low prices of such products seem to be the main reason for the increasing demand, studies in well-developed countries indicate that high income consumers have also become buyers of counterfeits (Prendergast *et al.*, 2002; Gentry *et al.*, 2006). Therefore, the literature on counterfeiting from the demand side view examines the non-price-based factors that both positively and negatively influence the counterfeit purchasing. These studies basically aim at providing an answer to the following question: ‘why/why not do consumers buy counterfeit products?’

There is a growing body of knowledge on counterfeiting with so many related concepts employed in order to explain the consumer demand. However, the studies in literature are far from giving a sufficient answer to the above mentioned question. The main reason of this issue is the dominance of data-driven studies without theoretical background on the counterfeit literature. Due to the lack of a theoretical basis, these studies failed so far to underlie the mechanisms that would explain the intention to purchase counterfeit products. Although few studies address some theoretical framework including the theory of planned behavior (Penz and Stöttinger, 2005; Phau and Teah, 2009), the social representation theory and the postmodern consumption theory (Penz and Stöttinger, 2008) the problem is largely untouched. Highlighting this main problem of the counterfeit literature, Eisand and Schubert-Güler (2006) review the existing studies and suggest a theoretical framework by articulating three concepts - person, product, and situation - with three underlying theories - cognitive dissonance, commodity, and mood based, - respectively. As counterfeiting leads to cognitive dissonance, the theory can give answer to both the questions ‘why /why do not consumers buy counterfeit products?’ and provide the required theoretical basis for understanding counterfeit purchase motives on a person based concept. This paper, within line of Eisand and Schuchert-Guler (2006)’s study, is based on cognitive dissonance theory and aims at revealing the reasons that make consumers avoid from counterfeit buying.

Counterfeiting, which has negative outcomes for both consumers and companies, is considered misbehavior. In order to reduce the counterfeit demand, it is necessary to understand the factors that negatively influence consumers’ intention to buy these products. The existence of counterfeit products can be explained by increasing demand for branded products. Symbolic consumption literature gives insights to the meaning of consumption and the role of brands in everyday life of consumers. In order to understand the counterfeit demand, some researchers highlight the symbolic consumption, because of the similarity between demand for branded products and their counterfeits (Penz and Stöttinger, 2005; Penz and Stöttinger, 2008). While counterfeit buying

creates cognitive dissonance for all consumers, only some of them, who are conscious about the differences between the counterfeits and the originals, cannot cope with the dissonance. This study argues that these consumers are the ones who give more importance to the symbolic meanings of products. In other words, the consumers, who purchase branded products to enhance and to maintain their self-concept, would avoid buying counterfeit products as they know that counterfeits cannot provide the same benefits as originals. This paper argues that the perceived importance of the meaning of symbols associated with consumption will prevent consumers from buying counterfeits. Thus, the present study differs from the previous ones by means of discussing the importance of the symbolic meaning of products as a reducing factor for the counterfeit demand. In this manner, the argument is examined through clothing, which has a special place among all consumption objects, as a non-verbal communication tool because of its ability to express something about its user with the symbolic meanings of the consumed products (Holman, 1980; Solomon, 1983; Solomon, 1988).

Literature on counterfeiting addresses perceived risk as one of the most important diminishing factors (Chakraborty *et al.*, 1996; Penz and Stöttinger, 2005; Ha and Lennon, 2006; Matos *et al.*, 2007; Veloutsou and Bian, 2008). The present study also examines the negative effect of perceived risk as a secondary factor of the intention of buying counterfeits. Counterfeit buying consists of risks by nature. While some consumers legitimize this misbehavior by perceiving less risk, others cannot handle the risks associated with a counterfeit purchase. Therefore, it is important to find the factors that make people perceive higher risks. The perceived risk arises in situations where consumers are uncertain about the outcome of a choice and are concerned about the consequences of a poor or wrong decision (Havlena and DeSarbo, 1991). Consumers' interests about the consequences of a decision become more important when they use consumption as a way of expressing themselves and signifying their social status. For this reason, another assumption of the paper is that the importance of the symbolic meaning of clothing increases the perceived risk associated with counterfeit purchase, which in turn decreases the intention of purchasing counterfeits.

In this sequence of thought, the purpose of the study is to examine the factors negatively influencing the intention to purchase counterfeit clothing by integrating the cognitive dissonance theory with the symbolic consumption literature. In this manner, the study discusses the direct effect of the importance of the symbolic meaning of clothing and perceived risk about counterfeiting on the purchase intention for counterfeit products. Secondly, the study also investigates the mediating role of perceived risk in the relationship between the importance of the symbolic meaning of clothing and the purchase intention of counterfeit products.

### **Conceptual Framework and Hypotheses**

The symbolic consumption literature gives an explanation about the role of consumption in individual's everyday life. Accordingly, consumption is defined as a self-creation project (Wattanasuwan, 2005) as the symbolic meanings of products serve to construct the social world and the self-identity of the consumers (Elliot, 1997). According to the literature consumers have two aims by consumption activities. These are to maintain and to enhance the self-concept by constructing identities by the meanings of symbols associated with the consumed products (Grubb and Grathwohl, 1967; Sirgy, 1982; Sirgy and Danes, 1982; Onkvisit and Shaw, 1987). These possessions having symbolic meanings become part of the consumer to define the self-concept (Belk, 1988). The basic assumption underlying the symbolic consumption is that the products carrying a system of meanings that enables consumers to express themselves and communicate with others (McCraken, 1986; Douglas and Isherwood, 1996). In other words, consumption is a communication tool, which provides information to one's self as well as to the others. As brands have meanings beyond what they are, consumers prefer branded products to portray a specific social class or communicate meaning about their self-image and enhance their self-concept (Nia and Zaichkowsky, 2000). In this context, the increasing demand for branded products also forms the demand for counterfeits. As Penz and Stöttinger (2005) states, counterfeits would not exist if it were not brands and what they promise.

Some studies stressing the above mentioned fact on counterfeit literature state that counterfeits also help their buyers to create identities, communicate values, and impress others (Hoe *et al.*, 2003; Penz and Stöttinger,

2005; Wilcox, Kim and Sen, 2008; Han *et al.*, 2010). Some consumers prefer counterfeit products as they want to signal the status assigned to the branded product by paying less. In other words, some of the counterfeit buyers are argued to be status seekers usually with limited wealth (Han *et al.*, 2010). However, there is one more thing that has to be stressed. Consumers know the difference between originals and their counterfeits. Penz and Stöttinger (2008) indicate consumers' evaluations of original and counterfeit products by the means of attributes do not overlap. That is to say, consumers are aware about the differences between the counterfeits and the originals and they know that they cannot get the same functional and symbolic benefits when they purchase counterfeits instead of originals. As consumers know the differences, purchasing counterfeit products may lead to cognitive dissonance. According to the cognitive dissonance theory, people comply with some strategies in order to reduce the dissonance which can occur after a decision made or because intended behavior contradicts attitudes (Festinger, 1957). Counterfeit buyers successfully find strategies to reduce dissonance and legitimize the buying process. On the other hand, cognitive dissonance can also prevent some consumers from buying counterfeit products (Eisend and Schubert-Güler, 2006). Since some consumers cannot cope with dissonance, they prefer the originals instead of counterfeits.

In order to understand the consumers' avoidance behavior, it is necessary to review the studies in the counterfeit literature, which investigate the determining factors of the consumers' original brand preferences. In this manner, involvement (d'Astous and Gargouri, 2001; Penz and Stöttinger, 2005), social class, social approval, and self-image (Nia and Zaichkowsky, 2000; Yoo and Lee, 2009) are some factors affecting consumers' original brand preferences. Consumers' product involvement changes their attitude toward counterfeits. Where high involvement with the product category make the consumer care more about the brands and less likely to purchase counterfeits (d'Astous and Gargouri, 2001), less involvement with the product category positively relates their attitudes towards these products (Penz and Stöttinger, 2005). These findings explicitly suggest that when consumers' product involvement is high, he/she may avoid purchasing the counterfeits as product involvement make them more conscious about the differences among the originals and the counterfeits (Bian and Moutinho, 2011). Social class and self-image are the other factors, which also positively affect purchase intention of originals (Yoo and Lee, 2009). Consumers using original brands to express their social status and their self-image believe that ownership of originals brings admiration, recognition, and acceptance by others (Nia and Zaichkowsky, 2000). In fact, all these concepts that are directly related to buying originals reflect the importance of the symbolic meanings of original products. The consumers seeking for symbolic benefits of originals to create their identities and express their self-concept would avoid counterfeits as they know that they cannot give them the same benefits. Thus, it can be inferred that the original brand buyers are the ones who give more importance to the symbolic benefits of products.

Among all the consumption objects, due to its ability to express something about its user with the symbolic meanings, clothing has a special place as a means of non-verbal communication (Holman, 1980; Solomon, 1988). Clothing is a code of system like a language (Barthes, 1967; McCracken and Roth, 1989). Consumers code multiple messages to form their self-concept and communicate to the others by means of their clothes. These messages involve the symbolic meanings of clothing formed by advertising, fashion system, and consumption rituals as the McCracken's theory (1986) states that the meaning of product is formed by these three components. Although clothing inherently has a symbolic meaning, the importance of this meaning can differ among consumers. For some consumers, the symbolic meaning of clothing becomes more important as they consider clothing a way of expressing their self-image. With this theoretical basis, the expectation is that the importance of the symbolic meaning of clothing leads consumers to avoid counterfeit purchasing.

H1. The importance of the symbolic meaning of clothing negatively relates to the intention of purchasing counterfeits.

Consumers judge both positive and negative consequences of buying a product (Dholakia, 1997) and this judgment have a decisive effect on decision making process. In marketing literature, while examining the consumer behavior, it is inevitable to consider the consumers' perceived risk related to their purchase. The perceived risk is conceptualized as a form of risk arising from unanticipated and uncertain consequences of an unpleasant nature

resulting from the product purchase (Bauer, 1960; Dowling and Staelin, 1994). Consumers' perceived risk is not only related to the product being purchased but also to where the purchase is occurred (Dowling, 1986). As counterfeit products are sold at unauthorized retailers (Ha and Lennon, 2006) and cannot provide the same benefits as originals (Penz and Stöttinger, 2008) consumers perceive higher risk in this occasions. Correspondingly, the perceived risk is considered an important concept in counterfeit literature (Chakraborty *et al.*, 1996; Penz and Stöttinger, 2005; Ha and Lennon, 2006; Matos *et al.*, 2007; Veloutsou and Bian, 2008). The studies concerning the effect of the perceived risk suggest that there is a negative relationship between the perceived risk and attitude toward counterfeits and purchase intention.

The literature on perceived risk is based commonly on the five components of risk: performance, physical, psychological, social, and financial risk (Jacoby and Kaplan, 1972). In counterfeit literature, same or similar perceived risk components are used, sometimes under different names, in order to determine the negative influence on the purchase intention (Chakraborty *et al.*, 1996; Cordell *et al.*, 1996; Chakraborty *et al.*, 1997; Tom *et al.*, 1998; Albers-Miller, 1999; Ang *et al.*, 2001; Ha and Lennon, 2006; Vida, 2007; Veloutsou and Bian, 2008). Although the best predictor among risk dimensions can vary according to product categories perceived risk should be considered one of the factors on the intention to buy counterfeit clothing

H2. The perceived risk negatively relates to the intention of purchasing counterfeit clothing.

As the perceived risk is one of the most important diminishing factors on the purchase intention of counterfeits, studies should focus on the factors that positively affect the perceived risk. Counterfeit buying creates cognitive dissonance for all the consumers because of the risks associated with it. However, some consumers who are more conscious about the negative consequences such as time and money loss, health and self-image damage cannot cope with this dissonance. Although counterfeit clothing seems to help buyers to create identities, communicate values, and impress others, consumers who give more importance to these symbolic meanings perceive higher risks. Thus, it is expected that increase in the importance of the symbolic meaning of clothing lead to an increase of the perceived risk.

H3. The importance of the symbolic meaning of clothing positively relates to the perceived risk of counterfeit clothing.

The above mentioned hypotheses propose a direct relationship between the three concepts. This study also inquires the indirect effect of the importance of the symbolic meaning of clothing on the intention to purchase counterfeits through the perceived risk. The concepts discussed in this paper follow a sequence as the importance of the symbolic meaning of clothing positively relates to the consumers' perceived risk related to the counterfeit purchasing, which in turn decrease the intention of purchasing counterfeits.

H4. The perceived risk of counterfeit clothing mediates the relationship between the importance of the symbolic meaning of clothing and the intention of purchasing.

## **Methodology**

### **Sample and Procedure**

The data used in this study is collected from Turkish consumers in Ankara, the capital city of Turkey. Convenience sampling is employed and a total of 500 self-administrated questionnaires are distributed with the help of graduate students in master of business administration. Of the 440 returned questionnaires with the response rate of 88%, 55 are incomplete. Remaining 385 usable questionnaires are used for the analysis. The gender ratio is 45% male and 55% female. The age is ranged from 18 to 67 and the average age is 31.5.

## Measures

The original surveys are translated into Turkish, and pre-tested with a pilot study in order to make sure that the intended meanings of the items are maintained. 30 respondents that are not part of the study complete the survey to check the clarity of the items. The questionnaire consists of four parts, including ‘the importance of the symbolic meaning of clothing’, ‘the perceived risk toward counterfeit clothing’, ‘the intention to purchase counterfeit clothing’ and ‘the demographic variables’. All the variables, except demographics, are measured using 7-point Likert type scales (1= strongly disagree, 7= strongly agree).

TABLE 1: FACTOR LOADINGS AND RELIABILITIES OF MEASURES

Items	Factor loadings	Croanboch alpha
Importance of symbolic meaning of clothing		.81
It is important to be well-dressed	.69	
If you want to get ahead you have to dress the part	.77	
What you think of yourself is reflected by what you wear	.84	
Wearing good clothes is part of leading the good life	.71	
Clothes are one of the most important ways I have of expressing my individuality	.70	
Social risk		.93
I will be ashamed to own a counterfeit product	.73	
My friends will think I look funny when I wear it	.81	
If I buy counterfeit clothing I will lose my friends respect.	.80	
I will not be able to match a counterfeit product with my current clothing	.73	
I will not feel comfortable having a counterfeit product in public	.79	
A counterfeit product will not look good on me	.72	
I will feel anxiety with counterfeit clothes.	.74	
Uncertainty about consequences		.89
I will lose money if I purchase a counterfeit product.	.74	
It will be a risky to purchase a counterfeit product	.76	
A counterfeit product will not function properly (e.g. a raincoat will not be waterproof)	.67	
I will feel that I just wasted time to shop for a counterfeit product.	.57	
Counterfeit products will not be durable	.66	
Counterfeit products will not have same details as an original item of same design.	.73	
It is hard to exchange or return counterfeit products.	.70	
Physical performance risk		.88
The color will not be same as compared with the original product	.82	
The size will not be the same as compared with the original product	.72	
There will be something wrong with the counterfeit product (broken accessory, damaged fabric)	.81	
The construction quality of counterfeit product will be poor	.73	
Intention to purchase counterfeit clothing		.87
I would like to purchase counterfeit clothes next year.	.94	
If I encounter the counterfeit of my favorite clothing brand I will expect to purchase it.	.94	

The importance of the symbolic meaning of clothing: Eight items, which are related to the importance of clothing and the symbolic meaning of clothing, are adopted from Gutman and Mills' (1982) fashion orientation scale. According to the factor analysis, five items are loaded into one factor, which is named as 'the importance of the symbolic meaning of clothing' ( $\alpha = .81$ ).

The perceived risk: The perceived risk is measured by 19 items that are adapted from Ha and Lennon (2006) scale, which is appropriate for counterfeit products. To ensure that the participants have the same understanding of the terminology, the below definition is given to them.

“Counterfeit clothing product means that they look like the originals, but the brand names and the logos are used without the permission of the legitimate manufacturers and labeled prices are approximately one fifth of the originals.”

The dimensionality of the perceived risk scale is examined by using principal component factor analysis. One cross loaded item (item 11) is removed from the analysis and 18 items, measuring three sub dimensions, named as social risk, uncertainty about consequences, and physical performance risk are remained. Croanbach's alpha coefficients are .93, .89 and .88, respectively. All the coefficients are above the 0.80 level, providing evidence of measure reliability (Nunnally and Bernstein, 1994). Social risk explains 27.04 %, uncertainty about consequences 27.63 %, and physical performance risk 18.89 % of the variance. Three factors explain 68.56 % of the perceived risk. Table 1 presents the factor loadings of the items and reliability measures (Croanbach's alpha) of all the variables.

The intention to purchase counterfeits: Customers' intention to buy a counterfeit product is measured by two items. Respondents are questioned for their future intention to buy counterfeits: “I would like to purchase counterfeit clothes next year” and “If I encounter the counterfeit of my favorite clothing brand, I will expect to purchase it” ( $\alpha = .87$ ).

## Results

This study attempts to understand the relationships among the importance of the symbolic meaning of clothing, the perceived risk, and the intention to purchase counterfeits. Table 2 summarizes the means, standard deviations and correlations of all the variables. The importance of the symbolic meaning of clothing is positively correlated with the three dimensions of the perceived risk. The importance of the symbolic meaning of clothing and the perceived risk dimensions are negatively correlated with the intention to purchase counterfeits.

TABLE 2: CORRELATIONS, MEANS AND STANDARD DEVIATIONS

Variable	1	2	3	4	5
Symbolic meaning of clothing					
Social risk	.34**				
Physical performance risk	.29**	.57**			
Uncertainty about consequences	.33**	.63**	.61**		
Intention to purchase counterfeits	-.21**	-.48**	-.36**	-.53**	-.32**
Means	5.21	3.28	4.45	4.42	3.35
St. deviation	1.13	1.49	1.50	1.39	1.83

\*\*  $p < .01$

Table 3 presents the results of regression analysis regarding the effect of the symbolic meaning of clothing and the perceived risk on the intention to purchase counterfeits. Model 1 in Table 3 captures the direct effect of the importance of the symbolic meaning of clothing on the intention to purchase counterfeits. Coefficient of the

importance of the symbolic meaning of clothing is negative and significant ( $\beta = -.33, p < .001$ ). It explains 4 % of the variance. These findings indicate that the intention to purchase counterfeit clothing decreases with the increase in the importance of the symbolic meaning of clothing. Accordingly, this supports Hypothesis 1, which states that the importance of the symbolic meaning negatively relates to the intention to purchase counterfeit. Model 2 in Table 3 shows the results of regression analysis on the effects of the perceived risk factors on the intention to purchase counterfeits. Social risk ( $\beta = -.30, p < .001$ ) and uncertainty about consequences ( $\beta = -.48, p < .001$ ) have negative significant effect on intention, but the physical performance risk ( $\beta = -.01, ns$ ) does not. Two dimensions of the perceived risk (social risk and uncertainty about consequences) explain 31.4 % variance of consumers' intention to buy counterfeit clothing products. Accordingly, the results moderately support Hypothesis 2, which states that the perceived risk is negatively related to the intention to purchase counterfeit clothing as the physical performance risk dimension has not significant effect on the intention.

TABLE 3: RESULTS OF REGRESSION ANALYSES OF INTENTION TO PURCHASE COUNTERFEITS

Variable	Intention to purchase counterfeits					
	Model1		Model2		Model3	
	$\beta$	t	$\beta$	t	$\beta$	T
Importance of symbolic meaning of clothing	-.33	-4.17**			-0.002	-.03 ns
Social risk			-.30	-4.36**	-.30	-4.30**
Physical performance risk			.01	.12	.01	.12 ns
Uncertainty about consequences			-.48	-6.32**	-.48	6.26**
R <sup>2</sup>	.04		.31		.31	
F	17.39**		58.26**		43.58**	

\*\* p < .001

Table 4 shows the results of regression analysis on the effects of the importance of the symbolic meaning of clothing on the perceived risk. Three dimensions of the perceived risk (mediation variable) are regressed on the importance of the symbolic meaning separately. The effect of the importance of the symbolic meaning on physical performance risk ( $\beta = .39, p < .001$ ), social risk ( $\beta = .45, p < .001$ ), and uncertainty about consequences ( $\beta = .41, p < .001$ ) are positive and significant. These results indicate that consumers perceive higher risk when they give more importance to the symbolic meaning of clothing. Accordingly, the results support Hypothesis 3, which states that the importance of the symbolic meaning of clothing positively relates to the perceived risk of counterfeit clothing.

TABLE 4: RESULTS OF REGRESSION ANALYSES OF PERCEIVED RISK

Dependent variable	Social risk		Physical performance risk		Uncertainty about consequences	
	$\beta$	t	$\beta$	t	$\beta$	t
	Importance of symbolic meaning of clothing	.45	7.08**	.39	5.98**	.41
R <sup>2</sup>	.12		.09		.11	
F	50.08**		35.79**		47.78**	

\*\* p < .001

The authors follow Baron and Kenny's (1986) procedure to test the mediating effect of the perceived risk between the importance of the symbolic meaning of clothing and the intention to purchase counterfeits. According to this procedure, the first step is to examine the relationship between the independent and the dependent variables. As seen in Model1 in Table 3, the independent variable (the importance of the symbolic meaning of clothing) has a significant effect on the dependent variable (the intention to purchase counterfeits). The second step is to examine the effect of the independent variable on the mediator. Table 4 shows that the importance of the symbolic meaning

of clothing has a significant effect on the perceived risk dimensions. The third step is to examine the relationship between the mediator and the dependent variable. According to the results, which is shown Table 3, two dimensions of the perceived risk (social risk and uncertainty about consequences) have a significant effect on the intention to purchase counterfeit products (Model 2). Finally, in the fourth step the mediator is included in the model to find out whether it reduces the effect of the independent variable. As Model 3 shows that significant direct effect of the importance of the symbolic meaning of clothing on the intention to purchase counterfeits becomes nonsignificant ( $\beta=.002$ ) with the inclusion of two dimensions of the perceived risk (Table 3). Therefore, the results support Hypothesis 4, which states that the perceived risk mediates the relationship between the importance of the symbolic meaning of clothing and the intention to purchase counterfeits.

## Discussion

Many companies consider counterfeit buying a major problem and aim at reducing the demand for fake products. The present study investigates the reducing factors for the intention of purchasing counterfeit clothing. Accordingly, it examines the role of the perceived risk in the relationship between the importance of the symbolic meaning of clothing and the intention to buy counterfeit clothing. The results indicate that there is a negative relationship between the importance of the symbolic meaning of clothing, and the intention of purchasing counterfeits. The findings also support that two risk factors, social risk and uncertainty about consequences, fully mediate the relationship between these two variables. This paper contributes to the literature on counterfeit both theoretically and empirically by revealing the reducing factors of counterfeit clothing. Since prior studies in literature fall short of providing a theoretical basis, the theory-based model and the empirical findings of this genuine study are significant and useful for both the academicians and the practitioners doing research in this particular area.

In this manner, the main contribution of the study is to address the reducing effect of the symbolic meaning of clothes to the intention of purchasing counterfeits. In literature, there are some studies that mention the role of the symbolic meaning of clothing on counterfeit buying but this study based on the cognitive dissonance theory discusses the negative role of these meanings on counterfeit buying for the first time. In other words, this is an early attempt to demonstrate the significant reducing role of symbols and meanings on counterfeit buying. Study findings support this point of view according to which when consumers give more importance to the symbolic meanings of a product they cannot cope with the dissonance emerged with counterfeit buying. Consumers, who use branded clothes to express or to develop their self-image, are less likely to purchase counterfeits. Therefore, it may be argued that these consumers would prefer originals since they are aware that they cannot reach their purpose of consumption with counterfeit clothes.

This paper also highlights the reducing effect of the perceived risk on the intention to purchase counterfeits (Chakraborty *et al.*, 1996; Penz and Stöttinger, 2005; Ha and Lennon, 2006; Matos *et al.*, 2007; Veloutsou and Bian, 2008). Mentioned studies indicate that different dimensions of the perceived risk have significant negative effect on counterfeit buying. Ha and Lennon (2006) found that general uncertainty about consequences is the only risk factor, which negatively affects the intention to purchase counterfeits. Veloutsou and Bian's (2008) findings indicate that the psychological risk is the best predictor of the overall risk related to counterfeit purchasing. On the other hand, Vida (2007) found that the perceived social risk has a negative effect on willingness to purchase counterfeits especially in case of clothing. According to the results of this study, the two dimensions of perceived risk, social risk and uncertainty about consequences, negatively relate to the intention of buying counterfeit clothes but physical performance does not. As in the case of clothing, the reducing effect of social risk on the intention to buy counterfeits is not surprising as social pressure or peer support are the factors that can lead people to either follow or break the rules (Albers-Miller, 1999; Ang *et al.*, 2001). Thus, wearing counterfeit clothes may be humiliating in public (Gentry *et al.*, 2006) and may result in social disapproval. The diminishing effect of uncertainty about consequences on the intention to buy counterfeits is also reasonable. Consumer perceived risk about time, money, proper functioning, and durability of counterfeit clothes reduces the intention to buy counterfeits. On the other hand,

consumer risk perception about the physical performance of counterfeit clothing such as color, size and quality does not reduce the intention. This means, consumers are realistic and they do not expect the same physical benefits as originals. Therefore, they do not concern much about the quality problems of counterfeit clothes in their purchasing evaluations.

The second contribution of the study is to explore the critical role of the perceived risk as the mediator between the importance of the symbolic meaning of clothing, and the intention of purchasing counterfeits. According to the study findings, the importance of the symbolic meaning of clothing increases the three dimensions of the perceived risk including social risk, uncertainty about consequences, and physical performance risk. Cognitive dissonance theory can explain the legitimization process of buying counterfeit products. Some consumers perceive no or less risk than others to rationalize this misbehavior. However, this study reveals that some consumers, for whom the symbolic meaning of clothing is more important, cannot handle the risks associated with a counterfeit purchase. Although the importance of the symbolic meaning of clothing has a significant effect on three dimensions of perceived risk, only the two components of perceived risk, social risk and uncertainty about consequences, mediate the main relationship. In other words, symbolic meanings of clothing make consumers avoid buying counterfeits because of their perceptions of social risk and uncertainty about consequences.

The findings of the study should be interpreted in the light of some limitations. The first limitation is the use of a cross-sectional research design. Although the relationship between the independent and the dependent variables discussed in a theoretical framework, this research design may not overcome the causality problem. Future research should develop a longitudinal research design in order to explain the effect of the independent variables on the dependent variable.

Secondly, there may be a potential cultural limitation since the data used to test the hypothesis is collected from Turkish consumers only. The generalizability of the findings to other country settings is questionable and awaits further research in different cultural contexts. In addition, the relationship between variables are examined in the context of a single product category; clothing. It is known that the effect of the perceived risk dimensions may differentiate between different products groups. Therefore, it is necessary to test the theoretical model discussed in this study on other product groups.

To conclude, the present paper sheds light on the reducing factors on the intention to buy counterfeits and gives a fulfilling answer to the following question: ‘why not do consumers buy counterfeit products?’ It is hoped that this will serve as a first step toward further studies to expand theoretical models with new concepts.

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## *Partnership and Power: Exploration in a Cause-related Marketing Context*

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### **Cause-related Marketing**

Cause-related Marketing (CM), in which a for-profit company partners with a non-profit organization by linking sales of a product to a donation (Varadarajan & Menon, 1988), has become a prevalent promotional approach. Consumer attitudes toward companies are enhanced when they sponsor CM promotions, as is willingness to purchase a company's product

(Andrews, Luo, Fang & Aspara, 2014). Most research in this field has examined CM promotion level influences to consumer response, such as type of product featured and amount donated (Strahilevitz & Myers 1998). Questions remain about how aspects of the individual organizations forming a CM partnership influence overall perception of that partnership, as well as how the individual organizations are perceived to benefit as a result of that partnership.

### **Partnership and Power**

Work in the marketing field has illustrated that different stereotypes characterize for-profit (FP) and nonprofit (NP) organizations: FPs are perceived as competent or efficient, while NPs are perceived as warm and relational (Aaker, Vohs & Mogilner, 2010). At a superordinate level, demonstrating warmth suggests a motivation to be other-focused and behave in line with moral codes, whereas competence suggests the effective capacity to bring about one's intent. Through this lens, a FP can be viewed as stereotypically more powerful, relative to a NP. Past work in the context of CM highlights how FPs can influence and exploit NPs (and not viceversa), supporting a higher-power stereotype of the FP (Barone, Norman & Miyazaki, 2007). In CM, a FP and NP jointly develop a promotion, pointing to the relevance of work on power dynamics and perception of dyads. In this literature, stereotypes about partner dominance guide third-party observers' interpretation of power distribution in relationships and perceived fit of the individual partners (Howard, Blumstein & Schwartz, 1986); partnerships exhibiting power asymmetries that are stereotype inconsistent (traditionally lower-power partner possessing more power than higher power partner) are rated less favorably and as lower-fit than asymmetries that are stereotype-consistent (Felmlee, 1994). If the FP partner is the stereotypically dominant partner in the context of CM promotions, we extend this logic to propose:

**H1:** An objectively high-power NP and objectively low-power FP will be perceived to have lower levels of fit than other dyadic organizational power configurations. Further, because past work demonstrates perceived fit is an important predictor of response to CM promotions (Nan & Heo, 2007; Pracejus & Olsen, 2004), we propose:

**H2:** Perceived fit will mediate the influence of organizational power configuration on attitude toward the promotion.

These hypotheses suggest aspects of the individuals in a partnership influence perception of the relationship or partnership. The reverse can also occur: work exploring how individuals are perceived based on group membership suggests relationships with others influence perceptions of the individual members. Heider (1958) first pointed out that an individual in the presence of another is judged on his decision to be in the company of that

person, and the conclusion that the two people share similar characteristics is one way to make sense of this decision. Work on associative transference (Carlston, McCall, McCarty & Tay, 2015) describes the process through which individuals may be ascribed particular traits through affiliation with others. Transference is at least implicitly sought by organizations engaged in CM, because both entities benefit in terms of public perception from affiliation with each other, as pointed out by Varadarajan and Menon (1988). Nonprofits may be perceived as more credible and gain greater visibility and for-profits as more socially-oriented due to their participation in such partnerships.

Does benefit occur equally for each partner? Previous work examining power dynamics again provides insight into how inferences are made about partners in a relationship. The traditionally dominant partner is perceived to have control over the formation of a relationship, and perceived control increases as that partner's power increases (Felmlee, 1994). An observer is thus more likely to ascribe positive traits to the traditionally-lower partner because of the higher power partner's perceived ability to choose or influence relationship formation. In a CM context, a NP partnered with a higher-power FP is more likely to receive an image boost because of the inferred standards that the FP must have in selecting a partner. We propose:

**H3:** A NP organization will be perceived as receiving more benefit from the partnership when the FP is objectively higher-power (versus objectively lower power).

Observers ascribe characteristics to the stereotypically dominant partner based on characteristics of the other partner in the relationship, as the dominant partner's selection is illustrative of the dominant partners' orientation; observers perceive a FP's decision to engage in a CM partnership as indicative of the FP's orientation as a socially-responsible company. Further, the higher the objective power of the dominant partner, the more the actions of that partner are a clearer reflection of his preferences or tendencies. Cultivation of a socially-responsible image is a main source of benefit FPs receive from participation in CM partnerships. We predict:

**H4:** A FP organization will be perceived as receiving more benefit from the partnership when the FP is objectively higher-power (versus objectively lower power).

## Method and Measures

A total of 155 students at a large Southeastern university in the United States participated through the online Qualtrics platform ( $M_{\text{age}} = 20.9$ , 72.3% female).

Participants were assigned to a condition in a 2 (for-profit: small, large) x 2 (non-profit: small, large) design, where size is an operationalization of power. They considered a CM promotion: "The company producing the product is a [large, well-known/small, unknown] company. For every purchase of the focal product, the company will donate a certain amount to a [large, wellknown/small, local] nonprofit organization." Participants indicated their attitude toward the promotion (3 items,  $\alpha = .87$ ), perception of fit (3 items;  $\alpha = .87$ ), perception of benefit received by the for-profit (3 items;  $\alpha = .88$ ) and nonprofit (3 items;  $\alpha = .85$ ), and a manipulation check of perceived power of the organizations.

## Results

### Manipulation check

We conducted a 2 (for profit: small, large) x 2 (nonprofit: small, large) ANOVA with measures of perceived power of the FP over the NP as the dependent variable. As expected, two significant main effects and interaction emerged: The FP was perceived as more powerful than the NP when the FP was large ( $M = 5.25$ ) versus small ( $M = 4.34$ ;  $F(1,151) = 20.40$ ,  $p < .01$ ); the FP was perceived as having more power when the NP was small ( $M = 5.14$ ) than when large ( $M = 5.45$ ;  $F(1,151) = 11.88$ ,  $p < .01$ ), and importantly, an interaction ( $F(1,151) = 3.77$ ,  $p < .05$ ).

such that the small FP had less power over a large NP relative to the other conditions. As expected, the reverse pattern was obtained when the measure of NP's power over the FP was used as a dependent variable; NP's power was higher than the FP in the large NP/small FP condition, and low in all other conditions.

## Fit

We conducted a 2 (for profit: small, large) x 2 (nonprofit: small, large) ANOVA with the fit composite as the dependent variable. A main effect emerged such that fit was perceived as higher when the NP was small ( $M = 5.11$ ) than when large ( $M = 4.79$ ;  $F(1,151) = 4.11, p < .05$ ). An interaction emerged ( $F(1,151) = 3.90, p < .05$ ); post-hoc analyses indicated that small FP/large NP led to significantly lower levels of fit ( $M = 4.58$ ) than the small FP/small NP ( $M = 5.21$ ), large FP/small NP ( $M = 5.02$ ), or large FP/large NP ( $M = 5.01$ ) conditions, supporting H1.

## Mediation analysis

We used the asymmetric bootstrap test of mediation requesting 95% confidence intervals and 5,000 bootstrap samples to explore the indirect effect of organizational power combinations on attitude toward the promotion through perceived fit (Hayes et al. 2013). The 95% confidence interval did not contain 0 [.02, .49], suggesting fit mediates the proposed relationship, supporting H2.

## Measure of FP, NP benefit

We conducted a 2 (for profit: small, large) x 2 (nonprofit: small, large) ANOVA with the NP benefit composite as the dependent variable. This analysis yielded a main effect of FP size ( $F(1,151) = 5.40, p < .05$ ) such a NP was perceived as more credible when the FP was large ( $M = 5.57$ ) versus when the FP was small ( $M = 5.17$ ). There was no main effect of NP size or interaction. We repeated this analysis, with FP benefit as the dependent variable. This analysis again yielded a main effect of FP size ( $F(1,151) = 5.74, p < .05$ ) such a NP was perceived as more credible when the FP was large ( $M = 5.89$ ) versus when the FP was small ( $M = 5.53$ ). There was no main effect of NP size or interaction.

## Discussion

The current work explored how power level of FP and NP partners engaged in CM relationships influences perception of the partnership, as well as the individual organizations: configurations that are norm-consistent led to higher perceptions of fit than a norm-inconsistent configuration. Fit, in turn, mediated the influence of partner power configuration on CM promotion attitude. We also explored how CM partnerships influence perception of the individual organizations, which occurs asymmetrically: image-based transference is mainly determined by the size of the FP organization. This implies large FPs are best suited to experience benefit from CM partnerships; they are perceived to fit better and receive a stronger image boost than smaller FPs. NP organizations experience benefit from CM promotions regardless of their size, but should be careful not to partner with larger FPs, as this partnership is counter normative.

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FIG. 1

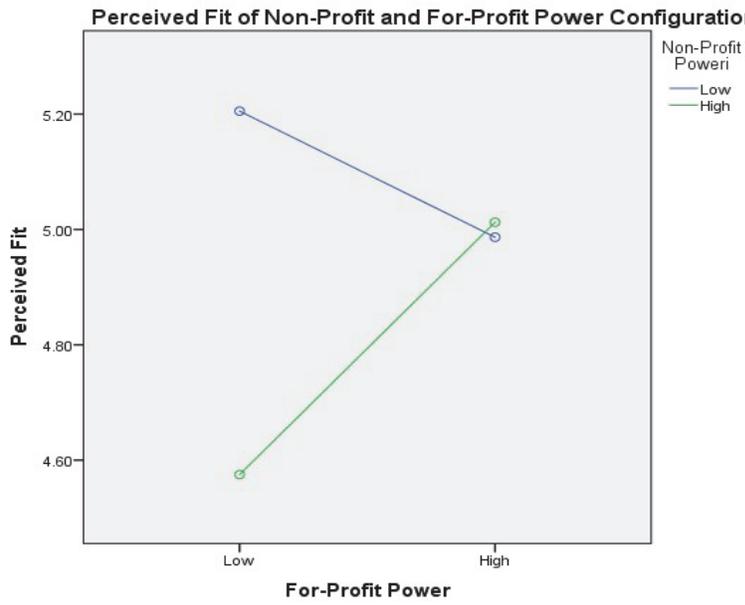
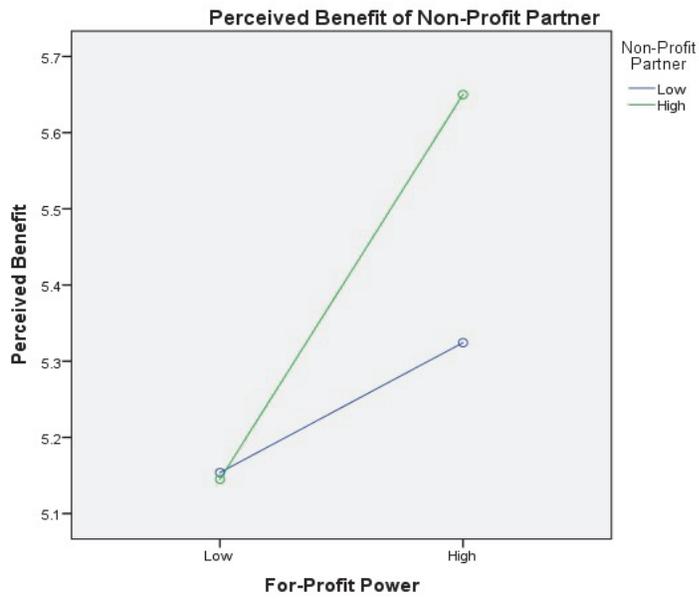


FIG. 2



## *The Buyers' Pre-Buying Phase – A View From The Personality Perspective*

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### **Abstract**

*Buyers have the control in the business world and they have more information available to them than ever before. Recent studies indicate that buyers have already decided where to buy without even meeting the salespeople involved. However, fewer studies have focused on the period before the actual sales meeting and considered the buyers' point of view, although this would provide important information for sales organizations. This study analysed 21 buyers using the MBTI personality type indicator, and involved interviews conducted to examine the business buyers' considerations from the personality perspective in terms of why and to what extent they deal with salespeople. This study found that personality plays an important role when predicting the buyers' interest in meeting the salespeople. Hence, buyers are willing to meet salespeople when treated as preferred, sales organizations need to adjust their activities to better suit business buyers' personality preferences.*

**Keywords:** *Business to Business, B2B, Buyer, Buying Process, Myers-Briggs Type Indicator, MBTI, Personal Selling, Personality*

### **Introduction**

In recent years, businesses have increasingly started to operate globally because their customers' needs are more complex than before (Jones, Brown, Zoltners, & Weitz, 2005; Prahalad & Ramaswamy, 2004). This change in business can also be seen in the way business-to-business (B2B) salespersons do their job. B2B sales organisations concentrate on selling intangibles, while tangible products have moved to web stores where business buyers are able to complete the purchase independently, given that the transaction does not require the selling activities of a salesperson. The global environment, complex needs and customers' buying habits learned as a consumer have combined to place business to business (B2B) salespeople in a new situation when selling intangibles and different kind services to their business customers. The sales literature needs research to help sales organisations understand the business buyers' changed buying processes (Adamson, Dixon, & Toman, 2012; Dixon & Tanner, 2012; Marshall, Goebel, & Moncrief, 2003), and thus to be able to adjust their activities to secure buyer-seller meetings.

Because the business buyers' awareness of services and solutions available has increased, it is important that, to secure a possibility for meeting, where sales organisations are able to form value with business buyers. If the buyers are not, in their early buying process, convinced about sales organisations' potential to satisfy their needs or to form value for their business, it might be that the organisations are not even able to get an appointment with these customers. However, few studies focus on the buyers' perspective (Agndal, 2006; Ahearne, Jelinek, & Jones, 2007; Crosby, Evans, & Cowles, 1990; Liang & Parkhe, 1997; Overby & Servais, 2005), and there are hardly any explanations of how salespeople need to sell in this new business environment (cf. Jones et al., 2005; Sheth & Parvatiyar, 1995; Subramony & Pugh, 2015). Additionally, most studies focus on the phases during and after the sales meetings, but the pre-process, the time before the sales meeting, is understudied (Stiakakis & Georgiadis, 2009).

However, world and business environments have changed due to Internet and digital channels where customers can access a huge amount of information about their required service or solution (Verbeke, Dietz, & Verwaal, 2011). For example, in terms of the study of CEB (2012), the average customer has made 60% of his

buying decision even before meeting the salespeople. Nevertheless, traditional selling companies still largely focus on contacting prospective customers, while the possibilities for smoothening the sourcing process are numerous for professional buyers (Verbeke et al., 2011). This means that it may be questioned the reasons for engage customers in time-consuming face-to-face meetings. Additionally, studies have shown that buying companies have now a more significant role in the purchase initiation phase than ever before (Andzulis, Panagopoulos & Rapp, 2012; Opreana & Vinerean, 2015; Andzulis et al., 2012; Adamson et al., 2012).

This means sales organisations are in a new situation, and need to understand how salespeople are able to ensure that they are going to be the ones invited to the buyer-seller meetings. It is needed to understand the buyers' pre-buying phase because organisations aim to establish long-term relationships while trying to increase effectiveness and reduce costs (Anderson & Narus, 1990; Kim, 2014; Rackham & De Vincentis, 1998; Ulaga & Sharma, 2001); if a sales organisation is unable to secure appointments, it will lose these customers to competitors in the long term. Therefore, this study aims to examine the pre-buying phase from the personality perspective. More precisely, the paper sheds light on the buyers' preferred actions of the sellers in the time span between the buyer initiating interest and the first meeting between buyer and seller. This period between initiating interest and the first meeting is referred to here as the buyers' pre-buying phase in demanding B2B service selling.

### **Theoretical background**

#### **Selling in a changed business environment**

Recently, the whole world has faced huge changes in communication and information sharing. Interaction has changed, because if before there was only one solution to a problem, nowadays it is known that there might be several alternative possibilities to solve a problem. It may be said that interaction has changed from a one-to-one situation to many-to-many interaction via digital channels (Peterson & Merino, 2003). This overall change in communication has affected the way in which purchasing is viewed and carried out by consumers. It is said that these learnt consumer habits affect the way B2B buyers operate, and buying items online has expanded into B2B business (Adamson et al., 2012; Kho, 2008; Prahalad & Ramaswamy, 2004).

The changes in communication and information sharing have also altered the way in which businesses need salespeople. Historically, providing product information was part of the salesperson's job, but today information can be freely retrieved from the Internet (Boyd & Spekman, 2008; Verbeke et al., 2011). Nowadays, one important element of the salesperson's job is to build individual long-term partnerships between buyer and seller organisations (Jones et al., 2005). From the business buyers' perspective, the stable and development-oriented, relationally operative supplier offers a competitive advantage in fast-changing business environments, especially when competing with companies that operate globally (Sheth & Sharma, 2008; Ulaga & Eggert, 2006). From the sales organisations' point of view, developing long-term partnerships makes it possible to be profitable and to form more stable environments in which to do business (Crosby et al., 1990; Sheth & Sharma, 1997; Storbacka, Ryals, Davies, & Nenonen, 2009).

In addition, it is important for sales organisations to be aware of the kinds of activities buyers look for when searching suitable future partners. Thus, it is important to understand business buyers' perceptions of pre-meeting activities. This is more important in business environments where the buyers require complex solutions and intangibles (see Nordin & Kowalkowski, 2010). In B2B service selling are situations where business buyers are not able to evaluate the solution and service prior to purchase, hence the satisfaction of buyers' relational and interactional expectations are worthy of consideration. Nevertheless, according to earlier studies, in B2B relationships the value is seen through the entire relationship (Bienstock & Royne, 2007; Kim, 2014; Roth, Money, & Madden, 2004), and this is why it is important to take the pre-buying phase into account. These changes challenge salespeople, as different business buyers may view the possible value proposals of the cooperation differently, and this is why identifying possible gaps or differences in perceptions is a critical step while forming value with the buyer organisation's decision makers (Ulaga & Chacour, 2001).

Given that business buyers have access to all relevant information, including intangibles, and actively search out new suppliers for different business situations, salespeople's relational and interactional competencies play now an even bigger role in forming partnerships (Echeverri & Skalen, 2011; Haas, Snehota, & Corsaro, 2012; Hohenschwert & Geiger, 2015; Hohenschwert, 2012). If a current supplier has been able to build trustworthiness and a good relationship with the customer organisation, and is willing to develop the cooperation as planned, the partnership will continue as long as both parties feel satisfied. Changing the partner is expensive and takes a lot of time, and businesses see that developing current supplier relationships ensures better results than changing a partner (Anderson & Narus, 1990; Boyd & Spekman, 2008).

## Personality types

The Myers-Briggs Type Indicator (MBTI) can assist sales organisations in identifying the buyers' preferred actions during the pre-buying phase. As one study from the purchasing perspective illustrated, personality may have a direct influence on the buying and people, on the buyer's and seller's side, when the different personality types and their needs have been understood (Preis, 2003). There are several ways to conceptualise and assess personality, and this study will focus on the MBTI. This personality assessment is based on Carl Jung's theory of psychological types and reports personality types on four scales: Extraversion – Introversion, Sensing – Intuition, Thinking – Feeling and Judging – Perceiving (Myers, 1990).

According to Myers (1990), the MBTI is primarily concerned with the differences in how people focus their attention, absorb information, make decisions and adapt to situations. The eight preferences are combined into sixteen types, each representing a certain set of characteristics (Myers & McCaulley, 1985). These preferences are (Myers, 1990):

- Extraversion (E): Interested in people and things in the world around them
- Introversion (I): Interested in the ideas in their minds that explain the world
- Sensing (S): Interested in what is real and can be seen, heard and touched
- Intuition (N): Interested in what can be imagined and seen with 'the mind's eye'
- Thinking (T): Interested in what is logical and works by cause and effect
- Feeling (F): Interested in knowing what is important and valuable
- Judging (J): Interested in acting by organising, planning and deciding
- Perceiving (P): Interested in acting by watching, trying out and adapting

The communication style of each type differs; for example, extraverts prefer face-to-face interactions and the opportunity to discuss decisions, while introverts are likely to prefer written communication and time to work on their own to think through a decision before it is made. Sensing types desire specific and concrete information with which to make decisions or solve conflicts, whereas intuitives prefer more general communication and decision-making in which other potential connections are also considered. Thinkers prefer communication that handles tasks and decision-making based on logic where all cause and effect relationships are discussed; feelers want more personal communication where they are recognised as individuals, and in their value-based decision-making strive to ensure everyone is included. Judging types want clear and decisive communication, quick and firmly made decisions, and resolved conflicts to be forgotten, while perceiving types prefer wide-ranging communication and to gather sufficient information before making a decision; any conflicts should be discussed before a final resolution is made.

The study by Dion et al. (1995) of successful buyer-seller relationships found that purchasers and sellers often possessed the same few MBTI types; the most common personality types in sellers were also the most common buyer types. The ESTJ and ISTJ personality types totalled 52.5% of the individuals surveyed, and ST was the most common functional pair (Dion et al., 1995). Likewise, Macdaid, McCaulley and Kainz (1995) found personality types ISTJ and ESTJ to account for over 52% of purchasing agents. Multiple studies in Finland have also

been able to classify managers into these same personality types (Järnlström, 2000; Routamaa, 2011; Routamaa & Ou, 2012; Routamaa, Yang & Ou, 2012). The functional pair ST reveals sensing and thinking preferences, which means that the salesperson should focus on facts when interacting with a ST buyer. In an interaction, the ST customer focuses on details and the logical implication of the specifics. On the contrary, the NT customer tends to focus on the big picture, and on how this generalisation can create logical options (cf. Myers & McCaulley, 1985).

As shown in the statistical relationship between MBTI personality type and self-indicated preferred work environment (Järnlström, 2000), it might be seen that buyers are willing to choose for long-term purposes the sellers that work towards meeting the buyers' needs. Additionally Clack, Allen, Cooper and Head (2004) found in their study of the medical sector that patients' complaints about the doctors concerned their communication, not their clinical competence. The authors claim that poor communication may be due to personality type differences across the SN dimension. From the buyer-seller area, it has been found that sellers' communication skills are seen to be significant in determining the buyers' perceived quality of the relationship during the buying process (Parsons, 2002). Overall, when there is not necessarily room for a meeting in the pre-buying phase, it is important that sellers aim to satisfy the buyers' needs during interactions in channels other than face-to-face. These must be positively experienced, so that the buyer will arrange a meeting first and probably later complete the purchase (see Moon, 2002).

## **Methodology**

This study used qualitative dominant mixed method research (see Hurmerinta-Peltomäki & Nummela, 2006) to study this complex phenomenon of pre-buying phase to enhance the understanding of B2B buyers considerations for meeting the buyers. The methodology in interviews is based on the inductive qualitative research structure (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). The data was based on emerging themes because the aim was to increase the theoretical understanding of the pre-buying phase and to what extent buyers meet salespeople. In order to identify this new buying situation and changed business environment, this study also used a quantitative method by profiling the informants using the MBTI personality indicator to find explanations for business buyers' reflexions.

The focus of this study was interviews with new business buyers, using a set-up that forms part of an ongoing larger research project on B2B selling and buying. This research project involves seven sales companies and nine customer companies, which were referred to the researchers from the sales organisations' sellers. From these nine customer companies, twenty-one different business buyers were interviewed. The informants worked as business buyers or as professional buyers. The business buyers worked in roles such as business unit director, managing director or as an expert or coordinator; the professional buyers had roles including purchasing manager or head of a purchasing department. As shown in Table 1, 15 of the 21 informants worked as professional buyers, and the rest were business buyers.

The interviewed business buyers worked for companies operating in different business areas, such as logistics, consultancy, IT, retail, machinery, furniture and the food industry. In the logistics business area, two companies and their results are grouped to the same customer group, which is also the case for industrial services, where three companies are grouped to the same customer group (group six). The customer companies studied were all buying machinery services, HR services or IT services. The interviews focused on the broader point of view of buying, and the questions did not concentrate only on particular buying process.

As all of these nine buying companies were referred to this project by their sellers, they were willing to participate. This project with the sales organisations built a confidential environment for buyers to participate in the interviews, and each of the 21 buyers were interviewed on two separate occasions. All 42 interviews were taken into account when analysing the data. The semi-structured interviews consisted of three different elements: background information relating to the informant's work as a buyer, questions raised before the sales meeting and central

questions regarding how the organization operates in buying situations. The second round of interviews focused more on the buyer organization's policies, the activities they participate in before the sales meetings and how salespeople need to interact with buyers.

TABLE 1. INTERVIEWS AND INFORMANTS

Customer Groups	Amount of companies in the group	Business sector	Number of professional business buyer interviews	Number of business-buyer interviews	TOTAL
Customer Group 1	2	Logistics	3	2	5
Customer Group 2	1	Furniture industry	1	2	3
Customer Group 3	1	IT industry	1	1	2
Customer Group 4	1	Food industry	3	0	3
Customer Group 5	1	Professional services	1	1	2
Customer Group 6	3	Industrial services	6	0	6
<b>TOTAL</b>			<b>15</b>	<b>6</b>	<b>21</b>

The first interviews with the buyers lasted about 60–90 minutes, and the second round of interviews, which were held between two and five months later, took around 30–60 minutes. After the interviews, all of the participants, including the 21 buyers, were emailed a link to complete the MBTI. After all interviews were completed, the participants discussed whether their self-evaluated MBTI matched their real personality type. Informants who received low scores (7 points or less) on one dimension of the MBTI, confirming of the dimensions were made with a time. It was determined that all of the participants had been assigned the correct MBTI. A Finnish version of the MBTI was translated and validated by Routamaa's research team at the University of Vaasa, Finland; according to Järnlström's (2000) study, the construct validity and reliability of this version was confirmed during a validation process lasting several years.

All of the data collected during the interviews was transcribed after the interviews, and coded by the research group. Identification of the themes to emerge from the 42 was carried out independently. After the analysis, the research group discussed the findings, and during project meetings interpretations or thoughts to arise during the individual analysis were deepened and resolved. The findings were agreed by the research group, and the validity of the themes was high.

The interviews were analysed without systematically searching for the participants' personality type. After analysing the qualitative data and selected findings, which revealed the different buyers' expectations of preferred seller activities before sales meetings, both data sets were combined. After this, citations were confirmed with another MBTI researcher with a deep knowledge of the MBTI theory. After analysing every participant's transcribed text, the author compared the MBTI types to the findings. Therefore, the validity of the analysis is high.

## Findings

## Personality type data

The personality type distribution of the buyers is presented in Table 2. The sample is small but is considered an accurate representation of the occupation. The personality types of the B2B buyers correlates to earlier findings (Dion et al., 1995; Macdaid et al., 1995), thus the most common personality type among buyers is ESTJ (33%), with ESTP (19%) the second most common type. Almost 62% of the buyers represent the cognitive style of ST, and this also corresponds with the results of Dion et al. (1995) and Macdaid et al. (1995). STs are practical, fact and detail-oriented and logical decision makers who prefer a structured and planned environment. According to Myers (1992), STs may look before meetings for detailed information, plan progression and details about the supplier and the offerings.

TABLE 2. BUSINESS BUYERS' PERSONALITY TYPE DISTRIBUTION

Business Buyers					
N = 21				N	%
<b>ISTJ</b> N = 1 % = 4.76 c	<b>ISFJ</b> N = 1 % = 4.76 c	<b>INFJ</b> N = 0 % = 0.00	<b>INTJ</b> N = 1 % = 4.76 c	E	16 76.19
				I	5 23.81
				S	14 66.67
				N	7 33.33
				T	18 85.71
				F	3 14.29
				J	11 52.38
				P	10 47.62
<b>ISTP</b> N = 1 % = 4.76 c	<b>ISFP</b> N = 0 % = 0.00	<b>INFP</b> N = 0 % = 0.00	<b>INTP</b> N = 1 % = 4.76 c	IJ	3 14.29
				IP	2 9.52
				EP	8 38.10
				EJ	8 38.10
				ST	13 61.90
				SF	1 4.76
				NF	2 9.52
				NT	5 23.81
<b>ESTP</b> N = 4 % = 19.05 cccc	<b>ESFP</b> N = 0 % = 0.00	<b>ENFP</b> N = 2 % = 9.52 cc	<b>ENTP</b> N = 2 % = 9.52 cc	SJ	9 42.86
				SP	5 23.81
				NP	5 23.81
				NJ	2 9.52
				TJ	10 47.62
				TP	8 38.10
				FP	2 9.52
				FJ	1 4.76
<b>ESTJ</b> N = 7 % = 33.33 ccccccc	<b>ESFJ</b> N = 0 % = 0.00	<b>ENFJ</b> N = 0 % = 0.00	<b>ENTJ</b> N = 1 % = 4.76 c	IN	2 9.52
				EN	5 23.81
				IS	3 14.29
				ES	11 52.38
				Sdom	6 28.57
				Ndom	5 23.81
				Tdom	10 47.62
				Fdom	0 0.00

Note: c = 1 person.

Print date:

Over 76% of the buyers are extraverts, who are ready to discuss openly and make firm decisions if they find the seller to be open and someone who lets ideas run freely. It may be said that extraverts are overrepresented in this study, as only 24% of the buyers are introverts. According to Myers (1990), it could be that the buyers look to the sellers' openness to share their own knowledge and to be active. Additionally, it would be an advantage if the information sharing included new and unique insights. Extraverts prefer to communicate face-to-face and to form

new and world-bettering ideas in informal interactions, so it would be important to engage extraverts in interactions even before the initial sales meeting.

Nearly 70% of the buyers are S-types who require detailed information and need private time to absorb the details and conditions prior to proceeding to the meeting. According to Myers (1990), it is typical for this type to ask for more information or call a peer to ask for references about the initial supplier. S-type may also strictly prepare based on the suppliers' offerings and their company, and will often compare the details to earlier suppliers. For them, it is important to have for example all the information on the webpages, and as clearly as possible. If S-types find a mismatch on the suppliers' webpages, it may be a sign of weakness in the view of the S-type as a buyer.

This study shows that a preference for thinking, T, is, like the sensing S, overrepresented, as nearly 90% of the respondents present as a T-type. Thinkers prefer communication that deals with tasks and decision making that is based on logic, where all cause-and-effect relationships are discussed. They may be seen as analytical and impersonal when attempting to find explanations. For the thinker, the time before meetings must be used effectively, and task-oriented information gathered promptly. The thinker may be seen as unfriendly because to them the most important objective is to complete the required tasks. To satisfy a T-type buyer before the sales meeting may require strengthening the apparent cooperation through salespeople offering logical data and short and task-oriented interactions.

In this study, 52% of the buyers represent a preference for judging, J, which means they favour an organised and systematic way of living. For the J, it is important to be well prepared, and this type do things as promised. Hence, they prefer an effective way of doing things and like to make decisions, and they also look for the same kind of behaviour in others. According to Myers (1990), judging types would favour before sales meetings on, for example, the webpages straight results or benefits that they are able to make decisions. In the MBTI results, there was found to be only a small difference between the J-type and the spontaneous, P-type, and nearly 48% of the buyers represented the spontaneous preference. While the J types are energised by an organised way of living, spontaneous types are the opposite. The results indicate, according to personality theory (Myers 1990), that the J buyers look for concrete and clear proceedings, while P-types admire surprises and changes, and look for the supplier to offer understanding in informal interactions.

It is notable that this study consisted mostly of buyers of types ESTJ or ESTP. Other studies of buyers (see Dion et al., 1995; Macdaid et al., 1995) found also ISTJ buyers. In this study, six of the respondents worked as business buyers and fifteen as professional buyers. Of the professional buyers, five worked as the head of a purchasing department, and this may have affected the results as in managerial positions there are more extraverts than introverts (see Järnlström, 2000; Routamaa, 2011; Routamaa et al., 2012).

### **Interview data**

The study shows that the changed business environment can be seen in buyers' way of buying and the kind of activities and actions they prefer from sellers. Additionally, the buyers' expectations and preferred activities may illustrate their personality types. According to the analysis of the interviews, three main themes clearly illustrate today's business buyers' pre-buying phase; buyers meet when they have a need, they are the ones to make the first contact and they look for answers to their problems before the actual meetings.

**Business buyers meet salespeople if they have a need.** Buyers talked a lot about how the internal business life has changed, and that they are now busier and need to make decisions and plans faster than before. They said that salespeople are active, but they do not have time to answer phone calls, and if they do not recognise the caller's number, they do not answer or call back. Almost all buyers said that when they have a need or problem to solve, they are ready to meet salespeople. Often this is a situation where the buyers are searching for suitable

long-term suppliers. When the business buyer is aware they have a problem that they need to solve, this can be seen as the start of the whole buying and decision-making process.

It was evident that changing suppliers is not a favourable action (see also Boyd et al., 2008). If the company decides to change supplier and takes the time to find a new one, it is often due to dissatisfaction with the current supplier. The informants mentioned that they are ready to meet other suppliers or start meeting with new suppliers in that category in cases where the current supplier is not satisfying their needs. Dissatisfaction often arose when the supplier was not providing the best quality, or when the buying organisation wanted to shift their buying activities from buying products to buying the whole service package. The examples here relate to these situations:

- *“Actually we started to look something else... when the current supplier... their activities quality was not so good anymore... And actually it was only cleaning service and our goal was to have a full service package, where we can have it all...” (Customer group 4, Professional business buyer, ESTJ)*
- *“...yeah, it was so that we had to terminate the contract with the supplier... the quality was not what we had agreed... we had to make a tendering procedure... of course our current supplier was invited to participate... I of course resolved the qualifications for the tendering... and the aim was not to decrease the price... we needed to have better quality... and this was also the reason for changing the supplier at the end...” (Customer group 6, Professional business buyer, ESTJ).*

These comments clearly illustrate the behaviour of ESTJ types, which was one of the most common types of buyers in this study. When the decision has been made to change the supplier, ESTJs can be tough when the situation calls for that. They like to run these kinds of projects to reach the objectives within a certain schedule (see Myers & Myers, 1980).

It also became clear that buyers look for expertise and interactional encounters during their pre-buying. It might be that in some cases the buyer has only the problem, and they try to find suppliers to help them resolve it. One professional business buyer (Customer group 6, ENFP) said:

- *“...we do not necessarily define our requirement... we start, together with the suppliers, the definition process to find the optimal solution to us... we of course use the expertise of these suppliers... so in our business... we have often these kinds of interactional sessions with the sellers...”*

ENFP-types are innovators and they are enthusiastic about new possibilities and try to find solutions to challenges. The earlier comment clearly describes ENFPs' willingness to initiate new projects, and they also want to do so while in interacting with others (see Myers & Myers, 1980).

The buyers' common opinion was that they do not need salespeople to explain things that they are able to find themselves on the Internet. They said that salespeople are needed when companies try to find solutions and when they want to understand their situation better, and want solutions to improve their business. This was also the place to arrange a meeting. They also appreciate it when salespeople are the ones who are able to make decisions. Buyers also commented that if the problem concerns technology, they would like to deal with a person who is able to understand and explain technical aspects. Some of the buyers said that they appreciated it if the sales organisation is able to send a sales team to the buyer-seller meeting to help them address their problem. These appraisals of suppliers clearly illustrate the sensing, S, preference and the need to have the facts behind the decisions (see Myers & Myers, 1980). In this data, almost 70% of the buyers were S-types.

**Business buyers are the ones who make the first contact.** After the company has decided to change their supplier or find a new one, the pre-buying process begins when the buyer team look for suitable sales organisations. Buyers had different ways to start this phase. The most common way was to search for the suitable company on the

Internet by visiting company webpages or via social media, for example LinkedIn. Some of the buyers said that they ask for recommendations from their business network, or make an Excel sheet of possible suppliers who they already know. Informants also said that they use Google, as one explained:

- “...I often collect a list so that I know what different suppliers offer... and often I just start to search the suitable one with Google...” (Customer group 6, Professional business buyer, ESTJ).

This behaviour of an ESTJ-type shows the logical approach they have. They are also quick decision makers, and indeed sometimes judge too quickly. However, the suppliers’ websites need to offer the facts required, although they will not be on ESTJ buyers’ suppliers lists anymore (see Myers & Myers, 1980).

The business buyer is the one who initiates contact with the sales organisation. After they have found suitable sales organisations, they contact the sales department and ask the salesperson or team to come to meet them. Interviewed buyers said that they contact their new prospect suppliers personally. Sometimes the salesperson is lucky and is offering at the right moment the correct and needed service, and is able to obtain a meeting with a buyer, but this seemed to be rare. In cases where the discussion relates to a larger service and solutions, business buyers do not want to meet the supplier; instead, they may ask for offers and after that meet the most promising suppliers. For example, these points were raised:

- “Yeah... we take the contact to salespeople... often these sellers are active in social media and we can already ask for assistance... often salespeople respond quickly... and are really active in social media with their customers...” (Customer group 1, Business buyer, ESTP)
- “... yes... we look at the Internet a lot... search for suppliers... different alternatives... and that is also the way to come closer to the suppliers of services and producers of products...” (Customer group 2, Business buyer, ESTJ).

These examples demonstrate the difference between a preference for judging, J, and perceiving, P. While the ESTP is satisfied with what he or she experiences in real-time and with quick interactions with the prospective suppliers, the ESTJ-type focuses on facts, realistic information and the here-and-now practicalities (see Hautala, 2008; Myers & Myers, 1980).

It seems the common procedure during the pre-buying phase is to first ask for offers and then go through the offers in detail. After that, there might be a possibility to be able to meet the buyer. For example, these comments highlight the buying process procedure:

- “...we went through all the offers really thoroughly, and at that point I also entered the buying process... we discussed the offers together in our team and we decided to meet some of them. We took meetings with four suppliers and of the four we picked two with whom we continued...” (Customer group 1, Business buyer, ENTJ)
- “yes... it starts from our side... I do not have time to meet if I do not get any benefits of it... when we have a need... we need to find someone to solve it...” (Customer group 2, Professional business buyer, ESTJ).

Both of these examples illustrate the typical behaviour of the judging, J, preference. In this study, as shown earlier, over 50% of the buyers represented this preference. Judging does not mean judgmental; rather, it means the desire to live an organised and controlled life, as J-types like to make decisions, head for closure and get things settled (see Hautala 2008; Myers & Myers, 1980). This study also shows that in today’s pre-buying phase, B2B customers want to ask for a request before meeting the salespeople and the quality of the request is predicting the possibility to get the meeting with the customer.

**Buyers look for answers for their business needs even before the meetings.** During the interviews, we asked business buyers about their activities before meeting the possible new supplier. It was found that buyers prepare properly for the sales meetings, and additionally expect and look for the same from the salespeople. It might be seen that the sellers' activities before the sales meetings are situations where the buyer organisation is testing sales organisations and analysing whether this company could be their next long-term supplier. All the informants said they had visited the sales organisations' webpages before meeting, and some had asked for more information beforehand by email and phone. Almost all the buyers said they always check a sales company's financial numbers before sales meetings. This interviewees' comments confirm this proper preparation during the pre-buying phase:

- *"... I even check their financial situation beforehand and if their situation is ok... I let them come and meet us... often this is difficult because it is so old information... but anyway it gives you a hint and direction about their situation..." (Customer group 6, ESTJ).*

Often, the cognitive style of the ST means they want to be sure of all the facts relevant to the coming decision making. ST-types need systematic decision-making quantitative measures, and this checking of suppliers' financial information is typical behaviour for ST-style buyers (see Walck, 1996).

The interviewees commented that they also look in advance at the suppliers' online news section and explore what new offerings they have. If the buyer is not familiar with the new things, he will prepare himself and discuss the issues with their internal experts before the forthcoming sales meeting. The buyers also mentioned that they often call their friends who work for other companies and check what kind of experience their peers have of this company and their offerings. For example:

- *"Ok... yes... before the first meeting I investigate the company, what kind of company it is... what do they do... what kind of things are going on there... then I talk internally and check how our things are... Before the meeting I also prepare my colleagues for our situation and to this company, to their offerings and situation..." (Customer group 6, Professional business buyer, ESTJ)*
- *"... and then it needs to happen... that the person has prepared for our situation and for what we really need... I need to have an image about a well-tailored presentation for us... that it is not a general company presentation...or too general... it needs to be specified to our situation and to the things that we look for..." (Customer group 2, ESTJ).*

According to the comments, ESTJ buyers are well prepared for the meetings and they look for proper preparation from the salespeople's side. It is notable that ESTJs are not tolerant of inefficiency, so if the salespeople are not prepared for the meeting, it might be said that their behaviour does not build trust in the eyes of a buyer (see Myers, 1990).

It was found that buyers want to develop their own business, and this might be a reason for meeting salespeople to get answers or to look at the problem from the other point of view, and for determining how other companies solve similar problems. One said that they try to find information about how this potential supplier has solved similar problems before, for example via social media discussion forums. To get answers to their problems, some sent a business case to the salesperson before the meeting, and as one previous comment shows, this initial business case was used as an example for the meeting. Often, the buyer team had discussed the forthcoming meeting in their own meetings to build a common understanding of the kind of problems and cases they want to concentrate on when meeting salespeople.

## Results

This study illustrates that the new and changed business environment challenges B2B salespeople in supplier organisations. It reveals that business buyers do not meet with salespeople if they do not have a clear understanding of why to meet, and they also want to be the ones who make the first contact. The reason for meeting was either due to some form of business problem, the need to change the supplier or the need to define the solution or business need in conjunction with the suppliers. It is also important to be well prepared in terms of the customer's cases and ready to offer insights to buyers' business situations, even before the meetings. It also seems to be common to ask for a request before the actual meetings.

In MBTI data, the most common cognitive style was ST. The results from the interviews confirm the MBTI theory and the activities ST buyers prefer to see from suppliers. The STs prefer real-time operational problem solving, and if they have concerns regarding the suppliers' offerings, they do not want to meet the salespeople (see Walck, 1996; Myers et al., 1990). If the buyer has a reason for meeting, they want to have the answers before the meeting. This is also typical for a ST-style person because the decision-making process is analytical and systematic and based on facts (see Walck, 1996; Myers et al., 1990). If the salesperson is not offering these facts to the buyer, the salesperson is not satisfying the customer's expectations during the pre-buying phase. It also became clear that customers do not meet if they do not have a reason for it. This is common impersonal behaviour for the thinking, T, preference. These studied buyers overrepresented the preference T, with 70%. It may be said that the results of the interviews show that expectations of buyers rely on personality type.

Sales literature has often paid attention to quantitative data, such as the number of calls per customer or the amount of meetings held (Plouffe, Williams, & Wachner, 2008). The findings of this study show that if the salespeople behave too actively, the buyers may feel their interaction is pressing them too much. These findings correlates on MBTI theory, where the most common buyer types in this study, ESTJs, are seen to be analogic and willing to make decisions by themselves; ESTJs think that conduct should be ruled by logic, and that their own behaviour should be governed accordingly (see Myers, 1990).

This study also shows that business buyers want to focus on their daily tasks and on their actual suppliers to improve these relationships, and thus achieve effectiveness and reduce costs (Cummins, Peltier, Schibrowsky, & Nill, 2014; Kim, 2014). If the current supplier is not interested in developing the buyer-supplier relationship and the buyer remains dissatisfied, the buyer may start to look for a new supplier. In these circumstances, the buyer is the one who contacts the sales organisations and, for example, asks for an offer at first. This confirms the activities of the cognitive style of ST in MBTI theory. After buyers have compared received offers, they select the sales organisations that they want to meet to hear more about how they have solved similar challenges in their reference cases. This also reveals the basic way of acting in an ST style, although it is notable that extraverts, E, like face-to-face interactions with other people, and there might be a possibility for the salespeople to suggest a short interaction with the customer, for example over the phone or in a virtual meeting (see Myers et al., 1985).

When salespeople are invited to meet the representatives of a buyer organisation, the buyers look for consultancy and new knowledge, and that they have prepared well for the case in-house. This is an extremely important element to recognise in sales organisations. If sales management has focused to increase quantity of meetings, it is important to ensure that salespeople have the time to get properly acquainted with the buyers' situation to be able to apply innovative approaches, as Verbeke et al. (2011) suggest. This is also important if there is on the other side an extraverted buyer, which as this study confirms, with the finding of 76%, is often the case. Additionally, according to the MBTI theory, the sensing, S, types are not keen to adopt new actions, and even dislike new problems, so thinking for the personality type distribution in this study, the innovative and old ways altering thinking style needs to have talented salespeople to achieve success with S-types (see Myers et al., 1980).

## **Conclusion**

This study found that the business buyers want to be the ones who begin the collaboration with sales organisations. The trigger for this pre-buying process may be a business problem or need, dissatisfaction with a current supplier or an interest in increasing knowledge about business possibilities.

It is notable that when the business buyer has a problem, they call sales organisations to get results or information. If the required service or solution needs to be found, buyers' will find new suppliers through the Internet, searching with Google, social media tools or by contacting their own business networks. It was noticed also that the business buyer meets the salesperson with the aim of building long-term relationships. It may be said that they have salient beliefs regarding contacted sales organisations because if the relationship works out as planned, one of these sales organisations might be a potential new long-term business partner.

## **Theoretical contributions**

This study confirms that personalities play an important role when buyers are in the early phase of their buying process. It found that buyers' interest in meeting the salesperson depends on how they are treated. If the buyer is treated as they would like, he is more likely to meet the seller. According to Myers (1990), ST-types and their expectations of prospective sellers reveal today's business buyers' favoured way of interacting with the supplier organisations before the meetings. Additionally, the amount of extraverts, E, in this study, nearly 70% of the buyers and the interviewees, reveal that according to personality theory, buyers want to talk openly of the business challenges with the suppliers, and they are ready to meet after they get ST-type favoured facts.

This study brings new knowledge to the sales literature from the buyers' side (see for example Agndal, 2006; Ahearne et al., 2007; Crosby et al., 1990; Liang & Parkhe, 1997; Overby & Servais, 2005) and of the buyers' buying process in this changed business environment (Boyd & Spekman, 2008; Jones et al., 2005; Verbeke et al., 2011). This study also contributes new knowledge relating to the buyers' pre-buying phase, which is currently understudied (Stiakakis & Georgiadis, 2009). Additionally, this study brings new knowledge to sales literature by using the MBTI theory and MBTI types to illustrate the business buyers' interest in meeting salespeople during their pre-buying phase.

## **Managerial contributions**

This study gives practical guidelines for sales management to transform their practices to better reform their business activities and behaviour in relation to the buyers' needs before having the scheduled meeting with the buyer. Even the fact that the business buyers have prepared properly for the meeting may confirm the earlier studies' findings that often the buying decision is largely made before even meeting the sellers (Adamson et al., 2012; Giamanco et al., 2012; Prahalad et al., 2004; CEB, 2012). Additionally this study shows that the first request sent to the customer plays a key role when customers' are deciding whom to meet.

The findings illustrate that buyers have moved from having a passive role to taking an active role in buying. This study explains why sales organisations should develop their web presence, since business buyers start their pre-buying phase by searching for information on the Internet. Sales managers need to increase their sales personnel knowledge regarding this digital way of influencing buyers' pre-buying process (see Adamson et al., 2012; Prahalad et al., 2004).

Sales managers should find this study beneficial when planning their salespersons' activities. Companies spend a lot of money on training that aims to increase salespersons' activity level and enthusiasm. This study shows that business buyers may actually view too much activity as a negative experience. Business buyers, who in this study are largely ST-types, may interpret this high level of activity as a form of pressure, especially if they do not have a current problem to solve. Sales managers should also consider whether their company webpages and the

content have implications for attracting ST buyers' attention in this new business environment where buyers can choose between several sales organisations, nationally and globally.

On a sales management level, it is important to develop salespeople's skills to meet the buyers' personality type needs before the meetings and to prepare well. Additionally, sales managers need to ensure that salespeople have enough time to prepare themselves for the new interactions with the buyers. Studies on MBTI show that buyers and salespeople often share the same personality types. For this reason, it would be beneficial if the selling side could be more intuitive, N, those who naturally are able to help S-types to bring up new possibilities, communicate and view future changes positively (see Myers, 1990; Myers et al., 1980).

### **Limitations and future research**

This study is based on mixed-method research data from the business buyers' point of view, with quantitative and qualitative data gathered from nine customer companies. Future studies could consider the empirical testing of these findings on a larger scale involving different industries and companies, or with a greater number of MBTI personality indicator profiles.

In future, it could be profitable to focus a study on different digital channels and their influence on the pre-buying phase. In this study, the research focused on personality types and their influence on the buyers' pre-buying phase and on their interest in meeting with the salespeople. It found that changes in the business environment have affected the business buyers' buying process in several ways, and future work could consider the salesperson's interactional and communicative competencies required to succeed in this changed business environment, and from that perspective what kind of skills a salesperson must possess. There is also an undoubted need for sales management research concerning the fulfilment of business buyers' needs and the importance of business networks.

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# Did the World Watch the 2015 FIFA Women's World Cup? A Comparative Analysis of TV Viewing Trends in the USA and Globally

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## Abstract

In the United States, the Women's World Cup signaled a new era in the viewing of women's sports television broadcasts. The Women's World Cup was the highest-rated televised soccer game in American history, eclipsing the number of people who watched the men's team play in the 2015 World Cup in Brazil. Reasons for this record viewership in the USA have been hypothesized to be due to patriotism (the United States team won), the idea that fans of all sexes are finally recognizing the star power of female athletes, the sex appeal of young female sports stars, and other factors. Part of the reason for this record television viewership was simply that more hours of the tournament were made available than for any other Women's World Cup. More than 7,781 hours were broadcast on television, and the tournament was also made available on many other streaming platforms.

This presentation will take a look at the global TV ratings for this tournament, and will discuss the attitudes of people throughout the world about their interest in the Women's World Cup, based on a content analysis of news accounts and other sources. Implications for sports marketing and sports business will also be discussed.

## Introduction

### How Americans Watched

The Women's World Cup became one of the most popular televised sports events in the United States because of a "perfect storm" of increased coverage, smart marketing, the growth of soccer as a spectator sport, the rise in the number of women sports fans, and several other factors.

More than 511.7 hours of television coverage were shown; all 52 live matches were broadcast in English by Fox and cable network Fox Sports 1, while 31 matches were broadcast in Spanish on Telemundo and NBC Deportes. The number of hours the tournament was shown on television is provided in Figure 1.

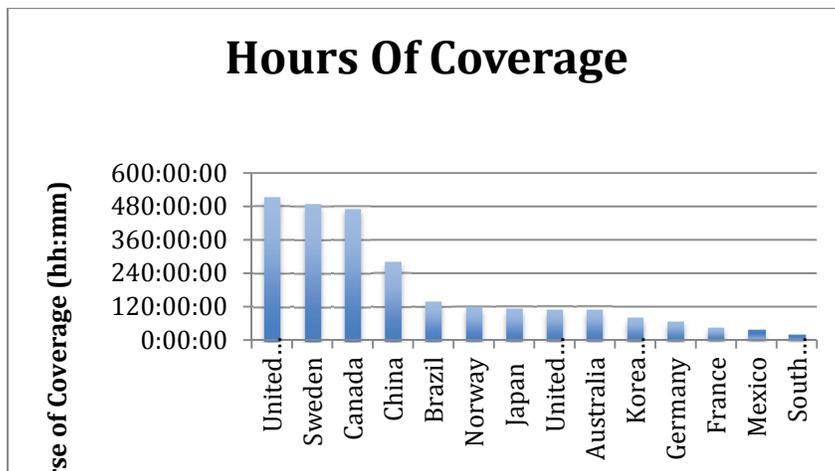


FIGURE 1. HOURS OF TELEVISION COVERAGE (BY COUNTRY)

Incredibly, the 2015 FIFA Women’s World Cup championship game became the most-watched soccer match in United States history. It exceeded the previous record number of viewers who tuned into the USA men’s team match against Portugal in the 2014 World Cup (18.2 million fans tuned in), it shattered the previous record for a women’s soccer match, passing the then-record 17.95 million fans who watched the 1999 Final World Cup final.

Globally, more fans than ever tuned in to watch this spectacle. The television ratings show that the Women’s World Cup is FIFA’s second-most followed televised event. Figure 2 shows the audience reach by country. For example, 327.8 million viewers watched at least 20 consecutive minutes of the event. If one parses it down to smaller intervals, an astounding 764 million individuals watched 1 minute of the tournament while. 555.6 million people caught at least three consecutive minutes of coverage. FIFA’s most-watched event continues to be the Men’s World Cup, which was viewed by 2.131 billion individuals (over 20 consecutive minutes) and by 2.744 billion people (over 3 consecutive minutes).

More people in the United States watched the tournament than any other country. The live broadcast of the championship match, in which the USA defeated Japan, was viewed by 25.4 English-language viewers and an additional 1.3 million Spanish-language speaking individuals.

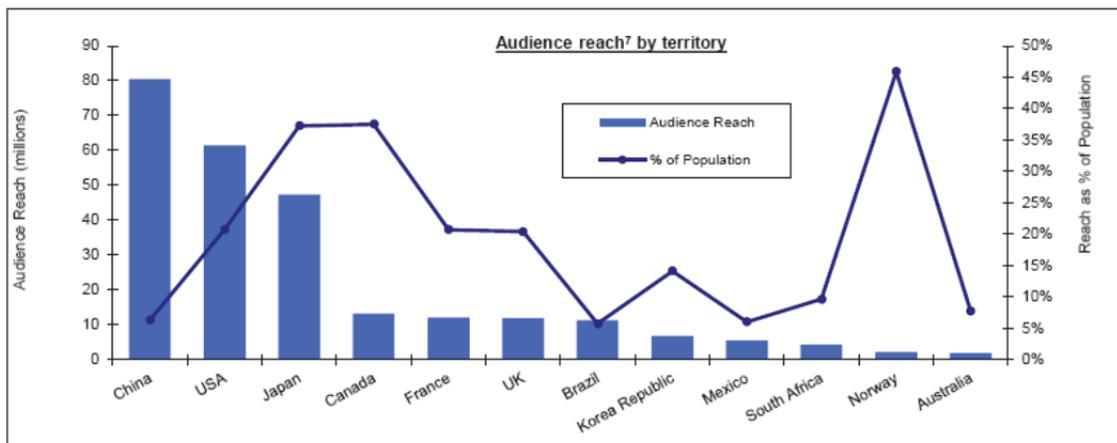


FIGURE 2. AUDIENCE REACH BY TERRITORY

Another way of looking at the popularity of World Cup television coverage is by examining peak viewership data (e.g., the number of people who tuned in to watch any given match). This contrasts with the television reach data that show the numbers of people who watched the tournament over a time give time period. The data for the live peak match viewing audience is shown below. The live peak match audience is shown in Figure 3.

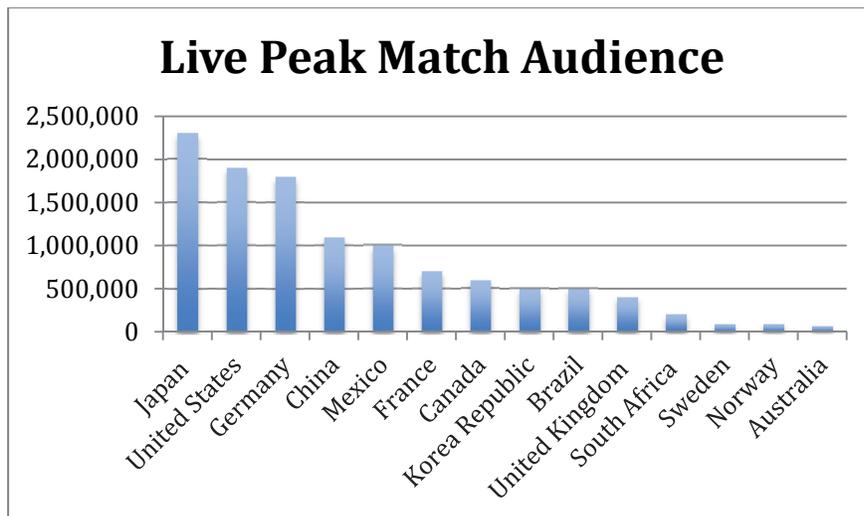


FIGURE 3. THE LIVE PEAK MATCH TV AUDIENCE.

### TV Viewership Grew In Many Nations

The FIFA Women’s World Cup also set television viewing records in many other countries.

In the host country of Canada, more than 471 hours of the tournament were broadcast on television. A record number of 3.2 million viewers tuned in to watch the quarterfinal between Canada and England. This audience set a new record for the most-watched FIFA Women’s World Cup™ match ever. The passion of Canadians for the tournament continued on to the final, where 2.1 million fans watched even though their team had been eliminated; the number of people viewing the final was twice as big as the viewers who watched the 2011 Women’s World Cup final in Germany. Canada also recorded the second-highest percentage audience reach of any nation; 37.5 percent of the population (13.2 million viewers) watched some part of the tournament.

One of the brightest spots for interest in the Women’s World Cup was in the United Kingdom, where the team rose to an unexpected third-place finish and the nation began to show an interest in women’s soccer. The tournament was televised over a period of 107.5 hours and reached an audience of 11.9 million fans. The audience reach was roughly twice the amount earned in 2011, in large part because more matches were shown on the British Broadcasting Corporation and were thus more easily available to the viewing public.

Like many other markets, Australia also showed more hours of television coverage than ever before and this resulted in higher ratings. Australia broadcast 107.5 hours of the World Cup, an increase of 400 percent compared to 2011 edition and showed 41 live matches (compared to only 11 in 2011). The audience peaked at 345,000 people for the quarter-final match against Japan, even though it kicked off at 6 AM local time.

Japan, America’s opponent in the final, also exhibited a large interest in the tournament. The tournament provided fans with 111 hours of television coverage. More than 11.6 million individuals watched the final where Japan lost to the United States, an increase of 11 percent from the number of people who watched the 2011 final where Japan defeated the United States to win the title. The tournament reached 47.2 million viewers, more than doubling the number of people who were able to watch televised matches in 2011 because more games were broadcast on television.

In China, more than 280 hours of television coverage was shown, much of which was available for streaming on to mobile devices. As a result, China emerged as one of the leading hot spots for viewing the tournament on television. Roughly 80.4 million people viewed at least part of the World Cup on television, which represents one-fourth of the global reach of the event. The television viewing audience for the 2015 tournament was much greater than the numbers for the previous World Cup, due in part to China's success on the pitch where the team advanced to the quarter-finals.

The television ratings also rose highly in South Korea, in large part because this was the first time the nation had participated in the Women's World Cup and Koreans wanted to watch and cheer on their national team. More than 80 hours of televised coverage was offered and 6.9 million fans viewed some of the tournament on television. The highest rated matches, featuring the Korean national team, took in an audience of 1.6 million viewers.

The tournament also earned high ratings throughout Europe. In France, the Women's World Cup was broadcast over a period of 45 hours and the televised coverage reached 12.1 million viewers. The most-watched match was the quarterfinal between France and Germany drew 4.1 million viewers which set a record for the highest rating ever on a French cable TV channel.

Passion for watching televised matches of the 2015 Women's World Cup was high in the Scandinavian nations of Norway and Sweden. In Norway, more than 118 hours of televised coverage were provided and the tournament reached an audience of 2.1 million fans. Nearly half of the population of Norway (45.8 percent of the population or 2.1 million people) watched some part of the tournament on television. In nearby Sweden, 487.5 hours of the tournament were broadcast on television, an amazing 700 percent increase compared to the 2011 event, largely due to more hours being shown on cable TV in the country. As a result, the tournament reached 3.1 million people. Despite the greater coverage, the TV ratings decreased because the team performed poorly and because the times the matches were played did not result in their being shown in prime time in Sweden.

### **Countries where the TV audience suffered**

Despite this seeming increase in global interest in the tournament, there were some countries in which the television audience stayed flat or perhaps even decreased.

The television ratings decreased in Germany, perhaps because the ratings were higher in 2011 when Germany hosted the event. The 2015 tournament was broadcast over a period of 68 hours and the tournament reached an audience of 23.8 million fans. The Round of 16 match between Germany and Sweden was viewed by 6.1 individuals, more than the number of people who tuned in for the German Men's Under-21 soccer team (4.9m viewers) or the Formula 1 Austrian Grand Prix Race (4.8m viewers).

In South Africa, the tournament was shown on television over a period of only 21.5 hours. The broadcasts reached 4.1 million viewers, a slight decrease from the number of people who tuned in to the 2010 tournament. This might be attributed to the fact that the Cup was featured on fewer television networks than before.

In Sweden (as noted above), the peak television audience decreased from 1.7 million fans in 2011 to 1.1 million fans in 2015 because the team did not succeed and due to differences in time zones.

In some parts of Latin America, interest in the 2015 Women's World Cup was stagnant or even decreased. In Mexico, the numbers of people who watched televised coverage of the tournament decreased compared to the 2011 World Cup. The tournament was shown for 35.2 hours on television in Mexico and reached an audience of 5.6 million fans. It has been speculated that many soccer fans were tuning in to watch the men's Copa America soccer tournament that was taking place at the same time as the Women's World Cup. In Brazil, 139.3 hours of televised

coverage was provided, but only one match featuring the national team was shown and the matches in the knock-out round were shown on tape delay in the middle of the night. As was the case in Mexico, the Women's World Cup suffered in competition with the men's Copa America tournament that was taking place at the same time. As a result, the Women's World Cup reached an audience of only 11.3 million fans, a decrease of 50 percent compared to 2011.

### Many Fans Tuned in for Live Matches

The FIFA data also reveal the extent to which fans tuned in for live matches versus watching them on tape delay. Many of the matches were played in the afternoon when one night suppose many people were at work and perhaps could not tune in. However, many of those same matches were shown on a delayed basis in prime time when one might think that more people could tune in.

The most-watched match was the final in which the USA defeated Japan; it was viewed by 52.6 million fans live while another 8.1 million spectators view it on a delayed basis. The ten most highly-watched matches were (in order) the Japan vs. England semifinal, the Germany vs. France quarterfinal, the USA vs. Germany semifinal, the China vs. USA quarterfinal, the round of 16 match between China and Cameroon, the third place match between Germany and England, the Australia vs. Japan quarterfinal, the group stage match between Canada and China, and the round of 16 match between South Korea and France. These are displayed in Figure 4. When the 15 most-viewed matches are taken as a whole, the live viewing audience represented 68 percent of the totaled (228.9 million fans). In contrast, the total audience who tuned in to watch delayed matches was only 96.4 million individuals. The only top-rated matches in which more fans tuned in a delayed basis were China vs. Cameroon and China vs. New Zealand.

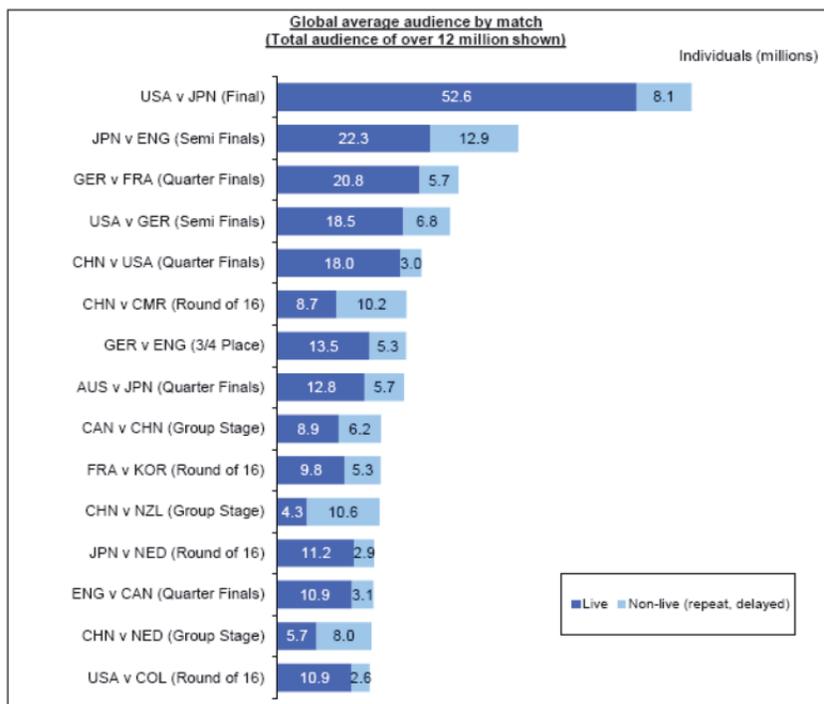


FIGURE 4. THE MOST-WATCHED MATCHES (LIVE AND DELAYED)

Interesting nuances also appear when the live television audience viewing data takes into account differences in the gender and age of the viewing public. Details are shown in Figure 5. It has been suggested, for example, that the United States Women’s National Team would resonate with female fans and thus more women than men, logically, would be watching the tournament. The FIFA data tell a different story. In the USA, more men than women watched live tournament matches (59 percent to 41 percent). In addition, many other countries exhibited a larger percentage of women who tuned in compared to the United States; China led the way with 74 percent of female fans followed by Spain (73 percent), France (70 percent), the UK (67 percent), Australia (65 percent), Mexico (63 percent), and Brazil (63 percent). The only countries with a smaller percent of female fans the USA include Canada (54 percent), South Korea (49 percent), Japan (48 percent), and South Africa (32 percent).

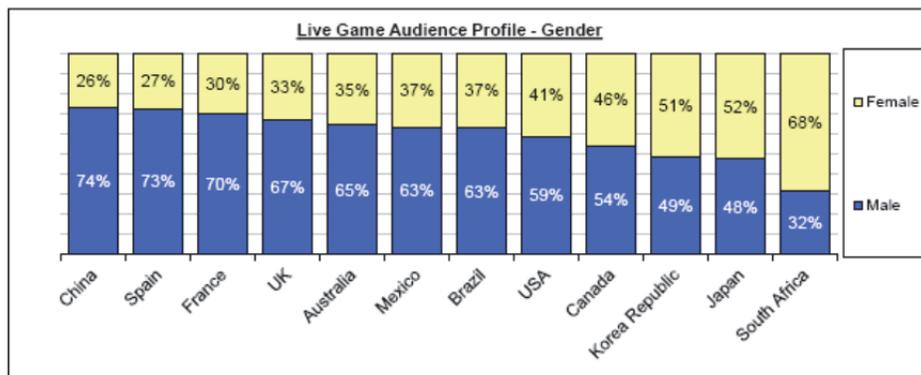


FIGURE 5. LIVE MATCH TELEVISION AUDIENCE (BY GENDER)

It is also a bit perplexing to look at the age of people who watched live matches. Many people assume that soccer is especially popular among young people (in this case arbitrarily defined as people under the age of 35). But the FIFA data show that people under the age of 35 accounted for only 33 percent of the total number of individuals who tuned in to watch live matches. The amount of young people who tuned in to watch live matches was highest in South Africa (61 percent), followed by (in order) Mexico (40 percent), Australia (38 percent), Canada (30 percent), Brazil (30 percent), France (26 percent), the UK (21 percent), China (20 percent), Spain (18 percent), Japan (13 percent), and South Korea (12 percent). In the United States, more people over the age of 35 (66 percent of the total) watched live tournament matches more than any other age range. Details are shown in Figure 6.

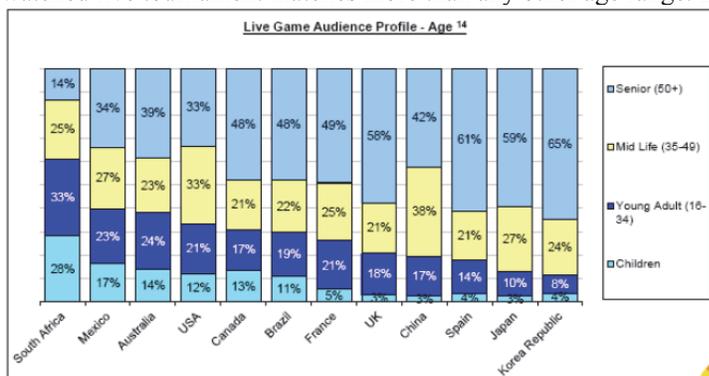


FIGURE 6. LIVE MATCH TELEVISION AUDIENCE (BY AGE)

FIFA also provided interesting data about how the viewers of the Women’s World Cup varied by income data, which is referred to in the reports as socio-economic class. The data suggest that half of the people in the United States who watched live tournament matches had high household incomes, compared to those with medium

incomes (29 percent), and low incomes (21 percent). For comparison purposes, the percent of high income individuals who watched live World Cup matches was highest in (in order) China (63 percent), Australia (52 percent), Brazil (37 percent), Canada (31 percent), the UK (24 percent), Mexico (24 percent), South Korea (22 percent), Spain (11 percent), and South Africa (8 percent). In contrast, the countries with the greatest percent of low income individuals who watched live tournament matches was led by Mexico (64 percent of the total population who watched in that country), South Africa (37 percent), and South Korea (29 percent). It should be noted that it is unclear how FIFA specifically defined the various income categories for each country. Details are shown in Figure 7.

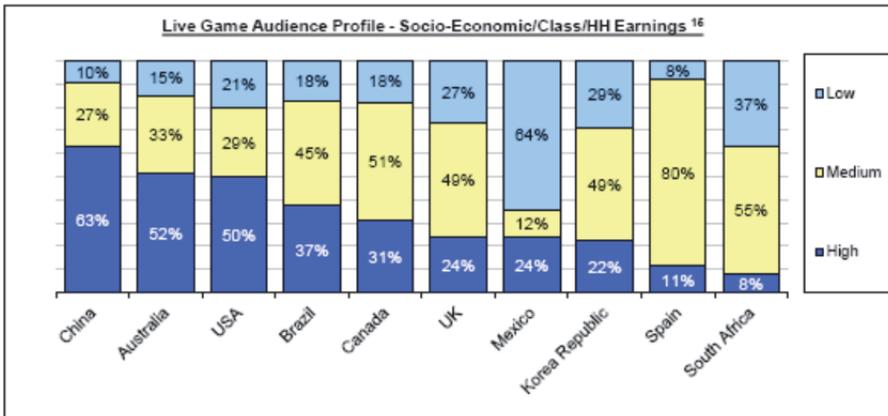


FIGURE 7. LIVE MATCH TELEVISION AUDIENCE (BY INCOME AND SOCIO-ECONOMICS).

### The Total Audience

A growing concern among media executives is the challenge of measuring the total audience, which combines those individuals watching on traditional TV sets in their homes with the number of people who watched in public places (e.g., bars, restaurants, plazas and stadiums, etc.) and those who took in the event on a variety of internet-related platforms (e.g., mobile phones, laptops, and desktops, etc.) When the total audience is considered, the number of people who watched the championship game in English rises to nearly 31 million viewers.

The FIFA data demonstrate many ways in which fans used new forms of media to watch World Cup matches. In the United States, FOX Sports Go reported that 232,000 unique viewers watched the final, making it the most-watched event on this platform. The 2015 FIFA Women’s World Cup represents the top five most-viewed events ever on this platform. Meanwhile, 1.5 million individuals in the United States accessed videos of tournament matches through Spanish-language coverage provided by NBC Deportes and Telemundo.

Globally, FIFA estimated that 86 million watched at least part of the FIFA Women’s World Cup online or on mobile, mainly by streaming matches to internet devices. 64 million people viewed the tournament online in China, in part because its television broadcasts are viewed less often than online platforms in that country. For example, the round of 16 match between China and Cameroon was viewed by 8.7 million unique views in China, which equates to roughly a third of the people who watched it on traditional television sets in the country.

## Discussion

The success of the Women's World Cup as a major spectator sport can only be explained by looking at a number of complex factors including the global coming-of-age of women's sports, advances in technology, widened television coverage, and the widespread use of social media.

One theory holds that the 2015 Women's World Cup was popular because it represented the culmination of a process that eventually elevated women's soccer to a global sport; although women's soccer was nothing more than an afterthought in the 1990s, today more than 30 million women players globally and the sport is now attracting more spectators than ever around the world (Williams, 2015).

The tournament was more successful than ever because of advances in technology which enabled more people than ever to access the matches on mobile devices at any time and any place (Nielsen, 2015). As a result of the success of national teams in the 2015 Women's World Cup, women's soccer became more popular in many countries around the world (Bland, 2015). The Cup was especially popular in Scandinavia, where the national team was featured regularly on front pages of tabloid newspapers in Sweden, as well as such nations as Colombia, Norway, France, Germany, Norway, and Great Britain; in many of these nations, extensive television coverage of the tournament was provided on major TV networks (Ruthven, 2015).

In the United States, interest in the tournament was stoked by Fox TV's clever marketing that primed American fans to avenge Team USA's 2011 loss to Japan in the final using the tagline, "America has a score to settle" (McCarthy, 2015). The tournament was such a hit and it surpassed the number of fans who watched the 2011 Women's World Cup in Germany in which the USA lost to Japan in the championship (Nielsen, 2011) and the heroes were honored with a tickertape parade in New York City's Canyon of Heroes (Longman, 2015). Media research suggests that the USA women were watched feverishly by female fans, who made up 43 percent of the television audience in the United States; the tournament scored well with younger females as well as Caucasian, African-American, and Asian-American women but not Hispanic females (Master, 2016). More corporations began to see the women's soccer as a brand they want to be associated with (Chen, 2015; DiPierro, 2015), although some critics feel Team USA did not receive the amount of sponsorship dollars it deserves (Harwell, 2015). The popularity of Team USA didn't stop with the end of the tournament; EA Sports decided to put a star of the team, Alexis Morgan, on the cover of their soccer game, marking the first time a women had been so honored (Morris, 2015).

The tournament was also a stunning social media success for the American women. Nearly 3 million tweets were sent about Team USA in the championship game, while corporate sponsors of the American women earned 1.4 million YouTube views; sentiment analysis revealed that tweets containing positive statements about Team USA outnumbered negative comments by a ratio of 14-to-1 (Valinsky, 2015).

In the host nation of Canada, total television viewing for the 2015 Women's World Cup was more than four times what it was in 2011, when the event was held in Germany. Canada's quarterfinal match against England on June 27 averaged 3.2 million viewers across Canada, making it the most-watched women's World Cup game ever in the country. Team Canada's five outings averaged 2.3 million viewers, the kind of audience usually produced by big events like the NHL Stanley Cup final (Zelkovich, 2015).

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## ***Who Traveled to Canada for the Women's World Cup? A Discussion of the Power of Sports Events to Increase Tourism***

*By Ricard W. Jensen, Montclair State University*

### **Abstract**

*The 2015 Women's World Cup presented a remarkable opportunity for sports tourism. Because the tournament was played in Canada, it was easily accessible to the thousands of fans of women's sports in the USA, and because the American women's soccer team was a championship contender there was high interest in watching the World Cup on TV. This presentation is going to present secondary data on the numbers of tourists who traveled from the USA and Canada and other parts of the world to attend the tournament. The presentation will also provide insights about the number of days tourists stayed in Canada for the tournament, the amount of money they spent, and the overall impact of the World Cup on the Canadian economy. Much of the empirical data was provided by the Canadian Sports Tourism Association.*

### **Introduction**

The Women's World Cup was played from at venues across Canada including Winnipeg, Ottawa, Edmonton, Moncton (New Brunswick), Montreal, and Vancouver. Tournament matches began June 6 and concluded on July 5. Examining the experiences at each of these venues provides insights about international tourism at the tournament. A summary of media reports about tourism at each venue is shown below.

Winnipeg benefited by hosting games featuring Team USA in the opening rounds; many American fans made the short drive across the border from the United States to Canada to watch opening-round matches (Cuciz, 2015); it was estimated that at least 10,000 American fans, many of them members of the American Outlaws supporters group, were in Winnipeg for the matches and so many fans were present hotels in the city were sold out and fans had to reserve rooms far away from the site (Kives, 2015). So many fans from the United States were driving to Winnipeg that the line at the border crossing lasted 3 hours. In Edmonton, the opening match between Canada and China drew a crowd of 53,058 spectators, which set a record for the largest crowd to watch any national team in any sport in Canada; local tourist officials stated the city would benefit both from tourism revenues and brand exposure from the 11 games played there (Ramsay, 2015). In Moncton, New Brunswick, more than 11,000 fans attended most matches, in spite of the fact that the host city is a relatively small town that is hard to access; still, fans came from throughout eastern Canada and other regions (CBC, 2015). In Ottawa, it was common to see crowds of more than 40,000 fans; Norway, Mexico and South Korea were especially well-represented (Kallan, 2015). Post-event analysis suggests that hosting World Cup events generated more than \$28 million in tourist-related revenues for Ottawa and perhaps more importantly gave the city worldwide exposure as a tourist destination; matches played in Ottawa were nearly sold out (Laucius, 2015). In Montreal, the cavernous Olympic Stadium provided a thrilling atmosphere for the 51,196 fans who attended the semi-final in which Team USA defeated Germany that was described by the media as a thrilling performance (Gelevan and Bennett, 2015); Montreal recorded a 10 percent increase in tourism during the summer of 2015 (when the tournament was held) compared to 2014 and the Women's World Cup was cited as one of many factors that drew more people to the city. Vancouver, which hosted the final, was visited by thousands of American tourists on the week of the final (Lee, 2015), many of them members of The American Outlaws, the supporters group of Team USA (Fletcher, 2015).

Anecdotal evidence suggests that large numbers of fans from the United Kingdom, Japan, China, Germany, South Korea and France (among other nations) traveled to Canada for the tournament. Douglas (2015) described how the success of the English national team is making women's football more popular in the United Kingdom, where a recent match of the women's national team drew more than 45,000 fans. Japan, the defending champion,

was well-represented as thousands of their fans came to support the team; the passion was great in Vancouver which has a large Asian population. Large numbers of fans of the China and United Kingdom national teams greeted both teams when they arrived at the airport after the tournament.

Some data about international tourism at the Women’s World Cup have been compiled by the Canadian Sports Tourism Association (2016). Total tourism revenues spending was estimated to be more than \$93 million. More than 95,645 fans from the United States visited Canada during the World Cup and stayed at least one night, more than triple the number of USA fans who returned home on the same day (Figure 1). This may be due to the fact that sites in Canada were some distance away from the United States. Estimates show that same-day tourists (excursionists) spent an average of \$162 per day, while stayovers (who stayed overnight) spent an average of \$547 per trip. The tournament generated \$493.6 million in economic activity and produced a net economic benefit of \$249 million in gross domestic product (GDP) across the country. At least part of the economic growth generated by the World Cup stemmed from the 3,100 jobs that were supported by the event.

FIFA WWC 2015	Vancouver Other	Edmonton	Winnipeg	Ottawa	Montréal	Moncton	Total
U.S. Stayovers	33,908	12,624	17,429	10,301	20,184	2,200	96,645
U.S. Excursionists	12,746	857	2,382	1,313	6,821	1,030	25,149

FIGURE 1. NUMBERS OF AMERICAN TOURISTS IN CANADA FOR THE WORLD CUP. STAYOVERS ARE TOURISTS WHO STAYED AT LEAST ONE NIGHT. EXCURSIONISTS ARE TOURISTS WHO VISITED FOR THE DAY AND DID NOT STAY OVERNIGHT.

In addition, data show that more than 25,711 tourists came to Canada for the Women’s World Cup and stayed overnight from countries other than the United States. The largest numbers of international tourists came from the following nations (in order) Japan (6,710 tourists), Germany (2,596), Ecuador (2,584), Switzerland (2,256), France (2,195), Brazil (1,757), England (1,385), according to data from the Canadian Sports Tourism Council. Smaller numbers of overnight tourists came to the tournament from such nations as (in order) Sweden (721 tourists), Colombia (646), Austria (479), the Bahamas (479 tourists), Spain (429), the Netherlands (429), Bosnia (360), China (250), Mexico (250), Azerbaijan (250), New Zealand (215).

### Evaluating the Success of the Tournament

Before the tournament, Canadian tourism professionals predicted that that Women’s World Cup could generate as much as \$493.6 million in economic activity for the nation (Brijbassi, 2015). After the tournament concluded, Canada Soccer reported that the tournament set a new total attendance record (1,353,506) for any FIFA competition other than the FIFA World Cup, including thousands of out-of-town spectators. More than 84,000 visitors made one or more day trips while 174,000 visitors made an overnight visit to one of the official host cities. More than 96,600 Team USA fans crossed the border specifically for the tournament. Roughly half of all spectators were reported as out-of-town visitors. The original goal of the Canadian Soccer Association was to sell 1.5 million tickets for the 52 matches in the tournament. If accomplished, it would break the previous Women’s World Cup record of 1.1 million tickets sold that was set in 1999 when the tournament was held in the United States.

Another way of examining the impact of the Women’s World Cup on tourism can be examined by looking at the economic activity generated by each of the cities that hosted a World Cup match. Vancouver led the way with a gross domestic product of \$38.3 million, followed by (in order) Edmonton (\$26.3 million), Montreal (\$20.6 million), Winnipeg (\$16.9 million), Ottawa (\$12.1 million), and Moncton (\$9.2 million).

### ECONOMIC IMPACT SUMMARY BY OFFICIAL HOST CITY

\$ Million	VAN	EDM	WIN	OTT	MTL	MON	NOC	Toronto 2014	Provincial Spillover	Total
Initial Expenditure	\$53.1	\$32.2	\$20.0	\$18.1	\$29.2	\$14.7	\$43.5	\$5.7	\$0.0	\$216.4
Gross Domestic Product	\$38.3	\$26.3	\$16.9	\$12.1	\$20.6	\$9.2	\$32.8	\$3.7	\$89.3	\$249.1
Wages & Salaries	\$28.7	\$18.5	\$12.1	\$9.0	\$15.8	\$7.3	\$21.7	\$2.9	\$46.4	\$162.4
Employment (Full-year jobs)	692	405	278	188	368	155	260	62	745	3,154
Industry Output	\$82.9	\$56.4	\$35.9	\$28.6	\$47.6	\$22.5	\$66.8	\$8.7	\$144.1	\$493.6
Total Taxes	\$20.1	\$9.8	\$7.7	\$5.8	\$10.3	\$3.8	\$10.1	\$1.8	\$28.2	\$97.6
Federal	\$8.8	\$5.5	\$3.3	\$2.6	\$4.0	\$1.7	\$5.3	\$0.8	\$14.1	\$46.0
Provincial	\$7.2	\$3.0	\$3.1	\$2.2	\$4.5	\$1.6	\$3.6	\$0.7	\$10.8	\$36.7
Municipal	\$4.2	\$1.3	\$1.3	\$1.0	\$1.8	\$0.5	\$1.2	\$0.3	\$3.3	\$14.9

FIGURE 2. THE ECONOMIC IMPACT OF THE WORLD CUP (SORTED BY HOST CITY). FROM THE CANADIAN SPORTS TOURISM COUNCIL.

One of the best ways to examine the impact of the tournament on tourism is to try to learn the motivations of fans to travel to Canada for the event. Surveys by the Canadian Sports Tourism Council asked visitors to Canada if they were aware that the World Cup was taking place and if it was the primary reason they were traveling. Nearly all (94 percent) of the respondents who were from the United States said they were aware of the tournament, compared to tourists from other countries (awareness was only 79 percent for them). Similarly, more fans from the USA said they were in Canada primarily to see the World Cup (86 percent of Americans reported they traveling just for the tournament) compared to only 69 percent of tourists from other countries. These data suggest that Americans were more aware of the tournament than people from other nations and were more motivated to want to travel for the World Cup.

#### Summary

This investigation attempts to take an initial look at how a major women's soccer tournament may have affected tourism trends. The limited secondary data utilized for this presentation suggests that fans from the United States were more likely than people from other nations to travel to Canada for the tournament. Certainly, such factors as geographic proximity, ease of travel, familiarity with the destination country, and the success of the American team all played a factor in tourist decisions. Other information in this presentation provide insights into the amount of tourism at different venues and the various nations tourists came from to spectate at the tournament. The data suggest that the culture of local host cities affected tourism (e.g., Vancouver has a large Asian population and is closer to Japan than other sites). Geographic proximity and the history of success of national teams also seems to have played a role in influencing tourist trends. Fans from throughout the Western hemisphere were well-represented as well as nations that have been traditional women's soccer powers.

This study is limited because of the lack of data that were available and more detailed analysis needs to be done, but it does provide some intriguing ideas about the possible relationships between the Women's World Cup and tourism.

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# *Are American College Students Interested in International Sports? Implications for Sports Business and Sports Tourism*

*By Ricard W. Jensen, Montclair State University*

## **Introduction**

The Internet is making the world a global village in which it is easier than ever for people to connect with and learn about news and events happening anywhere or anytime. This is especially true in sports, where fans in the United States can watch an English Premier League soccer game on cable TV or stream a Formula One car race to their cell phone. Global sports entities in the USA such as the National Football League are trying to establish fan bases in India, China, and England through aggressive marketing. At the same time there is this push for increased interest in global sports, there is the competing notion that fans might be more likely to continue the sports that have been popular in their countries and cultures for many years (e.g., baseball in America, cricket in India, rugby in South Africa) and would have less of an interest in global sports. The topic of the differences in sports fandom among people in different countries has been the subject of many reports by sports marketing consultants. The 2014 Global Sports Media Consumption Report (Kantar Media, 2014) reported the top three sports followed in 16 nations. The report shows that the most-popular sports varied dramatically by country and culture; for example, table tennis reigned in China, cricket topped the list in India and Australia, and figure skating led the way in Russia. This study confirms that sports fandom is influenced by geography and culture (see Figure 1). Repucom (a global sports marketing consultant, assessed how fandom differs by country in a 2015 report, *The Fan Revolution*; they found that fans in different countries are motivated to follow sports by distinctly different reasons and as a result the most popular sports vary nation-to-nation. Other consultants have estimated by sports with the biggest fan bases (Sportek, 2015).

Despite the large volume of work done by sports business practitioners to examine global sports fandom, the topic has received very scant attention from academics. One of the rare examples of studies of this sort is a project by Kaplan and Langdon (2012) that attempted to compare the differences in sports fandom between college students in China and the United States; Kaplan and Langdon built upon the work of Oang (199) to study how sports consumption may differ in Eastern and Western cultures. The authors noted that such factors as culture, family influences, socioeconomics and traditions, and media coverage may influence the sports fans to want to spectate in different countries and cultures. Reime (2013) investigated the impact of individualism and collectivism on sport spectator motivation, using principles developed by Hofstede (2001) in his work on cultural dimensions. Similarly, Menafee (2009) attempted to study how cultural differences may have influenced the fandom of young people from China and the United States in the ways in which they follow college basketball. This project attempts to fill a gap in the literature by making an initial exploration of the sports fandom of a small group of college students in the northeast United States at a campus with a diverse student body. Data were gathered about the ethnicity of these students, the languages spoken in the home and other cultural factors.

<i>Country</i>	<i>Most popular sport</i>	<i>2<sup>nd</sup> most popular</i>	<i>3<sup>rd</sup> most popular</i>
Australia	Cricket	Australian Football	Tennis
Brazil	Soccer	Volleyball	Formula 1
China	Table Tennis	Badminton	Basketball
France	Soccer	Tennis	Rugby
Germany	Soccer	Formula 1	Boxing
Great Britain	Soccer	Tennis	Formula 1
India	Cricket	Tennis	Soccer
Indonesia	Soccer	Badminton	Moto Grand Prix
Italy	Soccer	Formula 1	Moto Grand Prix
Japan	Baseball	Soccer	Figure Skating
Russia	Figure Skating	Soccer	Ice Hockey
South Africa	Cricket	Soccer	Track and Field
Spain	Soccer	Formula 1	Tennis
Turkey	Soccer	Basketball	Swimming
United Arab Emirates	Soccer	Cricket	Tennis
United States	Football	Baseball	Basketball

FIGURE 1. THE MOST POPULAR 3 SPORTS IN 16 NATIONS. KANTAR SPORTS.

## The Purpose of This Study

This presentation discusses the results of a 2016 survey of 90 college students at a university in the northeast United States with a diverse student population. The students were asked a number of demographic questions (e.g., gender, age, ethnicity, if they had always lived in the United States, if languages other than English are spoken in the home). Respondents were also asked about which sports they had ever played, the sports they now play, and the sports their father played. The survey also asked students a number of questions about their fandom of such specific sports as Major League Baseball, the National Football League, the National Basketball Association, the National Hockey League, Major League Soccer, international professional soccer (e.g., the English Premier League, La Liga, and the Bundesliga, etc.), and cricket. For each of these sports, respondents were asked to rate (on a 5-point Likert scale) whether the sport was their favorite above all others, the extent to which they watch the sport once a week when the sport is in season, the extent to which they followed the sport on social media, and the extent to which they would pay to attend a game involving that sport. The data were analyzed to determine overall trends, and were sorted to identify differences in sports fandom that might result from the ethnic background of respondents, the extent to which they had always lived in the United States (or not), and the languages spoken in the home. The goal is to determine the extent to which individuals from different cultures and backgrounds might have different preferences associated with sports fandom.

## Results and Discussion

The composite results from all respondents shows that the National Football League (NFL) was their favorite sport followed by (in order), international professional soccer (IPS), the National Hockey League (NHL), Major League Soccer (MLS), the National Basketball Association (NBA), Major League Baseball (MLB), and cricket (CRK). The preference for the NFL among these respondents is reflected by the fact that they watched pro football at least once a week more often than any other sport (IPS, NHL, and MLB were other popular sports) as well as by the sports respondents follow most on social media (the NFL was ranked first followed by IPS, NBA, NHL, and NBA). The one area where the NFL did not dominate was the category of which sports respondents would pay to attend where MLB was a close second; this may reflect the lower prices for pro baseball games and the large number of baseball games fans can choose from.

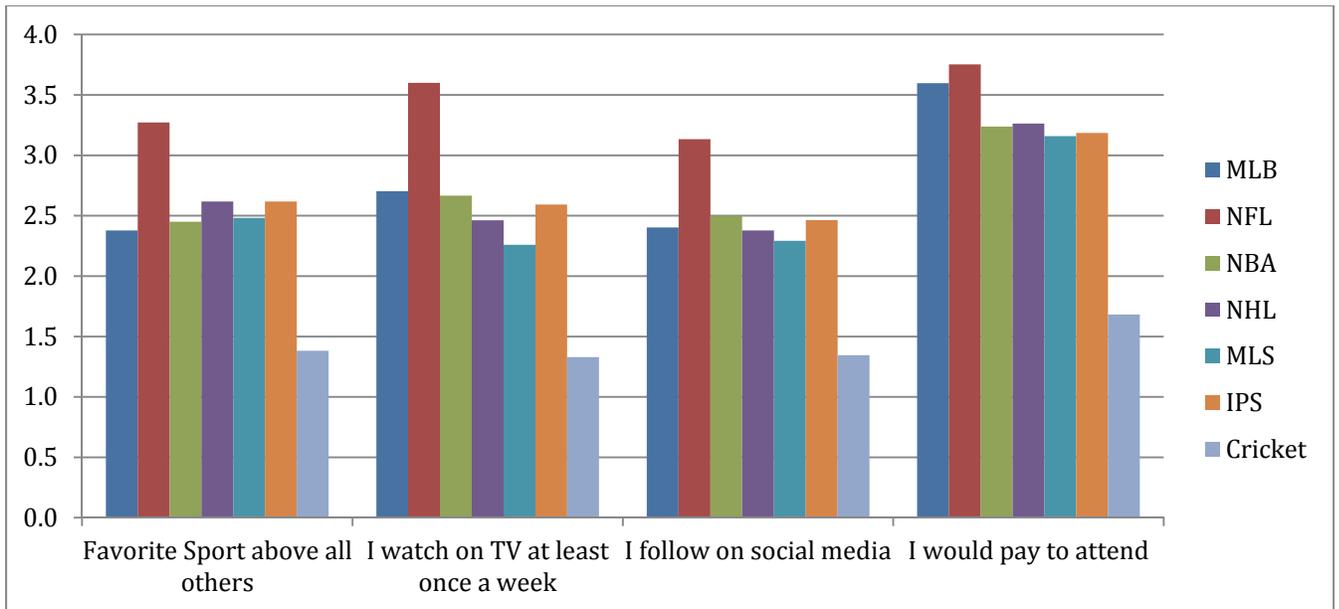


FIGURE 2. FANDOM OF ALL RESPONDENTS

One of the goals of this study was to investigate the extent to which individuals from different cultures may exhibit greater affinity for some sports than others; the idea was that people who were raised in a culture where soccer or cricket were popular might be more of a fan of those sports. In order to investigate the cultural differences in fandom, results were analyzed by the self-identified ethnic background of respondents. Data were sorted by the race and ethnicity of respondents (Figures 2, 3, 4, 5 and 6).

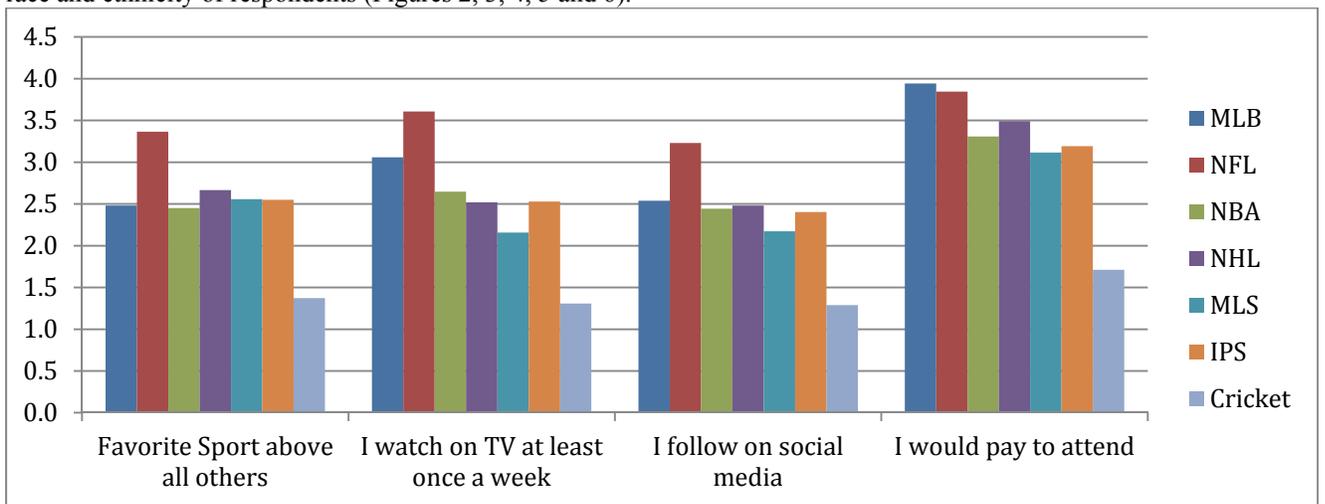


FIGURE 3. FANDOM OF CAUCASIAN RESPONDENTS.

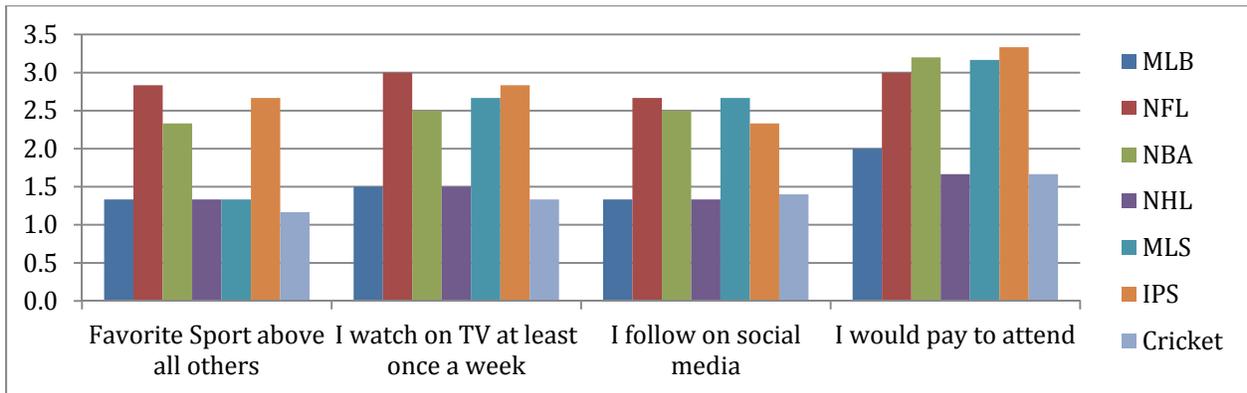


FIGURE 4. FANDOM OF AFRICAN-AMERICAN RESPONDENTS

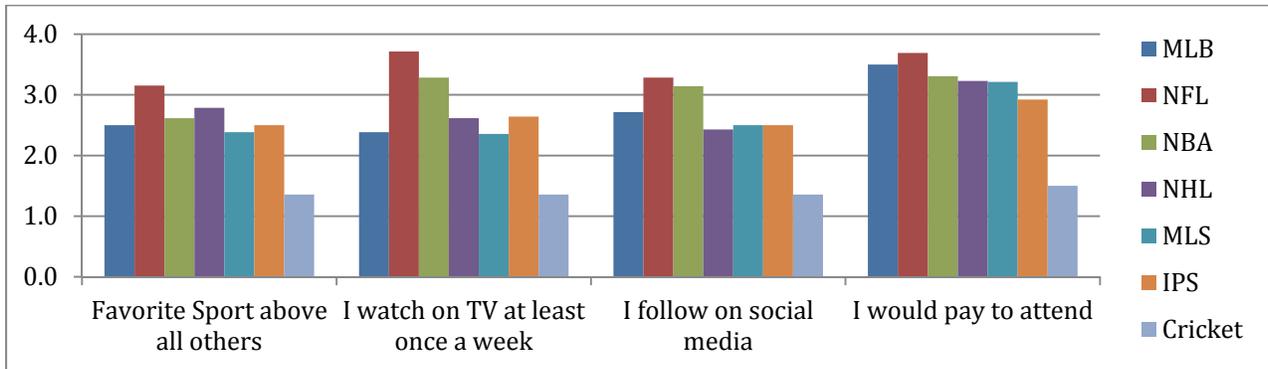


FIGURE 5. FANDOM OF HISPANIC-AMERICAN RESPONDENTS.

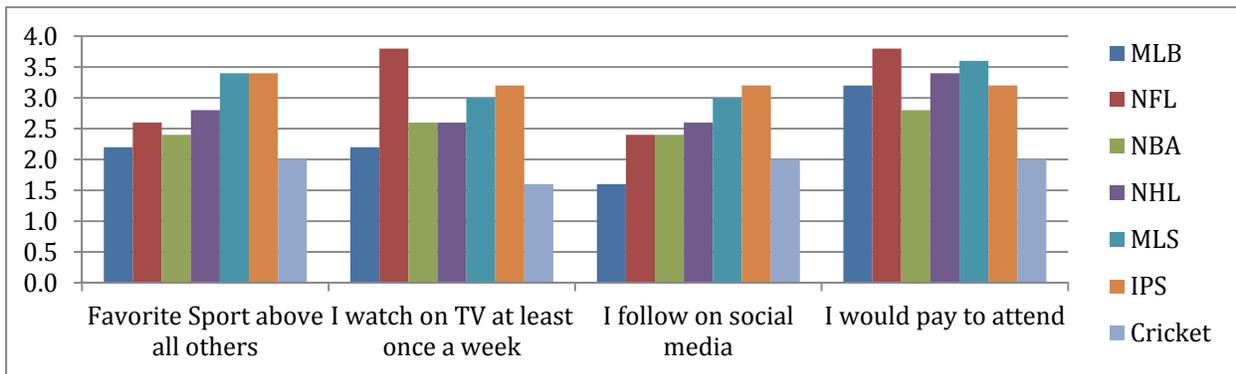


FIGURE 6. FANDOM OF ASIAN-AMERICAN RESPONDENTS

We also attempted to parse the data to investigate if differences in fandom might be associated with the languages spoken in the home. The premise to see if cultural factors might be influencing fandom. The results for respondents who reported English, Spanish and other languages being spoken in the home are shown in Figures 7, 8, and 9.

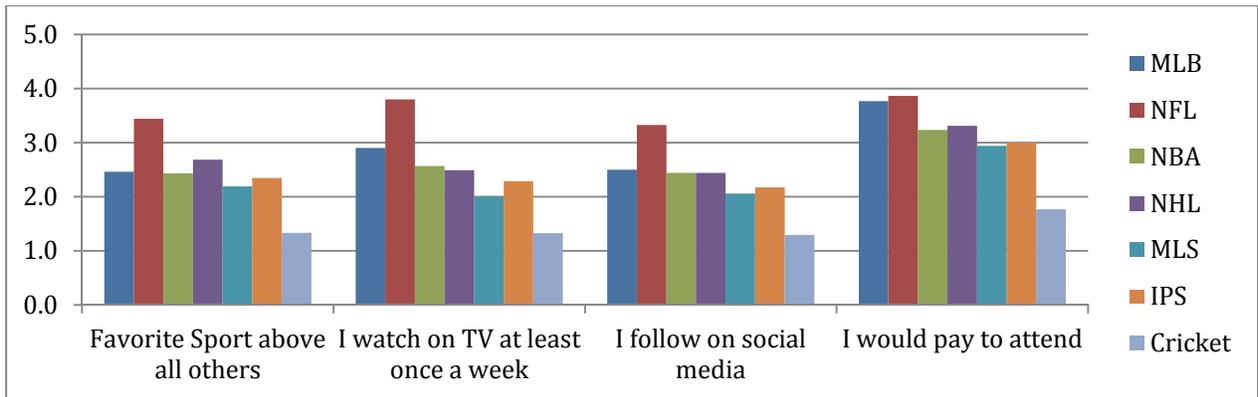


FIGURE 7. FANDOM OF RESPONDENTS WHO SAID ENGLISH WAS SPOKEN IN THEIR HOME.

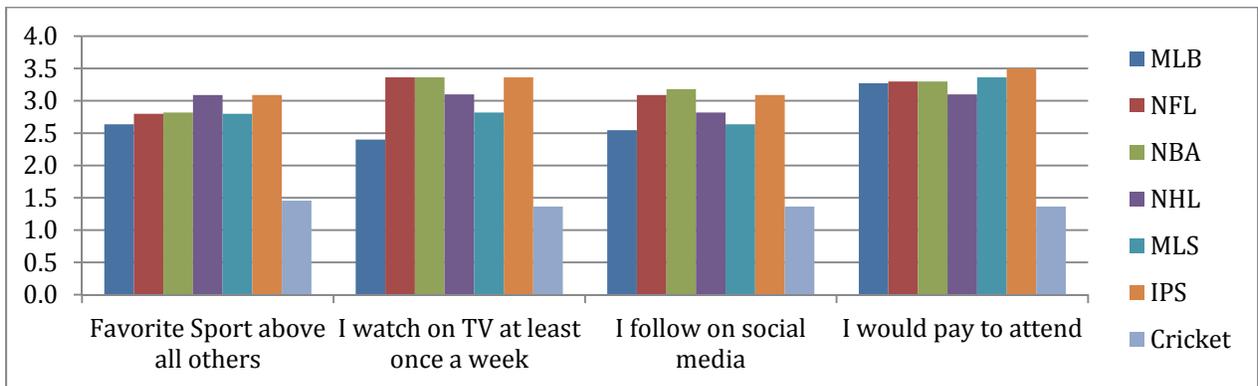


FIGURE 8. FANDOM OF RESPONDENTS WHO SAID SPANISH WAS SPOKEN IN THEIR HOME.

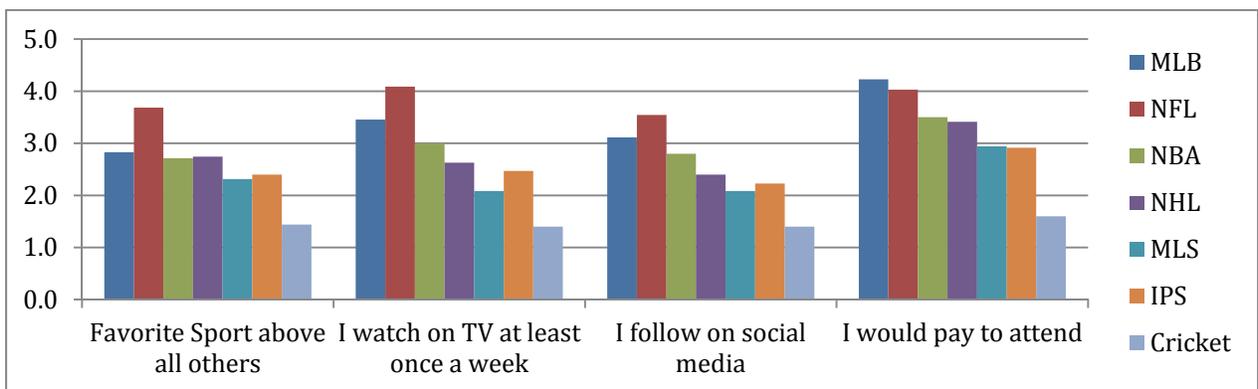


FIGURE 9. RESPONDENTS WHO SAID LANGUAGES OTHER THAN ENGLISH ARE SPOKEN IN THEIR HOME.

The data were also analyzed to determine if there might be associations between the sports individuals played and the sports they follow as fans; the idea was that sports traditions may be another factor that influences fandom. Results showing the extent to which playing soccer and baseball may have affected fandom are shown in Figures 10 and 11. Another way of viewing the influence of culture on fandom may be to look the sports the respondents' fathers played; data that show the associations between fandom and the sports played by respondents' fathers are shown in Figures 12, 13 and 14.

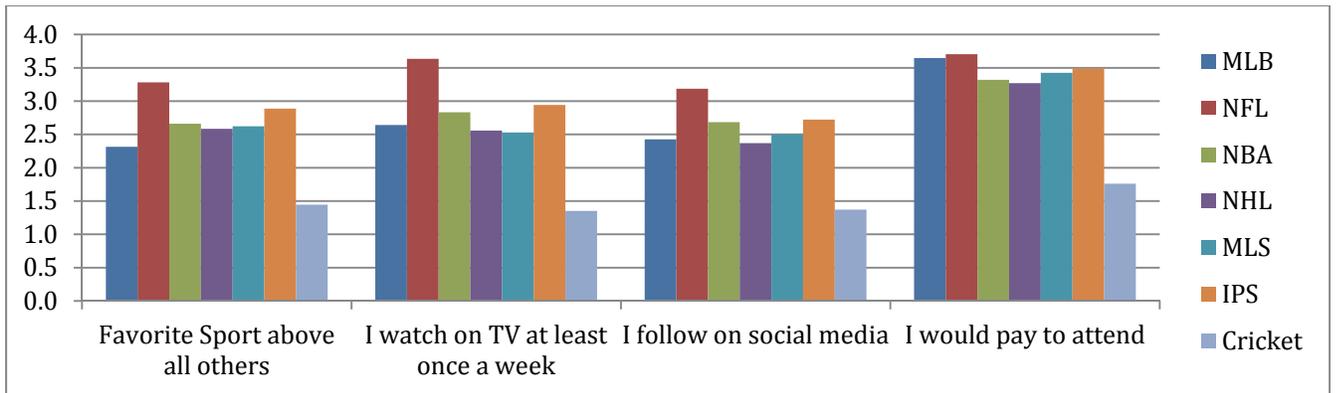


FIGURE 10. FANDOM OF RESPONDENTS WHO SAID THEY PLAYED SOCCER.

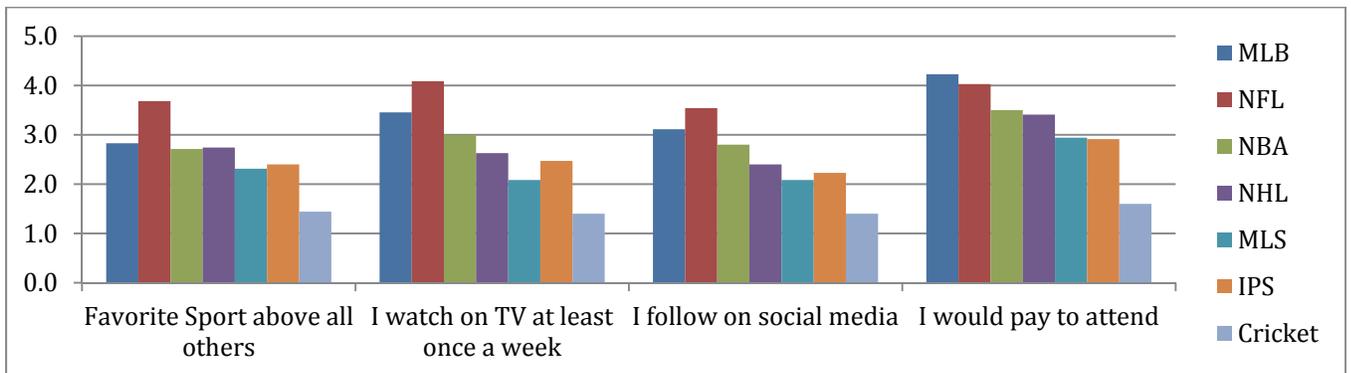


FIGURE 11. FANDOM OF RESPONDENTS WHO SAID THEY PLAYED BASEBALL.

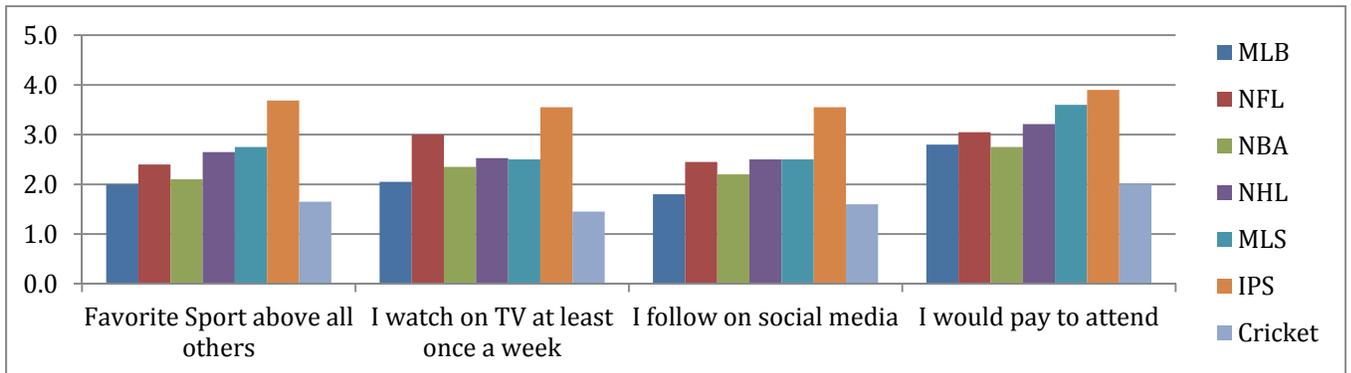


FIGURE 12. FANDOM OF RESPONDENTS WHO SAID THEIR FATHER PLAYED AMERICAN FOOTBALL.

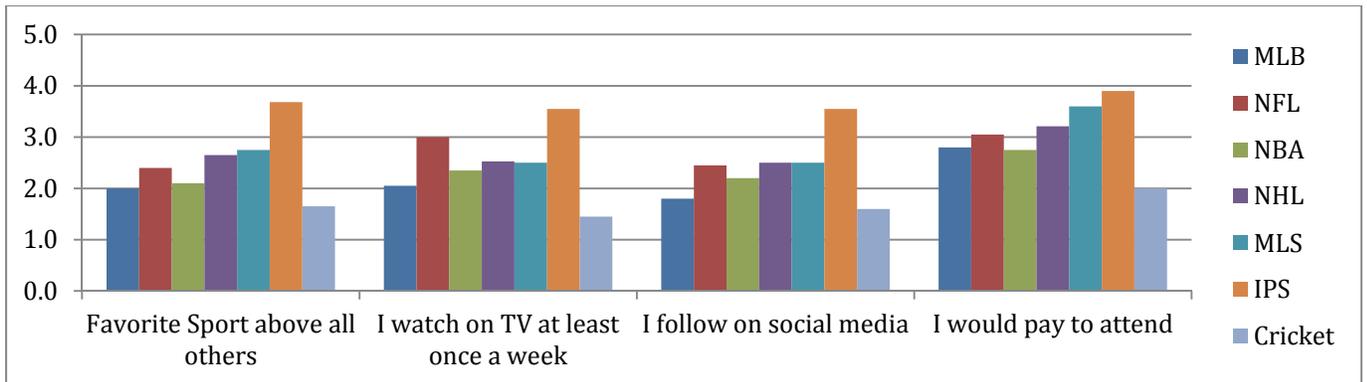


FIGURE 13. FANDOM OF RESPONDENTS WHO SAID THEIR FATHER PLAYED SOCCER.

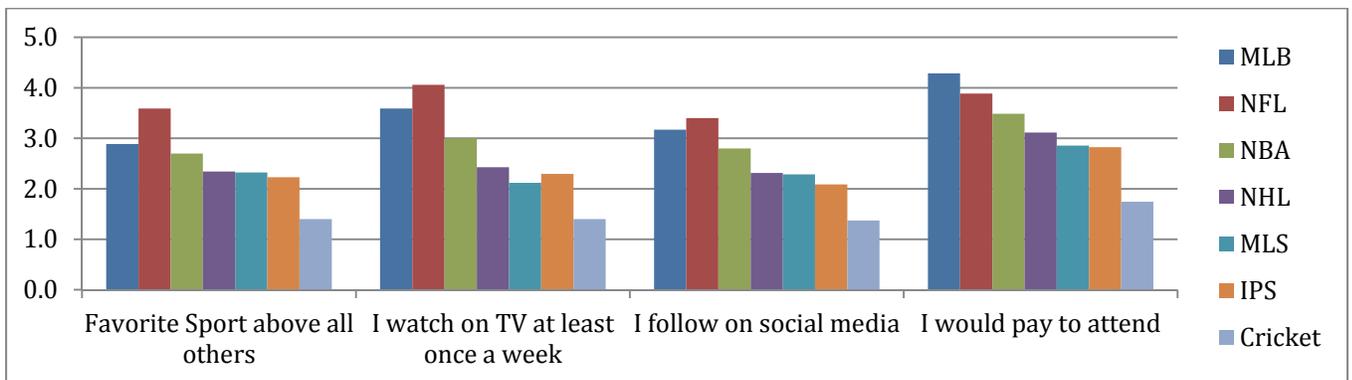


FIGURE 14. FANDOM OF RESPONDENTS WHO SAID THEIR FATHER PLAYED BASEBALL.

## Discussion

This is a very rudimentary attempt to investigate the extent to which differences in ethnicity, culture, languages and traditions may influence the sports people follow as fans. The data seem to suggest that there are variations in the sports individuals follow that may be related in some way to languages spoken in the home, the ethnicity of respondents, the sports respondents and their fathers played, and many other factors. It may be useful to follow on this line of research with more robust studies. This study has several limitations. The sample size is small. The respondents were college students at a university in the United States; not individuals living in different countries. The questions used in the survey instrument were not based on validated scales because the author could not find any scaled instruments that examine international sports fandom. Still, it is hoped that this effort may prompt some discussions about how to build upon these ideas and develop a better survey instrument that may be used to sample respondents from many different nations and cultures.

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## ***Impact of Social Media Marketing on Customer Purchase Intention: Mediating role of Customer Trust (Marketing and Communication in Connected Environment)***

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### **Introduction**

The word Social media comprises of a variety of online forums such as blogs, email, chat, product reviews, electronic word of mouth platforms and websites with audio/visual material and social websites. (Nardi et al., 2004; Dwyer et al., 2007; Ahnet et al., 2007; Pempek et al., 2009; Kaplan & Haenlein, 2010). Toivonen (2007) defines social media as an interaction of people to create, share, exchange and commenting contents in networks and virtual communities. The concept provided baseline for online social networking through websites like Face book and MySpace. The term of social media was coined in the same era and gained distinction (Kaplan & Haenlein, 2010). The progress of social media position it in the marketing strategies

The use of social media marketing has better reach (Tiffany, 2009) and has significant impact on younger generation (Nancy, 2009). Young adults spend daily time on social sites as a part of their routine activities (Hitwise, 2007; Goh & Huang, 2009). Ellison (2007) reported the 30 minutes average use of Face book. Business firms are facing the challenge of Internet-based messages (Lefebvre, 2007) and information transmitted through social media (Hassan, 2011). These are among the major factors that influence customer behavior (Robert, A. P., Sridhar, B., & Bronnenberg, B. J., 1997).

The behavioral intention of customer is an indication of purchase decision and need to be monitored (Zeithaml, Berry, & Parasuraman, 1996). Turney and Littman (2003) argued that sentiments influenced purchase decision. Although, impact of social media through consumer to consumer conversations is magnifying, but the importance of these conversations is yet to be recognized (Mangold & Faulds, 2009).

The rapid explosion of social media melted away the information communication barriers. Targeting the Facebook generation will no more effective with traditional channels as it will impact all type of organizational communication to achieve its objectives (Danny Meadows-Klue, 2008). The information and communication technology has eased the direct communication process with customers and other stakeholders. Therefore, marketing strategies are being altered in order to gain maximum results out of direct consumer communication (Scott David, 2007).

Jerry wind (2001) highlighted the changes brought by the internet and digital marketing on consumer focused marketing strategies. Social media applications are becoming a popular feature of a cell phone and this will act as main driver of evolution being brought by social media in business (Kaplan & Heinlein, 2010). Turney and Littman (2003) argued that sentiments influenced purchase intention. (Haytham (2002) argued that culture is critical to develop initial trust on online vendor. The collectivistic and individualistic society effects on trust differently (Osama, Kyeong, 2014). Akansha (2014) studied effect of trust on online purchase behavior. Trust and shopping enjoyment are two important factors for purchase intention for social commercial sites (Huo, 2014).

The number of mobile phone connection subscribers was 100 million in year 2010. Social Marketing is being considered playing an important role in customer buying decisions, however little studies have explored its impact over the customer purchase intention and mediated role of trust is rarely investigated. The current study investigated the following research questions.

1. To what extent electronic word of mouth (eWOM), seller created information (SCI) and perceived quality (PQ) influence the customer purchase intention (CPI)?
2. To what extent consumer trust mediated the relationship between electronic word of mouth (Ewom), seller created information (SCI) and perceived quality (PQ) influence the customer purchase intention (CPI)?

## **Literature Review**

In 1990's, the online contents were almost similar to traditionally published material and the major part of internet users were using the contents created by a few publishers Eugene, A., Carlos, C., Debora, D., Aristides, G., & Gilad, M. (2008). Zeithaml, Berry, & Parasuraman (1996) found that the intentions of a customer are indication of their purchase decisions, hence are desirable to be monitored. Bansal, Irving and Taylor (2004) investigated the impact that consumer commitment on switching intention. The seller provided information differs from the kind of information provided by consumer reviews. The trustworthiness of an information source is often positively related to information credibility as previous studies suggested that customer created information is more credible than the information created by the seller. When sellers present product information, they hide negative aspects and promote only positive aspects (Bickart & Shindler, 2001 and Delarocas, 2003).

The internet has facilitated the marketers in providing a quick information point in the form of designated website. Scott David (2007) suggested that it is imperative that marketing managers modify their marketing and public relationship strategy and use the tools of new media like product website (Scott David, 2007). Turney and Littman (2003) did sentiment analysis of online forums and product reviews shown that they influence individual's purchase decisions. From the start of new millennium, content generated by users has gained increased popularity. More users are getting involved in content creation than only consuming it. These contents are hosted at web forums, social book marking, blogs, audio/visual material, facebook and myspace (Eugene, A., Carlos, C., Debora, D., Aristides, G., & Gilad, M., 2008). Sang-hun (2007) found the increasing participation of large audience in community posted question and answer forums. These portals of question answer are providing a substitute information channel through websites. Such information seeking behavior is getting dominance in some markets over traditional web searching.

The social media has increased the options of gathering of information from other customers and for customers to share their experiences by indulging in electronic word of mouth (Thorsten et al. 2004). eWOM is information conveying process from customer to customer and has a significant role in customer purchase decisions (Richings & Root-Shaffer, 1988). eWOM communication has been described as a statement, positive or negative, posted by former, potential or current consumer, which is open to others through internet. Favorable word of mouth cause impact on purchase probability whereas negative opinion cause negative impact. Bernard (2009) studied the overall trends of electronic Word of Mouth (eWOM) communication pattern and characteristics of brand micro blogging. The study concluded that web communications and social networking services are increasingly influencing customer brand perceptions and purchasing decisions and focused on microbloggings in terms of eWOM.

Thorsten et. al (2004) study focus on motives behind engaging in electronic word of mouth provides opportunity to gain opinions of other consumers and know about their experiences. Consumers can also write their opinion by themselves. Doh & Huwang (2009) studied how positive and negative eWOM combinations influence purchase intention and attitude towards reliability of online messages. Third party hosted eWOM has a significant impact on retail sales. Research findings suggest that third-party hosted eWOM is an important source of

information for online retail customers (Park et. al 2009). Stephan et. al (2009) found that eWOM is a cost effective mean for marketing products and services.

Another study found positive effect of quality and quantity of online reviews on purchase intention (Park et. al 2007). Most of the studies on eWOM have been conducted for online purchases and provide only one social media tool as a source of eWOM. However the current study is aimed at investigating the impact of eWOM generated through social media and its impact on customer purchase intention. Prior to the actual purchasing, consumers seek information via internal search and external search (Blackwell et al., 2001). Consumers scan their memory for information and external search involve consultation from external sources to seek desired information. In Turkey, the influence of others is of major significance in foreign product purchases (Ergin et al., 2010). As Gladwell (2000) exhibited new products or fashions are normally introduced by innovators, who tend to be creative and nonconforming. Customers also adopt innovations at slow pace when they are suspicious of the quality of product (Horsky, 1990) or wait for the quality to improve (Holak et al., 1998). People delay decision making as they need someone else's opinion and assistance (Amato and Bradshaw, 1985). Consumers must rely on advice from salespeople, family members and purchase pals (Reference Greenleaf and Lehmann, 1995). Suzuki & Calzo (2004) found considerable time spending by consumers in reading out posts of others without leaving their comments in response.

A customer's purchase intention for a product is predicated on brand familiarity (Brucks, 1985; Alba & Hutchinson, 1987; Harlam et al., 1995; Laroche et al., 1996). In this sense, quality includes a product attributes or the technology. Percieved quality is a subjective judgment of a customer about superiority of a brand (Yoo et al., 2000). Numerous cues cause consumers to determine brand quality which include pricing, origin image and performance. (Andaleeb, 1995 and Keller, 2001). A primary factor considered to have an influence on purchasing intention for imported products is perceived quality. Percieved quality is an evaluation of customer about overall excellence of a brand on the basis of its extrinsic and intrinsic cues (Kirmani and Baumgartner, 2000).

Mostly, brand names are perceived as a major indicator of quality (Rao and Monroe, 1989). Consumers rely on different quality cues to develop their quality perceptions. When the consumption is largely inconspicuous, the perceived quality is considered an incentive. Kirmani and Baumgartner (2000) suggest that consumers consider internal standards to assess the quality of a brand. Positive pre and post purchase behavioral intentions have been noticed in customers who experience positive perceived quality (Ergin et al., 2010). In today's markets, product quality has caught increasing attention from customer and research standpoint (Menon, Jaworski, & Kohli, 1997). Marketing literature has given much attention to service quality (Teas, 1993), and this service quality leads to customer needs (Parasuraman, 1988). Both product and service quality are important for organization because the goods or service that firm provide to the customer is a combination of product and service quality. Japanese companies due to their product quality captured the major share of market around the world (Garvin, 1988; Ranney, 1994; Clark & Fujimoto, 1991). Volvo Cars manufacturing company, emphasized on improved product quality rather than customer satisfaction (Dahlsten, 2003).

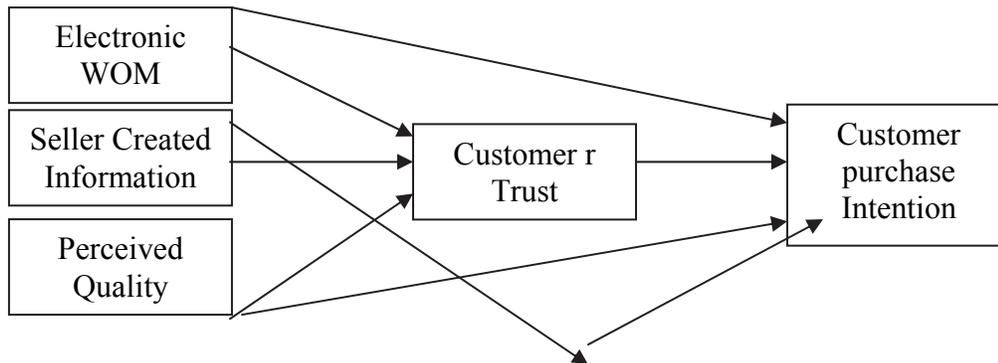
Trust is willingness of a party to act or speak in such a way that they are become helpless to the other party (Cozby, 1973). Consumer trust was not affected by Reputation (Ding Mao, 2010). Contrary to this finding Sirkka, Noam, (1999) concluded that in three countries reputation has a strong effect on trust. Reputation on online shop has a significant positive relation with three levels of trust i.e. ability, integrity and benevolence trust (Jun, Ting 2013). Ghada et al, (2003) concluded that perceived reputation and familiarity towards an online shop will incline to have higher level of trust towards that online shop. Thompson and Jing (2005) conducted research in United States, China and Singapore, founded that perceived reputation is has a positive relation with consumers trust. Perceived reputation affects positively on trust (Lusi, Mao 2014). Chen & Barnes, (2007) concluded that perceived reputation is positively correlated with initial trust in e-commerce. Reputation has a strong positive relation with consumer's trust to purchase online (Andromachi, Panos2012). Perceived security has a significant relation with consumer's

initial trust (Lu, Zhou 2007). On the contrary perceived credibility has a weaker effect on trust (Satish, 2014). Reputation has a positive effect on online trust (Kaouheret al, 2014).

Research conducted among university students in Malaysia concluded that trust is significantly related to online purchase intention (Cheng, Yee, 2014). Another research concluded that consumers trust in an online retailer influences their intention to make an online transaction (Leeraphrong, Mardjo 2013). Abdalislam et al, (2013) concluded that strongest factor that effects online purchase intent is trust. Consumer's has a positive relation with online purchase intention (Fu et al, 2011). Akansha, Lee (2014) concluded that trust and shopping convenience found to be important factors for online buying amongst Taiwan customers. Showing same results as compared to previous papers, Emmanouela, Dimara (2012) concluded that trust has a positive relation with online purchase intension.

Shopping enjoyment and trust are positively related to purchase intention in social commercial sites (Huo et al, 2014). Online initial trust has a positive effect on online purchase intention (Yu-Hui, Stuart 2007). Leeraphrong, Mardjo (2013) took trust as a mediator between online purchase intention and perceived risk. Trust was taken as a mediator between online purchase intention and purchasing experience (Abdalislam et al, 2013). Amina et al, (2013) used trust as a mediator between online purchase intention and perceived risk, social networking focus and perceived value. Trust was taken as a mediator between online purchase intention and perceived security, willingness to customize, perceived privacy, reputation, company size, interaction, enjoyment of technology, perceived usefulness, &perceived ease of use (Loh, 2014).

**Fig. 1 Theoretical Framework**



**Hypotheses Development**

The following statements are hypothesis are developed:

- H<sub>1</sub> eWOM (electronic word of mouth) has significant impact on purchase intention
- H<sub>2</sub> seller created information has significant influence on purchase intention
- H<sub>3</sub> perceived quality has positive impact on purchase intention.
- H<sub>4</sub> Customer trust mediates the association between electronic word of mouth and purchase intention.
- H<sub>5</sub> Customer trust mediates the association between Seller created information and customer purchase intention.
- H<sub>6</sub> Customer trust mediates the association between perceived quality and customer purchase intention.

## Research Design

Survey design was used to conduct this research as this study is about measuring different antecedents of online purchase intention and consumer's trust. Ainin et al, (2007) used survey method for their research on trust model. Survey method was also used in a cross country study (Akansha, Lee 2014). Survey method was also used by (Azzam, Mahmoud 2014). In Pakistani Context, Amina et al, (2013) also used survey method for their research. Questionnaire has used been used to collect data and the language of questionnaire is English. This research is cross-sectional research as the data has been collected once at a specific time, it's not collected in different intervals. The population for the current study was university students that were in the light of other studies. Narges (2011) took students as respondent in his study. Benjamin, (2013) conduct research in Malaysia to study online purchase intention, university students were taken as population. Research done by Cheng, Yee, (2014) in Malaysia also took university students for their research. The current study 350 questionnaires were distributed and get a response of 35%. Similar samples size was taken by other researchers. A sample of 300 was taken in a research on online purchase intent (Mei, Yann 2008). Huan and Chwei (2011) took a sample of 325 in his study on consumers trust. Narges et al, (2011) took a sample of 370 university students. Kwek et al, (2011) distributed 250 sets of questionnaire for his research in Malaysia. Convenience sampling was used by (Alexander et al, 2014). Anelina, (2011) also used non-probability convenience sampling for her research. Leo, (2003) also used convenience sampling for his research. Authors used convenience sampling for this study. Cronbach's Alpha is used to investigate the reliability of each construct. Cronbach Alpha is 0.731, 0.802, 0.704, 0.860 and 0.824 for electronic wom, seller created information, Perceived quality, Consumer's Trust and Purchase Intention respectively. The value of Cronbach's Alpha above  $\geq 0.7$ , shows that the instrument is reliable. Each construct has scored more than 0.7; therefore the scale used is internally consistent.

### CRONBACH'S ALPHA RESULTS

Dimensions	Cronbach's Alpha	Authors	No of Items
Electronic WOM	0.731	Park et al (2007)	6
Sellers created Information	0.802	Park et al (2007)	4
Perceived Quality	0.715	Ergin et al. (2010)	6
Consumers Trust	0.86	Chellapa, 2005	4
Customer purchase intention	0.824	Li et al. in 2002	4

**TABLE 2 DESCRIPTIVE AND CORRELATION STATISTICS**

	Mean	Standard Deviation	Electronic WOM	Sellers created Information	Perceived Quality	Consumer's Trust	Purchase Intention
Electronic WOM	3.1640	.82073	1				
Sellers created Information	3.2460	.83609	.447**	1			
Perceived Quality	3.6335	.68833	.406**	.369**	1		
Consumer's Trust	3.3948	.80321	.453**	.523**	.598**	1	
Online Purchase Intention	3.3851	.87659	.441**	.490**	.508**	.741**	1

\*\*\* p<.001, \*\*p<.005, \*p<.01

Correlation is positively significant between independent variables: electronic wom, seller created information, Perceived quality, Consumer's Trust and dependent variable i.e. Online Purchase Intention. Strong positive correlation is between consumer's trust (mediator) and online purchase intention (dependent variable).

#### Regression Analysis

For studying direct impact of variables we have used multiple and linear regression analysis.

#### Multiple Regression

In multiple regressions, impact of all three independent variables (perceived privacy, perceived security and perceived reputation) is checked together on the dependent variable online purchase intention. Results showed that all three independent variables have significant impact on online purchase intention.

**TABLE 3 MULTIPLE REGRESSION**

S.No.		Beta	T	Sig(p)
1	eWOM → OPI	.415	6.508	.000***
2	SCI → OPI	.320	5.974	.000***
3	PQ → OPI	.185	3.328	.001**

(eWOM=electronic word of mouth, SCI=Seller Created Information, PQ=Perceived Quality, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

#### Direct Impact of electronic WOM on Purchase Intention

For studying the direct impact of electronic WOM on online purchase intention regression analysis has been used. In regression analysis impact of independent variable (electronic WOM) is seen on dependent variable (online purchase intention). Value of R is .508 which shows there is a positive correlation between perceived privacy and online purchase intention. Value of R Square is .259 which shows that 25% of the variance in online purchase intention can be explained by perceived privacy, also that the value of significance is below .001, and therefore H<sub>1</sub> was accepted.

**TABLE 4 REGRESSION ANALYSIS**

	R	$\Delta R^2$	Beta	T	Sig.
eWOM→OPI	.508	.259	.647	10.345	.000***

(PP=Perceived Privacy, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

#### Direct Impact of Seller Created Information on Purchase Intention

Regression was used for studying the direct impact of Seller Created Information on online purchase intention. Impact of independent variable (Seller Created Information) has been seen on dependent variable (online purchase intention). Value of R is .490 which shows there is a positive correlation between perceived security and online purchase intention. Value of R Square is .253 which shows that 25% of the variance in online purchase intention can be explained by perceived security, also that the value of significance is below .001, and therefore  $H_2$  was accepted.

**TABLE 5 REGRESSION ANALYSIS**

	R	$\Delta R^2$	Beta	T	Sig.
SCI→OPI	.490	.253	.527	10.189	.000***

(SCI=Seller Created Information, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

#### Direct Impact of Perceived Quality on Purchase Intention

Impact of our independent variable (Perceived Quality) has been checked on dependent variable i.e. online purchase intention. Results of regression analysis show that value of R is .441 which shows there is a positive correlation between perceived reputation and online purchase intention. Value of R Square is .195 which shows that 20% of the variance in online purchase intention can be explained by perceived privacy, also that the value of significance is below .001, and therefore  $H_3$  was accepted.

**TABLE 6 REGRESSION ANALYSIS**

	R	$\Delta R^2$	Beta	T	Sig.
PQ→OPI	.441	.195	.471	8.620	.000***

(PQ=Perceived Quality, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

#### Direct Impact of Consumer's Trust on Online Purchase Intention

Direct impact of mediating variable (consumer's trust) has been checked on dependent variable i.e. online purchase intention. Results of regression analysis show that value of R is .741 which shows there is a strong positive correlation between consumers trust and online purchase intention. Value of R Square is .550 which shows that 55% of the variance in consumers trust can be explained by perceived privacy, also that the value of significance is below .001, and therefore we can test the mediation of trust.

**TABLE 7 REGRESSION ANALYSIS**

	R	$\Delta R^2$	Beta	T	Sig.
CT→OPI	.741	.550	.809	19.354	.000***

(CT=Consumers Trust, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

Main Effect and Mediated Regression between electronic word of mouth (eWOM) Consumer's Trust and Purchase Intention

To see the effect of mediation, it is checked through four different steps. In first step direct effect of independent variable on dependent variable has been checked. In second step, direct impact of independent variable has been checked on mediating variable. In third step, impact of mediator has been checked with the dependent variable. In fourth step, effect of independent variable has been checked on dependent variable while along with the effect of mediator variable.

By adding consumer trust as mediator  $R^2$  between eWOM and online purchase intention has been decreased to .272 and  $R^2$  between consumers trust and online purchase intention is 0.557, which shows that 55% variance in mediating variable (consumers trust) can be explained by online purchase intention. Significance (p) is also less than .001, Therefore  $H_4$  was accepted.

**TABLE 8 ELECTRONIC WORD OF MOUTH, TRUST AND PURCHASE INTENTION**

		$R^2$	$\Delta R^2$	Beta	T	p
Step: 1	Main Effect of eWOM on OPI	0.508	0.259	0.647	10.345	.000***
Step: 2	Main Effect of eWOM on CT	0.598	0.358	0.698	13.087	.000***
Step: 3	Main Effect of CT on OPI	0.741	0.55	0.809	19.354	.000***
<b>Mediation:</b>						
Step: 4	Effect of eWOM on OPI	0.272	0.249	0.126	2.064	0.04
	Effect of CT on OPI	0.557	0.285	0.75	13.989	.000***

(eWOM=electronic Word of Mouth, CT=Consumers Trust, OPI=Online Purchase Intention)

\*\*\* p<.001, \*\*p<.005, \*p<.01

Main Effect and Mediated Regression between Seller Created Information, Consumer's Trust and Online Purchase Intention

Initially impact of Seller Created Information has directly been checked on online purchase intention by using regression analysis. The relation between them is significant as p<.001. Then impact of Seller Created Information has been checked on consumer's trust. The results show that the relationship is also significant between them (p<.001). By adding consumer trust as mediator  $R^2$  between perceived security and online purchase intention has been decreased to .261 and  $R^2$  between consumers trust and online purchase intention is 0.569. The significance value is less than .001. Therefore  $H_5$  was accepted.

**TABLE 9 SELLER CREATED INFORMATOIN, TRUST AND PURCHASE INTENTION**

		R <sup>2</sup>	ΔR <sup>2</sup>	Beta	t	p
Step: 1	Main Effect of SCI on OPI	0.503	0.253	0.527	10.189	.000***
Step: 2	Main Effect of SCI on CT	0.523	0.273	0.502	10.743	.000***
Step: 3	Main Effect of CT on OPI	0.741	0.55	0.809	19.354	.000***
<b>Mediation:</b>						
Step: 4	Effect of SCI on OPI	0.261	0.238	0.166	3.592	.000***
	Effect of CT on OPI	0.569	0.308	0.726	14.749	.000***

(SCI=Perceived Security, CT=Consumers Trust, OPI=Online Purchase Intention)

\* \* \* p<.001, \*\*p<.005, \*p<.01

Main Effect and Mediated Regression between Perceived Quality, Consumer's Trust and Online Purchase Behavior

Initially impact of Perceived Quality has directly been checked on online purchase intention by using regression analysis. The relation between them was significant as p<.001. Then impact of Perceived Quality has been checked on consumer's trust. The results show that the relationship is also significant between them (p<.001). Then impact of consumer's trust has been checked on dependent variable (online purchase intention), results showed that consumer's trust has a strong significant impact on online purchase intention (p<.001). In fourth step, checking effect of perceived reputation on online purchase intention while taking consumers trust as mediator, the results show that consumer trust strongly mediates the relationship between perceived reputation and online purchase intention. By adding consumer trust as mediator R<sup>2</sup> between perceived reputation and online purchase intention has been decreased to .204 and R<sup>2</sup> between consumers trust and online purchase intention is 0.565. The significance value is also less than .001, therefore H<sub>6</sub> was accepted.

**TABLE 10 PERCEIVED QUALITY, TRUST AND PURCHASE INTENTION**

		R <sup>2</sup>	ΔR <sup>2</sup>	Beta	t	p
Step: 1	Main Effect of PQ on OPI	0.441	0.195	0.471	8.62	.000***
Step: 2	Main Effect of PQ on CT	0.453	0.205	0.443	8.905	.000***
Step: 3	Main Effect of CT on OPI	0.741	0.55	0.809	19.354	.000***
<b>Mediation:</b>						
Step: 4	Effect of PQ on OPI	0.204	0.18	0.142	3.158	0.002
	Effect of CT on OPI	0.565	0.361	0.751	15.902	.000***

( PQ=Perceived Quality, CT=Consumers Trust, OPI=Online Purchase Intention) \* \* \*  
p<.001, \*\*p<.005, \*p<.01

## Conclusion and Implications

The results of the study indicate that significant impact of eWOM and seller created online information were found on purchase intention of a customer. These variables also have positive impact on information acquisition and perceived quality. Moreover, perceived quality is found to have strong relationship with customer's purchase intention and it also significantly affect purchase intention for cell phone. The finding of this research is critical for the practitioners in cell phone retailing in Pakistan. The marketing managers did not focused on social media as a tool to develop customer perception about quality, fulfill the information needs and making positive purchase intention for their products.

In our study, customers intend to purchase cell phones about whom they have good perceived quality and opinions of people on the social media platforms which leads to purchase intention. Brand management plays critical role in the customer related literature. Some brands have not gained positive electronic word of mouth due to reluctance in using the web media. So business firms needs to focus on developing integrity in their services to develop trust in the eyes of customer. The electronic word of mouth and seller created information as marketing strategies will not generate profit and may not change the perception of the customer only. So, customers will not intend to purchase products based social media marketing strategies. The integrity needs to incorporate in their marketing strategies so that trust can be developed in customers.

### Implications:

1. Social Media Marketing should integrate in the business strategy in connected world.
2. Customers have access to internet and they take care of all aspects of product with the help of social media and after that they develop purchase intention. The wise use of this new type of media creates positive electronic word of mouth that leads different outcomes for the firm.
3. Because main motive of any organization is to sell products or services, so companies should fully utilize social media tools for this purpose and social media is one of the easy ways to build trust and make purchase intention as desired.
4. Social Media may be included in communication strategies.
5. Social Media must be given due importance in achieving organizational objectives.

### Future Research

The future study can focus on other factors of social media that influence consumer behavior. The impact of social media marketing on consumer perception of brand, brand loyalty, customer satisfaction can be studied. Moreover, an in depth study about users of social media, their information needs and the involvement of consumers in manufacturer generated contents and blogs can help corporate communication departments in utilizing their energies at right point.

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## *How Innovation Interacts With Mobile Learning In Guadalajara, México*

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### **Abstract**

*The information and communication technologies (ICT) are producing new and innovative forms of teaching-learning process, so our research question is: **Which is the Empirical Model of How Innovation interacts with Mobile Learning in Guadalajara, México?** This research is aimed to respond it. The final **Factors**, were **4: Technology (T); Contents, Teaching-Learning Management and Styles (CTLMS); Professor&Student Rol (PSR); Innovation Process (INNOV) and 65 Variables**. Our research is based on a documentary study that chose variables used by specialists in **m-Learning (mL)**, using Analytic Hierarchy Process (AHP). The study was applied on: **20 professors and 800 students** both participating in social sciences courses, from **7 Universities** located at Guadalajara Metropolitan Area, México (**GMAM**) during the period **2013-2014**. The data of the questionnaires, were analyzed by structural equations modeling (SEM), using **EQS 6.1 software**. The final results suggest reinforce **12 variables** to improve the interaction with **mL** at **GMAM**.*

**Keywords: e-Learning, Learning Styles, Teaching Styles, Innovation Technology, Educational Innovation.**

### **Resumen**

Las tecnologías de información (IT) están produciendo nuevas formas en el proceso de enseñanza-aprendizaje, por lo que nuestra pregunta de investigación, es: **¿Cuál es el modelo empírico de cómo la innovación interactúa con el Mobile Learning en México?** Así, esta investigación se orienta a responderla. Los factores finales fueron **4: Tecnología (TECH); Contenidos, Administración de Estilos de la Enseñanza-Aprendizaje (CTLMS); Rol Profesor-Estudiante (PSR) y el Proceso de Innovación (INNOV) y 65 Variables**. El estudio fue aplicado en: **20 profesores y 800 estudiantes** de ciencias sociales, pertenecientes a **7 Universidades** localizadas en el Área Metropolitana de Guadalajara, México (**GMAM**), durante el período **2013-2014**. Los datos de los cuestionarios fueron analizados por modelización de ecuaciones estructurales (SEM), usando el software **EQS 6.1**. Los resultados finales señalan reforzar **12 variables** para mejorar la interacción con **mL** en las **GMAM**.

**Palabras Clave: e-Learning, Estilos de Enseñanza, Estilos de Aprendizaje, Innovaciones Tecnológicas, Innovaciones Educativas.**

### **INTRODUCTION**

The projected growth of education supported by IT, responds immediately to resolve problems of geography, time and demand. Unfortunately, it has also drawbacks, such as: low intensity on interactivity between professor-student; feedback tends to be very slow; It presents difficulties error correction materials, assessments;

there are more dropouts than face teaching; etc. (Gallego and Martinez, 2002). E-learning or online, is defined by the Fundación para el Desarrollo de la Función Social de las Comunicaciones (FUNDESCO) as: *a system for delivery of distance learning, supported by ICT which combines different pedagogical elements: classical training (classroom or self-study), practical, real-time contact (in person, video or chat) and deferred contacts (tutor, forums discussion, email)* (Marcelo, 2002). In the second decade of this century, due to technological advances, we have a growing number of mobile devices, from smartphones to notebooks, notepads, iPads, tablets in general, etc. even stopping the development of the PC. According Forrester Research Portal (2015), a third of the tablets sold in 2016, will have serious purposes for business use (Kaganer et al, 2013).

## PROBLEM AND RATIONALE OF STUDY

According Hernández-Sampieri (2010) we have our research question (**RQ**) as **Which is the Empirical Model of How Innovation interacts with Mobile Learning in Guadalajara, México?** thus, our general objective (**GO**), is to propose factors and variables to discover the determinants from **INNOV** as an Empirical Model of How Innovation improves the Mobile Learning in México. Hence, we propose, the next specific questions (**SQ1**): ¿Which are the factors and variables describing the general empirical model?; (**SQ2**): ¿What about the relationships amongst them?; (**SQ3**): ¿What are the most relevant variables in the empirical model?. A final General Hypothesis (**GH**) is proposed: All the relevant variables in the empirical model have significant positive effect from **INNOV** to **mL**.

## METHODOLOGY

This study is aimed to discover and discuss the Empirical Model of How Innovation interacts with Mobile Learning in Guadalajara, México. It is empirical, correlational and longitudinal study in time because it was applied during the period of **2013-2014**. We propose **4** final **Factors**, such as: Technology (**T**); Contents, Teaching-Learning Management and Styles (**CTLMS**); Professor&Student Rol (**PSR**); Innovation Process (**INNOV**) and **65 Variables**. The study was applied on: **20** professors and **800** students both participating in social sciences courses, from **7 (GMAM)**. The data of the questionnaires, were analyzed by Structural Equations Modeling (**SEM**), using **EQS 6.1 software**, to respond the **RQ** and **H**.

## THEORETICAL FRAMEWORK

**AHP.-** We made a documentary study of factors (**mL**), among more than **100** works in this regard, proceeding to detect all the variables what are more often mentioned, and by means of AHP (Saaty, 1997) technique, we asked to 5 specialists in m-Learning to select the most important factors and variables to use in our conceptual model. See **Table 1**.

**Table 1.- AHP or Saaty's Theorem.**

Objective	Mobile Learning (mL)			
	Variable	Frequency	AHP weighing	
Alternatives	1	Technology	28	0.23
	2	Contents & Teaching Learning Management	16	0.22
	3	Professor	12	0.19
	4	Student	10	0.13
	5	Innovation	9	0.07
	6	Assessing	8	0.06
	7	Policies	7	0.04
	8	Learning Management	3	0.02
	9	Web Learning	4	0.01
	10	On Line Communities	1	0.01
	11	Multimedia Learning Objects	1	0.01
	12	Augmented Reality for learning	1	0.01
<b>TOTAL</b>		<b>100</b>	<b>1.00</b>	

Source: own.

**Innovation education.-** Lundvall & Soete (2002) affirm: " In education systems, people learn specific ways of learning. In labor markets, however, the specific incentives system with their own rules, make the difference between how and what to learn ". Now, what do we mean when we refer to learning in a context of innovation? The innovation mainly concerns the ability to implement creative ideas. The innovation recognizes a learning cycle that is probably the main key to setting up sustainable capacity to respond successfully to the challenges of education the new millennium. So, we propose the Mejía's, et al. (2013) Innovation Model that encourages the value added aimed in the learning cycle, taking in count: incomes, process, outcomes and the feedback in the innovation process, to keep updated the model (mL). In short, the purpose of innovation must be the enhancement of the quality of the learning environment and learning outcomes (Garrison & Anderson, 2003).

**Learning Management.-** There are several theories that attempt to explain how people learn. Over 50 theories are online; however, most of them are variations of the 3 main lines: *behaviorism, cognitivism and constructivism*. New theories that support the m-Learning are: *connectivism* and *enactivism*, which briefly mentioned according to Woodill (2011). See Table 2.

**Table 2.-Learning Management.**

Learning Management	Description
<b>Conductivism</b>	Based on the theory that only observable human behavior can be studied scientifically. Reduces human behavior to simple stimulus-response operations, punishment-reward and proposed a set of principles and processes of how these operations work together; Teaching is based on simple tasks, which collected and combined, produce more complex behaviors; however, ignores the experiences of the people; minimizes the social role of learning groups; treating people <i>as discrete objects with mechanical orientation of programmed learning</i> , consisting of continuous testing with reward-punishment for the answers. The application in m-Learning is equivalent to the <i>games and intuitive learning</i> . <b>Main features that distinguishes it: behavior</b>
<b>Cognitivism</b>	Based on the theory of how we process the information of intangible constructs such as: the mind, memory, attitudes, motivation, thought, reflection and other internal assumptions. Compare the human brain with a computer running, through analogies:

	input-output interfaces, memory, etc. and how information is processed by the brain. It involves studies about memory in short and long time allows the mind to transform information into knowledge. <i>It does not reject the behaviorist principles</i> , but it complements in the case of learning and thinking. However, the idea persists in operating on brain processes approaches, so it is not considered appropriate in m-Learning, because disregards the fact that m-Learning students are in connected networks and that each one may have a different learning experience, depending on how it's moving. <b>Main feature that distinguishes it: Mind and Brain</b>
<b>Constructivism</b>	Based on the theory that each person builds an understanding of the world through their life experiences, eliminating and accepting experiences as sources of knowledge. He rejects sociocultural influences; supports the idea that each person has views of the world around him to be generally it tends others. We learn through shared culture with other (socially constructed). Wide dissemination in the first decade of the XXI century. However, for m-Learning is not considered enough because does not cover all cases that ICT cause. For example, there are cases where learning is achieved through better use when <i>they are in charge of their own learning</i> and learning by <i>metacognition</i> (learning how to learn). It might be complemented with greater interactivity, leading to a process of <i>agent-student</i> , when they decide the further aspects of the learning environment must focus their attention, which requires; purpose, process knowledge, culture, norms, etc. Particularly for students that study methods and time optimization, consulting, self-regulation and metacognitive skill development. Hence, there are two theories that are considered to better explain the phenomenon of learning m-Learning: connectivism and enactivism. <b>Main feature that distinguishes it: Construction of Knowledge.</b>
<b>Conectivism</b>	Since the above three theories are born before the digital age, do not foresee the consequences of being connected (PC, cell phones, smartphones, tablets, etc.) and integrated into a social network, or the consequences of internet offered each day and more varied content. Connectivism is based on the theory concepts share a variety of sources. Some of its principles are: learning and knowledge from diverse opinions; learning is a process of connecting specialized nodes or information sources; Learning may reside in non-human applications; the ability to know more is more critical today than ever. Creating and maintaining connections nodes are necessary to facilitate continuous learning. The ability to see connections between fields, ideas and concepts is a core skill. Daily updating of knowledge is the core activity of the connectivism for learning achievement. Decision-making is itself a learning process. Choosing what to learn and how to appropriate means of information is part of the changing reality. What is right today, tomorrow will not be given the changes in the environment making the information affect decision-making. Connectivism make much sense to m-Learning to consider the personal, organizational and self are all connected at the same time. However, do not take into account how our body and senses directly affect how we learn and what we can know and knowledgeable in the field consider it vital, as the technology is becoming a prosthesis or extension of the human body, while at the same time, it has limitations for the operation. <b>Feature that distinguishes it: Network Connections.</b>
<b>Enactivism</b>	Based on the emerging theory that focuses on how we learn through the body and senses. It is assumed that the body refers the context of our reality given its insertion therein. Thus, all organisms adapt to their environment through the nervous systems of their senses and their connection to the brain. From this point of view, learning is based on the perception and action of the body in relation to action experience. The enactive learning is learning based on social relations at different levels (Kaptelinin and Nardi, 2006). We learn primarily through symbols and icons; this is complemented with the enactive

	learning through active use of the body. New designs of enactive interfaces to computers and mobile devices involve a mixture of several senses of the more natural than using a mouse or a keyboard form. However, the m-Learning is complex since to connect the individual student to sources of information anywhere and anytime, to its connection with other individuals who must interact, collaborate, socialize and learn. Students learn while moving, causing a potential loss of control for retaining the figure of advice as professors or consultants. <b>Main features that distinguish it: Actions based on the body and senses.</b>
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Source: Woodill, 2011, by own adaption.

**m-Learning.-** Since the focus has shifted in recent years due to technological advances, so does its definition; see **Table 3.**

**Table 3.- m-Learning Descriptions**

<b>Author</b>	<b>Description</b>
Brazuelo y Gallego, 2011	<i>“...The educational model that facilitates the construction of knowledge, problem solving learning and development of skills or different skills autonomously and ubiquitous thanks to the mediation of portable mobile devices”.</i>
Traxler & Kukulska, 2005	<i>“...Any educational process where the only dominant and prevailing technology is provided by equipment type: handheld or palmtop ...”</i>
Keegan, 2005	<i>“...m-Learning should be restricted to devices based learning where anyone can carry in their pockets”</i>
O’Malley et al, 2005	<i>“...Any sort of learning that happens when the student is not fixed, or at a predetermined place ... well, is learning happens when students take advantage of the learning opportunities offered by mobile technologies”</i>

Source: several authors by own adaption

Learning requires switch the concept of how do we learn. The initial era of e-learning, was supported by multimedia facilities and constructivism given its static nature, however, in the mLearning era, this changes dramatically, thus learning methods change radically, given the dynamic nature of the students. In the current context, learning is based on the relationship *do-have the experience*, activities that can be seen in the use of apps, based on mobile devices. Thus, the student is conceptualized as an *strategic agent* who brings about the change, rather than a passive agent, who hopes that his adviser, consultant or professor tells them what to do in their learning; in other words, they become in *facilitators* that make the student achieves higher levels of knowledge (Woodwill, 2011). Given the challenges of the mLearning to traditional learning theories, is considered a *disruptive innovation*, never before experienced with great potential use, for example: mobile augmented reality for training, making the learning in a set *do it yourself* at anytime, anywhere. This creates different scenarios to use in e-Learning, such as the location of the student, providing connection and location information from mobile camera mode, where the software detects place without any problems and proceeds to inform the student. Other example, is the use of mobile devices as data collectors, which deposit data on specialized sites to be analyzed by peers anytime, anywhere.

**The Contents .-** The design of the contents, from the e-Learning era has been heavily criticized because the inability to generate a new literacy of e-learning with the acquisition of new skills in this area, and b) people perceive e-learning, as a formal course, and not as a tool and an attitude towards lifelong learning to keep the own learning (Cabero, 2012). So, we have the e-learning generations that have passed:

1st. generation or model focused on the materials; 2nd. generation or operators based on platforms and model; 3rd. generation or model based on collaboration and flexibility, stressing the importance of learning as a process partner and fairly based on student activity. Cabero (2012) suggests about to get better perceptions of mLearning: innovation with new didactic materials, improvements in their presentation on a large scale. The most hopeful

isolated initiatives, would be empowerment of students through tools like blogs, wikis and e-portfolios, giving progressive step become, from *learning centered content* to *learning centered activity*, as shown in **Table 4**.

**Table 4.- Differences between Learning Centered in: Content and Activities.**

<b>Learning Centered Content</b>	<b>Learning Centered activity</b>
The student is usually reactive and passive, waiting for what the professor says or decides.	Students have an active involvement in their learning, without waiting for the professor to decide for them;
Decision space student, is small.	Wide freedom for students and space for own decisions as important elements of their learning.
Individual learning is promoted	Learning is promoted in collaboration with colleagues; students have opportunities to be independent in their learning.
Students do not have many opportunities to learn independently.	Process-related skills, with a focus on results, and the search, selection and management of information.
Memory replication of content and skills. Personal and professional education often is limited to certain periods of life	Personal and professional education throughout life.

Source: Cabero, 2012, by own adaption.

Thus, the students perceive that activities are clearly related to the objectives, competencies and skills we seek to achieve; enough time to complete; the criteria that will be used for evaluation are known, and are clear and understandable; they are neither easy to do nor too complex to solve; they must be contextualized; the instructions for completion are clear and understandable; what materials have to be used for easy implementation, and which are the available activities of different types offered. According to Cabero (2012), an important design aspect is that, there are several types: ranging from the methodologies and strategies that will be used in the virtual action (training design), the type of navigation that allows within materials (navigation design), the chances of students, professor relationship (interaction design); graphic forms in which present the information (navigation design), different evaluation strategies to be permitted and used in the training (evaluation design), and ways of presenting content with forms of construction (design of content).

**The Student.-** This topic takes into account, the cognitive, memory, prior knowledge, emotions and possible motivations. The student will assume the commitment with his own learning process and will find out, in the self evaluation the key to discover his own progress, to make choices. (Montoya, 2008); **see Table 5**.

**Table 5. Variable: Student Requirements (S).**

<b>Variable</b>	<b>Example/Description</b>	<b>Comments</b>	<b>Source</b>
Previous Knowledge	Tacit and explicit knowledge stored in memory with conditions to be applied in the teaching-learning process	This impacts in how the students are understanding new concepts	Driscoll (2005); Tirri (2003)
Memory	Técnicas para codificar exitosamente con uso de señales como: categorización, mnemónica, táctil, auditiva, sensorial, imágenes, etc.	It involves, how multimedia actively encourage the students in their learning	
Context & Transference	Static Knowledge vs Dynamic Knowledge	It involves, how to make students use what they learn to strengthen the memory, understanding and transfer the concepts to different contexts.	Carroll & Rosson, (2005); Driscoll (2005)

Learning by Discovering	Application procedures and concepts to new situations; case study	It involves, how to encourage students to develop skills to filter, select and recognize relevant information in various situations	Tirri (2003)
Emotions & Motivations	Student's feelings to perform a task; reasons for their achievement.	Student inclination or ability to adopt an attitude that prepares your emotional state or desire to accomplish a task.	Carroll & Rosson, (2005) ; Tirri (2003)

Source: several authors, by own adaption

Hence, it described how students use, what they already know and how the information is encoded, stored and transferred; It covers theories about the transfer of knowledge and discovery learning (Carroll and Rosson, 2005). The experience and prior knowledge, affect learning as does the atmosphere of the student, the authenticity of the task and the presentation of content in multiple formats. m-Learning however, brings the concept of *episodic memory*, composed mostly of the *experiences* that make students to museums, visits to laboratories, historic sites, etc. so their application is under the *experiential memory* (Driscoll, 2005). By other hand, the same information is presented in different formats for assimilation (*Dual Coding Theory Dual*), allowing the brain to do active differentiations of the concept. Research has found evidence that present information through different approaches, leads to a more effective instruction. Not only must we take into account the learning style of the students, but also the teaching style of professors. In fact most of them, explicitly or implicitly, using observation techniques, try to *know their* students (Gallego & Martínez, 1999), discovering *learning styles*. See **Table 6**.

**Table 6.-Learning Styles.**

Learning Styles	Description
<b>Activist</b>	Students are fully and without prejudice involved in new experiences. They are grown to the challenges and get bored with long maturities. They are people very group who engage in the affairs of others and focus around all activities
<b>Reflexive</b>	Students learn the new experiences but do not like to be directly involved in them. Collecting data, analyzing them carefully before reaching any conclusions. Enjoy watching the actions of others, listening but not intervene until they have taken over the situation.
<b>Theoretical</b>	Students learn best when they are taught about things that are part of a system, model, concept or theory. They like to analyze and synthesize. For them. if something is logical, it is good.
<b>Pragmatic</b>	Students apply and practice their ideas. They tend to be impatient when people who theorize

Source: Honey y Mumford (1992), by own adaption

**The Professor (P).**- The concept of Vygotsky (Moll, 1993) having greater recognition and applicability in the educational field is the zone of proximal development (**ZPD**). This concept *means the individual's actions that he can perform successfully start only in interaction with others, in communication with them and with their help, but can then play in totally autonomous and voluntarily* (Matos, 1995). They are responsible for designing strategies that promote intensive interaction (**ZPD**), taking into account the previous level of knowledge of students, from the culture and the meanings they have in relation to what they will learn (Onrubia, 1998). It is vital to diversify the types of activities, enabling the choice of different tasks of the students and use various support materials. **ZPD** creation occurs within an interpersonal context professor-student interest being transferred to the student professor from lower to higher levels in the area. Essentially, it is to give timely and strategic support students to achieve solve a problem; this support may induce by raising key questions and taking the student to self-questioning. The participation of professors in *instructional for teaching some content* (knowledge, skills, processes) at the beginning process should be somewhat management by creating a support system where students pass; then with the progress

of students in the acquisition or internalization of content, it is reducing its stake to the level of mere spectator empathetic (Onrubia, 1998). The professor assumes the role of mediator, facilitator guides for students to be active learners in meaningful and real social contexts. The process, is established where a group of professors together: design, teach, observe, analyze, and review one class lesson. **See Table 7.**

**Table 7.- Professor Requirements**

Indicators	Example/Description	Comments	Source
Informatic Culture	Permanent update of information by using of technology	Attitude and intuitive ability to learn the use of technological resources	Ng & Nicholas (2013); Cabero, 2012
Lection Cycle	Groupal planning / experimental lection/ individual reflection / groupal reflection/ lection reformulated	Teaching based on enactivism	
Cognitive Objectives	Bloom's Digital Taxonomy	Association with the enactive cognitive objectives, such as teaching: knowledge; comprehension; the application; analysis-synthesis and evaluation.	Bloom, 2012

Source: several authors by own adaption

**The Technology.-** This aspect is described into the OSI (ISO / IEC7498 Open System Interconnection, 1994) model developed by the International Organization for Standardization (ISO) in the 1980. It is a framework for defining interconnection architectures communications systems, consisting of seven layers: *physical, link, network, transport, session, presentation and application*. So, consider the equipment intrinsic features such as: *ergonomics, portability, weight, size, weight, design, speed of access to the telecommunications network, processing, storage, capacity growth of the equipment* and the *equipment extrinsic* based provider of telecommunications services such as: *coverage, price, speed of access, availability, compatibility of protocols* among other features. These features, covering hardware and software so that *impact comfort, psychology, securities and satisfaction technology users*, in this case students and faculty to find a balanced equilibrium between the hardware-software, paid by the equipment and access service and satisfaction is achieved from *psychological actors* to better use (Shneiderman and Plaisant, 2005). **See Table 8.**

**Table 8. Technology Requirements.**

Indicators	Examples/Description	Features PDA	Comments	Source
Physical	Size, weight,, composition, disigno, protocols , process speed,memory	Intrinsic	PDA's Hardware & Sotware and its design	ISO/IEC7498; Shneiderman& Plaisant, 2005; Woodill, 2001
Link	Comunicación con teclado, touchscreen, protocolos entre equipos, detección de errores, conexión joysticks, trackball, infrarojos, reconocimiento vocal, etc. del equipo móvil,	Intrinsic	How man-machine communication, is accomplished	ISO/IEC7498; Shneiderman& Plaisant, 2005; Woodill, 2001
Network	Identificación de nodo de conexión, velocidad de acceso a la red	Extrinsic	Dependent on the availability of bandwidth of the access network	ISO/IEC7498
Transport	Velocidad de la red una vez accesada	Extrinsic	Dependent on the availability of bandwidth of the transmission network	ISO/IEC7498
Session	Capacidad de abrir múltiples sesiones multitarea	Intrinsic	Dependant on the capabilities of design	ISO/IEC7498
Presentation	Software de aplicación/ Apps	Intrinsic/ Extrinsic	Dependent on Android / Windows / IOS operating systems, etc	ISO/IEC7498
Application	Software de aplicación/ Apps			ISO/IEC7498
Error Detection/Correction	Software que desbloquea y resguarda la correcta operación del equipo ante eventualidades de fallo	Intrinsic/ Extrinsic	Dependent on software mobile equipment, access network and / or transport	ISO/IEC7498
Price	Obtención equipos móviles	Intrinsic	Dependent on the student's or professor's economy	Shneiderman & Plaisant, 2005; Woodill, 2011
	Servicio proveedor de telecomunicaciones	Extrinsic		

Source: several authors, by own adaption.

**Policies & Assessing.-** In order to guarantee the continuity and implementation of mlearning technology, is necessary to develop institutional policies to provide direction and enough resources to achieve it, included an assessment system to verify since the participation until the activities and quality of the teaching actions and course contents. Garrison & Anderson(2003).See **Table 9.**

**Table 9.- Topics that a policy document and strategic plan should Include.**

1. Vision: – understand background– define core values– describe strategic goals
2. Needs and risk assessment:– identify issues– identify challenges – identify best practices
3. Educational principles and outcomes described
4. Implementation initiatives and strategy: – link to institutional priorities– create a steering committee – identify communities of practice
5. Infrastructure: – design multimedia classrooms– describe administrative processes
6. Infostructure: – design institutional connectivity– create a knowledge management system– provide digital content– create standards
7. Support services: – provide professional development– provide learner support
8. Budget and resources
9. Research and development framework
10. Benchmarking: – establish success criteria– assess progress– communicate direction and accomplishments
11. Assessing

Source: Garrison & Anderson(2003), with own adaption.

**The m-Learning (mL).**- This is the core of the model as it is formed as the relationship among **6** factors, such as: Student (**S**); Professor (**P**); Content (**C**); Technology (**TECH**); Policies & Assessing (**P&A**); Innovation (**I**) with **65 underlying variables**. In this part of the mode, lies the balance of features that allow the mLearning provide optimal interaction between the all the elements. **See Table 10.**

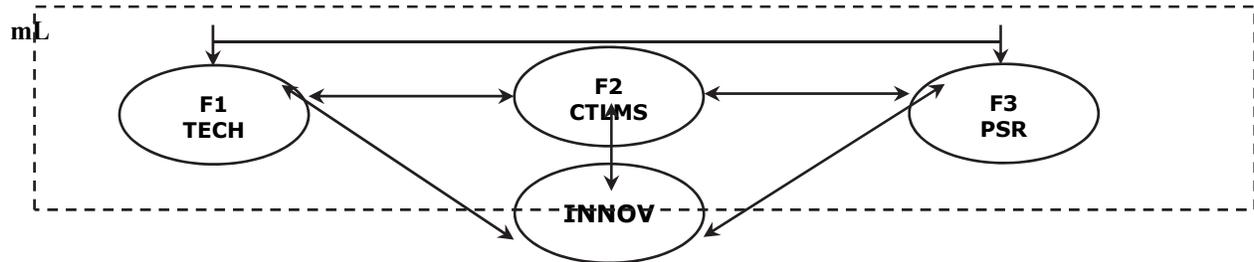
**Table 10. m-Learning (mL) Requirements.**

Indicadores	Example/Description	Comentarios	Fuente
Interface	Mediation; task cycle apparatus.	The nature of the interaction changes itself in how students interact with each other, their environments, tools and information	Carroll et al. (1991); Woodill (2011)
Access to Content	Identifying patterns and relationships; noise information; approaches and relevance	To the extent that the amount of information grows, it requires students to increase their skills and efforts to recognize and evaluate ownership, appropriation and use of information	Moll, (1993); Carroll et al. 1991, Woodill (2011)
Navigation and Knowledge Production	Navigation vs. Knowledge production	Knowledge navigation students acquire appropriate skills to select, manipulate and apply information to their own needs. Production of knowledge, professors determine what and how information should be learned	Moll, (1993); Woodill (2011)

Source: several authors, by own adaption.

So, our determinant factors model is showed in **Figure 1.**

Figure 1.- Determinant factors on m-Learning as a General Conceptual Model for Innovation on Education.



Notes: F1.- Technology (TECH); F2.- Contents, Teaching-Learning Management and Styles (CTLMS; F3.- Professor&Student Rol (PSR).

Source: own

## RESULTS

The Final Questionnaire was obtained, with: **4 Factors, 13 Dimensions** and **65 Independent Variables** grouped, according the principal authors to describe mL. See Table 11.

Table 11.- Final Questionnaire

Personal Background		
<p><b>If you are a STUDENT:</b> -Name of the (mL) course; -What is your occupation? Manager/Employee non-technical/ Employee technical/Teaprofessora or trainer/ Student; -How old are you? 24 or younger /25-29 /30-40 /41-50 / over 50;-Gender? Female / Male; -What is your level of education? High school matriculation/ One to three years of post-secondary education / Four or more years of post-secondary education; -Personal Digital Assistant (PDA) ownership – Do you own? Smartphone/Lap/Palmtop/Other; - Where did you study the mobile learning course? At home/ At the office or work/ While travelling/ Other.</p> <p><b>If you are a PROFESSOR:</b> -Name of the (mL) course;-What kind is your assignment? Social Sciences/ Engineering;</p> <p>-Are you: Instructor/ Assistant Professor/ Associate Professor/ Professor;-How old are you? 24 or younger /25-29 /30-40 /41-50 / over 50;-Gender? Female / Male; -What is your level of teaching? High School/ Undergraduate/ Postgraduate/ ;-Personal Digital Assistant (PDA) ownership – Do you own? Smartphone/Lap/Palmtop/Other;-Where did you study the mobile learning course? At home/ At the office or work/ While travelling/ Other</p>		
Factor	Variable (measured by Likert Scale: Strongly agree/ Agree/ Uncertain / Disagree/ Strongly disagree)	Author(S)
F1.- TECHNOLOGY (TECH)	<b>D1.-Technology Friendliness (TFRN)</b>	
	V1.-I need a special training to use my PDA	Ng & Nicholas (2013)
	V2.-The screen on the PDA makes it difficult to do my school work.	
	V3.- Writing with a PDA is easier than writing by hand on paper	
	V4.- With a PDA it is easy to take my school work home.	
	V5.-I would recommend mobile learning as a method of study to others	Keegan (2005)
	<b>D2.-Technology-Synchronous Communication (TSYC)</b>	
	V6-Chat in mlearning is very useful is better than PC	Keegan (2005)
V7.- IP telephony functions are very well with the mlearning course.		
	V8.-The sending of SMS is very useful	Ng & Nicholas

		(2013)
	<b>D3.-Technology Asynchronous Communication (TASY)</b>	
	V9.- Communication and sending assignments for submission with the students (or tutor) by e-mail functioned well.	Keegan (2005); Ng & Nicholas (2013)
	V10.- Writing messages to the Forum functioned well	Keegan (2005)
	V11.-Answering assignments for submission applying the mlearning functioned well.	
	V12.-Accessing to notes and reading text functioned well.	
	<b>D4.-Technology Multimedia (TMMD)</b>	
	V13.-Accessing to sound, video and graphical materials functioned well	
	V14.-Activities/assignments involving manipulation of graphical materials functioned well	
	<b>D5.-Social Media (TSME)</b>	
	V15.- To learn (or teach), I tend to be in different networks, in permanent interaction and collaboration	Woodill (2001)
	V16.- To learn (or teach), I tend to participate in : gammings, simulations and/or virtual worlds	
	V17.-To learn (or teach), I feel I spend a lot of time connected in different networks with scarce results	
<b>F2.- CONTENTS, TEACHING-LEARNING MANAGEMENT AND STYLES (CTLMS)</b>	<b>D6.-Teaching-Learning Management (CTLM)</b>	
	V18.- Accessing course content was easy	Keegan (2005)
	V19.-Communication with and feedback from the student (or tutor) in this course was easy.	
	V20.-Mobile learning is convenient for communication with other course students (or proffessors)	
	V21.- PDAs help me learn (or teach) my subjects better	Ng & Nicholas (2013)
	V22.-There are no disadvantages in using PDAs in the classroom.	
	V23.-PDAs make learning (or teaching) more interesting.	
	V24.- PDAs help me organise my time better.	
	V25.-I feel my learning (or teaching) process is more willing to punishment-reward cycle	Woodill (2001)
	V26.-I feel my learning (or teaching) process is more willing to the individual internal brain processes such as: memory, attitude, motivation, self-reflection.	
	V27.-I feel my learning (or teaching) process is more willing to “learn how to learn” and I select and decide about how they affordable information responds to my needs when I require it.	
	V28.-I feel my learning (or teaching) process is more willing to the sensation to be connected everywhere, every time to the internet affordances	
	V29.- I feel my learning (or teaching)process is more willing to respond to the perception of the environment and my actions, through experiencing and doing.	
	<b>D7.-Teaching-Learning Styles (CTLS)</b>	
	V30.- As a student, (or professor), I feel that the contents are enough to motivate me to: create new forms of knowledge. You are more Reflexive	Cabero (2012); Bloom (2009);
V31.- As a student, (or professor) I feel that the contents are enough to motivate me to: evaluate the knowledge acquired. You are more	Gallego & Martínez (1999); Honey&	

	Reflexive.	Mumford (1992)
	V32.- As a student, (or professor) I feel that the contents are enough to motivate me to: analyze knowledge acquired. You are more Reflexive.	
	V33.- As a student, (or professor) I feel that the contents are enough to motivate me to: apply the knowledge acquired. You are more Pragmatic	
	V34.- As a student,(or professor) I feel that the contents are enough to motivate me to: comprehend the knowledge acquired. You are more Reflexive.	Cabero (2012); Bloom (2009); Carrol&Rosson (2005); Gallego & Martínez (1999); Honey& Mumford (1992)
	V35.- As a student, (or professor) I feel that the contents are enough to motivate me to: memorize the knowledge acquired. You are more Pragmatic.	
	V36.-As a student, (or professor) I feel the contents are well designed considering: text, context, colors, PDA's formats, accesability, etc.	Montoya (2008)
<b>F3.- PROFESSOR&amp; STUDENT ROL (PSR)</b>	<b>D8.-TProfessorr-Student Perception Feasibility(TSPF)</b>	
	V37.- I am motivated about using a PDA for mlearning, because is easy to use and I learn (or teach) better with it.	Ng & Nicholas (2013); Driscoll (2005)
	V38.-When I use a PDA I am very intuitive using my memory and my senses	Driscoll (2005)
	V39.- Navigation through the mobile learning course was easy.	Keegan (2015); Moll, (1993); Woodill (2011)
	V40.- For mobile learning (or teaching) to be effective it is necessary to use graphics and illustrations	Keegan (2015);
	V41.- Evaluation and questioning in the mlearning course was effective	
	V42.- The use of PDAs have more advantages than a desktop computer.	Ng & Nicholas (2013)
	V43.-The PDA that I use has a good relation among hardware, software and connectivity network.	ISO/IEC7498;Shneiderman y Plaisant, 2005; Woodill, 2001
	<b>D9.-Professor-Student Perception Value/Cost (TSPVC)</b>	
	V44.- mlearning increases access to education and training. It is still expensive.	
	V45.-The cost of accessing the mobile course materials was acceptable.	Keegan (2005)
	V46.- The cost of communicating in the mobile learning course with the tutor and other students was acceptable.	
	<b>D10.Professor-Student Assessing Participation (TSAP)</b>	
	V47.-Effectively encourage others to learn?	Garrison & Anderson(2003)
	V48.-Contribute regularly, at each important stage of the unit?	
	V49.-Create a supportive and friendly environment in which to learn?	
	V50.-Take the initiative in responding to other students?	
	V51.-Seek to include other students in their discussions?	
	V52.-Successfully overcome any private barriers to participation?	
	V53.-Demonstrate a reflective approach?	
<b>D11.-Professor-Student Assessing Activities (TSAA)</b>		
V54.-Each of the activities and strategies employed to assess student		

	learning has methodological and epistemological shortcomings.	
	<b>V55.</b> -All the student products are stored in a Database of learning products	
	<b>V56.</b> -The assessment is based on using problem-based learning (PBL) activities in m-learning education.	
	<b>D12.-professor-Student Assessing Quality (TSAQ)</b>	
	<b>V57.</b> -As a Student (or Professorr) I evaluate the course objectives, activities, contents, technology affordances are aligned and congruent with the tutoring (or goals) of the course.	
	<b>V58.</b> -As a student I evaluate the knowledge acquired vs the initial expectations (If you are a professor: Do you evaluate the knowledge acquired vs the initial expectations of each student?)	Garrison & Anderson(2003); Woodill (2001)
	<b>D13.-Professor-Student Policies (TSPO)</b>	
	<b>V59.</b> -I'm informed (If I'm a Tprofessor: inform to the students), the security and support policies	
	<b>V60.</b> - I'm informed (If I'm a professor: inform to the students, the educational principles and outcomes described	
<b>F4.- INNOVATION PROCESS (INNOV)</b>	<b>V61.</b> -I suggest improvements to the mlearning course to be more innovative in value added though contents in the student-professorprocess	Mejía-Trejo (2013 et al.) Garrison & Anderson(2003)
	<b>V62.</b> -I suggest improvements to the mlearning course to be more innovative in value added though technology in the student-professor process	
	<b>V63.</b> -I suggest improvements to the mlearning course to be more innovative in value added though policies in the student professor process	
	<b>V64.</b> -I suggest improvements to the mlearning course to be more innovative in value added though feedback evaluation the student-professor process	
	<b>V65.</b> - I feel that the process is planned as a strategic innovation	

Source: Own

#### VALIDITY AND RELIABILITY OF THE MODEL

We show the **Table 12** with a summary of the test and values used in this research.

**Table 12. Technical Research Data, Test and Values used in this Research**

Technical Research Data	
Features	Survey
Universe	20 professors and 800 students both participating in social sciences courses, from 7 GMAM, México during the period 2013-2014.
Scope	Guadalajara Metropolitan Area, México
Sample Unit	7 Universities
Collection Method of Data	e-Mail/ Inquiry
Scale	Likert 5
Date of Fieldwork	January-2013-December 2014
<b>Total e-Mail/Inquiry completely answered</b>	<b>680</b>

Test used in this Research	Value /Description	Author
<b>Ratio NC/VoQ</b> = Number of cases (NC) & Variables Of Questionnaire (VoQ)	<b>NC/VoQ</b> = NC (20 professors + <b>680</b> students ( $\geq 100$ and $\leq 1000$ , according Hair et al.,2010 ) / 65 <b>VoQ</b> = <b>12.30</b> <b>&gt;10</b> (it is <b>&gt;10</b> recommended by Hair, 2010)	
<b>CFA</b> by Maximum Likelihood Method, and Covariance Analysis by <b>EQS 6.1</b> software	To verify the Reliability and the Validity of the Measurement Scales	Bentler, (2005); Brown, (2006); Byrne, (2006)
Cronbach's Alpha ( <b>CHA</b> ) and Composite Reliability Index ( <b>CRI</b> )	<b>ChA (Per Factor Via SPSS) &amp; CRI</b> $\geq 0.7$ / Reliability of the Measurement Scales	Bagozzi & Yi, (1988); Nunnally & Bernestain,(1994); Hair et al., (2010)
Mardia's Normalized Estimate.( <b>M</b> )	<b>M</b> $>5.00$ / Distributed as a unit normal variate such that large values reflect significant positive kurtosis and large negative values reflect significant negative kurtosis. Bentler (2005) has suggested that in practice, values $>5.00$ are indicative of data, that are non-normally distributed	Bentler (2005); Byrne, (2006)
The Satorra–Bentler scaled statistic ( <b>S-B<math>\chi^2</math></b> )	<b>S<math>\chi^2</math></b> .- By specifying ME=ML, ROBUST, the output provides a robust chi square statistic ( $\chi^2$ ) called. This is to minimize the outliers and achieve goodness of fit	Satorra & Bentler, (1988)
Normed Fit Index ( <b>NFI</b> )	<b>NFI</b> $\geq 0.8$ and $\leq .89$ . / Index used for more than two decades by Bentler and Bonett's (1980) as the practical criterion of choice, as evidenced in large part by the current "classic" status of its original paper (Bentler, 1992; and Bentler & Bonett, 1987, cited by Byrne, 2006). However, <b>NFI</b> has shown a tendency to underestimate fit in small samples,	
Comparative Fit Index ( <b>CFI</b> )	<b>CFI</b> $\geq 0.8$ and $\leq .89$ . Bentler (1990, cited by Byrne, 2006) revised the <b>NFI</b> to consider sample size and proposed the Comparative Fit Index ( <b>CFI</b> ). Values for both the <b>NFI</b> and <b>CFI</b> range <b>from zero to 1.00</b> and are derived from comparison between the hypothesized and independence models, as described previously. As such, each provides a measure of complete covariation in the data. Although a <b>value &gt; .90</b> was originally considered representative of a well-fitting model (see Bentler, 1992, cited by Byrne, 2006), a revised cutoff value close to 0.95 has been advised (Hu & Bentler, 1999, cited by Byrne, 2006). Although both indexes of fit are reported in the EQS output, Bentler (1990, cited by Byrne,2006) suggested that the <b>CFI</b> should be the index of choice	Bentler & Bonnet,(1980); Byrne (2006)
Non-Normed Fit Index ( <b>NNFI</b> )	<b>NNFI</b> $\geq 0.8$ and $\leq .89$ . It is a variant of the <b>NFI</b> that takes model complexity into account. Values for the <b>NNFI</b> can exceed those reported for the <b>NFI</b> and can also fall outside the zero to 1.00 range.(Byrne, 2006)	
Root Mean Square Error of	<b>RMSEA</b> $\geq 0.05$ and $\leq 0.08$ / The <b>RMSEA</b> considers the error of approximation in the population and asks the question, "How well	Hair et al, 2010; Byrne, 2006;

Approximation ( <b>RMSEA</b> )	would the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available?" (Browne & Cudeck, 1993, pp. 137-8, cited by Byrne, 2006). This discrepancy, as measured by the <b>RMSEA</b> , is expressed per degree of freedom, thus making it sensitive to the number of estimated parameters in the model (i.e., the complexity of the model). Values less than .05 indicate good fit, and values as high as .08 represent reasonable errors of approximation in the population (Browne & Cudeck, 1993, cited by Byrne, 2006). Addressing Steiger's (1990, cited by Byrne, 2006) call for the use of confidence intervals to assess the precision of <b>RMSEA</b> estimates, EQS reports a 90% interval around the <b>RMSEA</b> value. In contrast to point estimates of model fit (which do not reflect the imprecision of the estimate), confidence intervals can yield this information, thereby providing the researcher with more assistance in the evaluation of model fit.	Chau, 1997; Heck, 1998
Convergent Validity ( <b>CV</b> )	All items of the related factors are significant ( <b>p &lt; 0.01</b> ), the size of all standardized factorial loads are exceeding <b>0.60</b> (Bagozzi & Yi, 1988) the extent to which different assessment methods concur in their measurement of the same trait (i.e., construct)—ideally, these values should be moderately high (Byrne, 2006)	Bagozzi & Yi, 1988; Byrne, 2006;
Variance Extracted Index ( <b>VEI</b> )	<b>VEI &gt; 0.50</b> / In all paired factors as constructs. In a matrix representation, The diagonal represents the ( <b>VEI</b> ), while above the diagonal part presents the variance (the correlation squared); below the diagonal, is an estimate of the correlation of factors with a confidence interval of 95%. See the Table. <i>Discriminant validity of the theoretical model</i> mentioned below.	Fornell & Larcker, 1981
Discriminant Validity ( <b>DV</b> )	<b>DV</b> / It is the extent to which independent assessment methods diverge in their measurement of different traits—ideally, these values should demonstrate minimal convergence.(Byrne, 2006). <b>DV</b> is provided in two forms: First, with a 95% interval of reliability, <b>none of the individual elements of the latent factors correlation matrix contains 1.0</b> (Anderson&Gerbing,1988). Second, <b>VEI</b> between the each pair of factors is higher than its corresponding <b>VEI</b> (Fornell&Larcker,1981). Therefore, based on these criteria, different measurements made on the scale show enough evidence of reliability, <b>CV</b> and <b>DV</b> . See the Table. <i>Discriminant validity of the theoretical model</i> mentioned below.	Byrne, 2006; Anderson & Gerbing,1988; Fornell & Larcker,1981
Nomological Validity ( <b>NV</b> )	It is tested using the chi square, through which the theoretical model was compared with the adjusted model. The results indicate that no significant differences are good theoretical model in explaining the observed relationships between latent constructs	Anderson & Gerbing,(1988); Hatcher, (1994)

Author: several authors, by own adaption

## DISCUSSION

The CFA results are presented in **Table 13** and suggests that the model provides a good fit of the data (**S-BX<sup>2</sup> = 232.636; df = 124; p = 0.0000; NFI = 0.901; NNFI = 0.928; CFI = 0.976; RMSEA = 0.075**). According **Table 12**, as evidence of the *convergent validity*, the CFA indicates that all items of the related factors are significant (*p < 0.001*) and the magnitude of all the factorial loads are exceeding **0.60** (Bagozzi & Yi,1988). All the values of the

scale exceeded the value recommended **0.70** for the *Cronbach's Alpha* and **CRI**, which provides evidence of reliability and justifies the internal reliability of the scale of the business competitiveness ( $\geq 0.70$ ), recommended by Nunnally&Bernestain (1994) and Hair (et al., 2010) and the *Variance Extracted Index VEI* ( $\geq 0.5$ ) was calculated for each pair of constructs, resulting in an **VEI** more than 0.50 (Fornell&Larcker, 1981).

**Table 13. Internal Consistency and Convergent Validity of the Theoretical Model**

Factor	Variable	Factorial Load	Robust t-Value	Loading Average	Cronbach's Alpha ( $\geq 0.7$ per Factor via SPSS)	CRI $\geq 0.7$	VEI $\geq 0.5$
F1 TECH	V13	0.956***	1.000a	0.922	0.765	0.758	0.510
	V16	0.906***	5.720				
	V17	0.904***	8.543				
F2 CTLMS	V28	0.890***	1.000a	0.915	0.815	0.752	0.504
	V30	0.879***	19.350				
	V33	0.977***	17.560				
F3 PSR	V38	0.978***	1.000a	0.924	0.798	0.760	0.514
	V40	0.953***	21.453				
	V44	0.841***	17.312				
F4 INNOV	V61	0.923***	1.000a	0.916	0.881	0.753	0.505
	V62	0.974***	17.615				
	V65	0.852***	15.791				

S-BX<sup>2</sup> = 232.636; df = 124; p = 0.0000; NFI = 0.901; NNFI = 0.928; CFI = 0.976; RMSEA = 0.075  
a.- Parameters constrained to the value in the identification process.  
\*\*\*= p < 0.001

Source: Own

According the same **Table 12**, with the evidence of the convergent validity, discriminant measure is provided in two forms as we can see in **Table 14**. *First*, with a **95%** interval of reliability, none of the individual elements of the latent factors correlation matrix contains **1.0** (Anderson&Gerbing,1988). *Second*, extracted variance between the two constructs is greater than its corresponding **VEI** (Fornell&Larcker,1981). Based on these criteria, we can conclude that the different measurements with the model show enough evidence of discriminant validity and reliability.

**Table 14. Discriminant validity of the theoretical model.**

Factors	TECH	CTLMS	PSR	INNOV	CHI Square Differences Test (Values <VEI)
TECH	<b>0.510</b>	0.402	.236	0.312	
CTLMS	0.270, 0.410	<b>0.504</b>	0.503	0.430	
PSR	0.323, 0.581	0.496, 0.758	<b>0.514</b>	0.500	
INNOV	0.400, 0.573	0.356, 0.649	0.500, 0.710	<b>0.505</b>	
Interval Confidence Test (<1.0)					

**Note:** The diagonal represents the Variance Extracted Index (**VEI**), while above the diagonal part presents the variance (the correlation squared); below the diagonal, is an estimate of the correlation of factors with a confidence interval of 95%.

Source: Own

To obtain the statistical results of the research hypotheses, we applied the **SEM** as a quantitative method with the same variables to check the *structure model* and to obtain the results that would allow the hypotheses posed, using the software **EQS 6.1** (Bentler, 2005; Brown, 2006; Byrne, 2006) Furthermore, the *nomological validity* of the theoretical model was tested using the *chi square*, through which the theoretical model was compared with the adjusted model. The results indicate that, the no significant differences in the theoretical model are good in explaining the observed relationships between latent constructs (Anderson & Gerbing, 1988; Hatcher, 1994). Taking in account only the **Factors** described and using again **EQS 6.1**, we obtained the **Table 15** to demonstrate our Hypotheses.

**Table 15. Results of hypothesis testing the theoretical model**

Hypotheses	Structural Relation	Standardized Coefficient	t Value
<b>H1.-</b> A high level of <b>INNOV</b> generates a high level of <b>TECH</b> in <b>mL</b> at the <b>GMAM</b> .	<b>INNOV → TECH GMAM</b>	<b>0.741***</b>	13.321
<b>H2.-</b> A high level of <b>INNOV</b> generates a high level of <b>CTLMS</b> in <b>mL</b> at the <b>GMAM</b>	<b>INNOV → CTLMS GMAM</b>	<b>0.730***</b>	27.320
<b>H3.-</b> A high level of <b>INNOV</b> generates a high level of <b>PSR</b> in <b>mL</b> at the <b>GMAM</b>	<b>INNOV → PSR GMAM</b>	<b>0.880***</b>	36.736
<b>S-BX<sup>2</sup> = 152.655; df = 104; p = 0.0005; NFI = 0.931; NNFI = 0.901; CFI = 0.923; RMSEA = 0.065***</b> <b>p &lt; 0.001</b>			

Source: Own

The Hypotheses results obtained after applying the **SEM** method, are showed in **Table 16**.

**Table 16. Hypotheses Results**

Hypotheses	Description
<b>H1</b>	( $\beta = 0.741$ , $p < 0.001$ ), the relationship between <b>INNOV</b> and <b>TECH</b> from <b>mL</b> has significant positive effect.
<b>H2</b>	( $\beta = 0.730$ , $p < 0.001$ ), the relationship between <b>INNOV</b> and <b>CTLMS</b> from <b>mL</b> has significant positive effect.
<b>H3</b>	( $\beta = 0.880$ , $p < 0.001$ ), the relationship between <b>INNOV</b> and <b>PSR</b> from <b>mL</b> has significant positive effect.

Source: Own

Summarizing, we can conclude that **INNOV** is positive and significant over the **3** variables measuring **mL**.

## CONCLUSIONS

We confirmed that **4 Factors**, such as: **TECH**, **CTLMS**, **PSR** and **INNOV** are involved into the **mL** process, with **13 Dimensions** and **65 Variables** as Indicators so, we solved the **SQ1** by mean to have proposed as theoretical framework what is showed in **Table 1**, **Figure 1**, and **Table 11** as a main questionnaire; using **SEM**, we obtained **Table 13** to solve **SQ2** and **Table 14** to justify the enough validity to solve **SQ3**. To prove the main Hypothesis, by the results obtained in **Table 15**, where **GH: all the relevant variables have significant positive effect from INNOV to mL** is **affirmative**. In fact, **H4**. A high level of **INNOV** generates a high level of **PSR** in **mL** at the **GMAM** shows the most relevant latent factor . So we solved the **RQ** at **100%**.

However, ¿how the latent variables are interacting? to answer this, we applied the **SEM** as a quantitative technique and we can see how the underlying variables are interacting amongst them at the same time of multiple regressions are in progress. We found **12/65 independent variables as most important on mL** indicators that are improved by **INNOV**, to reinforce the model. In order to get it, we have:

## **F1.-TECH: TECHNOLOGY**

This factor representing a great opportunity to the **GMAM** to increase the **INNOV over the mL** for students and professors because, we have to get better technologies and friendliest around Multimedia (**TMMD**) issues, in other words: *accessing to sound, video and graphical materials must work, pretty well (V13)*( Keegan ,2005). The social media (**TSME**) is already present and with a great potential, for analyze the benefits on learning, when the student or professor perceives: *I tend to participate in: gamings, simulations and/or virtual worlds (V16)*. Hence it is very important, minimize the sensation of: *To learn (or teach), I feel I spend a lot of time connected in different networks with scarce results (V17)* (Woodill, 2001).

## **F2. CTLMS CONTENTS, TEACHING-LEARNING MANAGEMENT AND STYLES.**

This factor reveals the **mL** potential through the Contents, Teaching-Learning Management and Styles (**CTLMS**) when the student or professor, perceives: *I feel my learning (or teaching) process is more willing to the sensation to be connected everywhere, every time to the internet affordances (V28)* (Woodill, 2001); so, we ought take advantage from this point, Contents, Teaching-Learning Management and Styles (**CTLMS**), to prepare the encourage conditions and final attitudes, for both: student and professor when they finally perceive : *I feel that the contents are enough to motivate me to: create new forms of knowledge. You are more Reflexive (V30)*. Or even more, as a result of **INNOV**, when they become more pragmatic (*I feel that the contents are enough to motivate me to: apply the knowledge acquired. You are more Pragmatic.V33*) (Cabero,2012; Bloom 2009; Gallego & Martínez, 1999; Honey& Mumford, 1992).

## **F3.- PSR: PROFESSOR & STUDENT ROL**

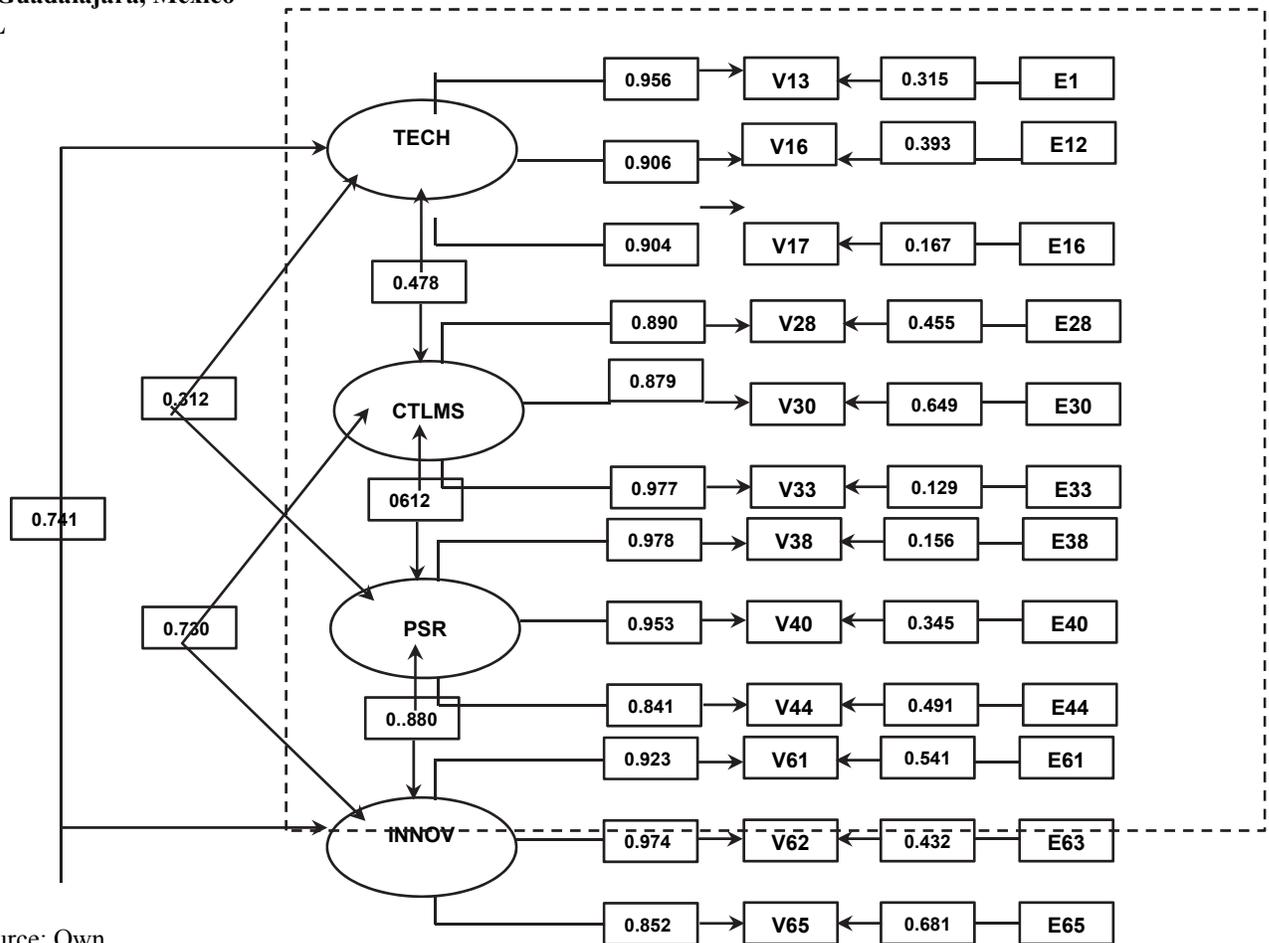
**Professor-Student Perception Feasibility (TSPF)** must increase the future contents and design devices around the intuitive senses, when both: student and/or professor perceives: *When I use a PDA I am very intuitive using my memory and my senses. (V38)* (Driscoll, 2005) and *be effective it is necessary to use graphics and illustrations. (V40)* (Keegan, 2005) Enactive education processes have a great chance to be explored and implemented here (Woodill, 2001). Unfortunately, about the *cost/value perception* where **mL** increases access to education and training . *It is still expensive in México. (V44)*. We have to expect the rate of prices to broadband access, be lower in the near future for the **GMAM**.

## **F4.-INNOV: INNOVATION PROCESS.**

Finally, we discovered the importance to involve more the *value added* in different stages of our previous innovation model (Mejía-Trejo et al, 2013), such as : contents (**V61**); technology (**V62**) including an entire innovation strategic planning (Garrison & Anderson; 2003),(**V65**).

**The Final SEM is showed in Figure 2.**

**Figure 2.- Empirical Hypothesized Model of First-Order of How Innovation interacts with Mobile Learning in Guadalajara, México mL**



Source: Own

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## ***Urban Impact Investing: Keeping Results Local***

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### **ABSTRACT:**

*In the broad context of urban economic development, many studies on small business growth have identified lack of access to capital, rising commercial real estate rates and capacity building issues as significant challenges. Local governments, nonprofits, philanthropists, higher education institutions and advocacy groups have proposed various solutions to these roadblocks in the Jersey City region and throughout the nation. Although efforts are thoughtful and strategic, stakeholders often identify the same problems and replicate similar solutions rather than devising a coordinated multi-sector strategy.*

*Local impact investing is a rapidly growing and experimental field of practice that could drive significant regional results by utilizing expertise and resources of multiple stakeholders. Impact investing can be defined as the creation and use of investment vehicles to generate specific social or environmental benefits while simultaneously reaping financial returns. Thus far, this practice has been applied in a real estate, environmental and small business context. For the purposes of this study, impact investing principles will be analyzed as a partial response to the capital vacuum for small business owners and entrepreneurs operating in urban environments.*

*This paper seeks to add insight into the growing body of research on community impact investing by highlighting different models that have been implemented by private investors, government institutions, and non-profit partnerships. This study will observe models among various players in Boston, MA, Newark, NJ, Detroit, MI and San Francisco, CA. Further, later iterations of this study will propose a pilot model for the creation of an impact investing platform in Jersey City, NJ, in partnership with key local stakeholders. It will do so by outlining specific best practices, identifying available resources and developing a portfolio of high potential, under-resourced small businesses that lack capital.*

### **Introduction**

Social impact investing is gaining popularity as an alternative tool of investing that maximizes social good, whether it be environmental, poverty alleviation or another area, but it is still deemed by many as less profitable than traditional financial investment approaches. One reason for this impression of lack of profitability is the difficulty of monetizing and measuring “social value.” A 2015 Cambridge GIIN (Global Impact Investing Network) report which seeks to define a benchmark for impact investments demonstrates the difficulty of this task. While it provides a detailed analysis of financial returns on impact investments, it does not clearly define any measurement tool to assess and measure social returns. This is problematic even when approaching investing from a philanthropic or triple bottom line perspective because even social investors want to see impact (Foosse & Folan, 2016). An impact investing approach that is gaining popularity is the idea of channeling investor dollars into urban neighborhood businesses and organizations as part of a broader strategy for neighborhood revitalization.

The purpose of this paper is to describe successful local efforts already implemented in urban areas around the United States using a localized impact investing strategy and highlighting ways these initiatives have worked effectively. Several notable programs will be analyzed as case studies, highlighting varied approaches that have been

piloted. Based on the research, which includes qualitative surveys of individuals involved in these successful programs, (Lacka, 2015), a preliminary program design will be created for Jersey City, NJ, a dynamic, diverse and growing urban area, where there are many efforts underway to support equitable local development and to foster entrepreneurship and small business growth as a tool for neighborhood revitalization and economic empowerment of residents, particularly women and minorities.

The research approach is a multi-phase, long-term study involving qualitative and quantitative methods. In 2014, an in-depth long form survey study of local entrepreneurs was completed (Lacka, 2015), and the challenges identified in the study's abstract were confirmed by the entrepreneurs' responses. Since that time, many changes and programs have been implemented to address these challenges, but capital remains an overarching question that has impeded small business growth. A local impact investing instrument or platform does not yet exist in the Jersey City region, which is what this paper seeks to address. This is a fact finding component of the study, which will analyze existing local impact investment programs and approaches to gain first hand input and feedback from the following local impact investing models; the Boston Impact Initiative, a private investment fund in the highly resourced mid-sized City of Boston, MA; Profeta Loan Fund, a private investment fund in the under-resourced mid-sized City of Newark, NJ; Invest Detroit, a fund funded by a nonprofit-public partnership in the under-resourced large City of Detroit, MI and Pacific Community Ventures, a non-profit certified community development financial institution (CDFI) utilizing a hedge fund model in the highly resourced large city, San Francisco, CA.

Observations from this analysis will be used to design a preliminary model for a local urban impact investing pilot in Jersey City, NJ. These results will be shared with the Local Economy Working Group, a coalition of industry leaders across sectors with a vested interest in creating strong local economies through community organization and advocacy. The next phase of the study, which is not addressed in this paper, involves follow-up qualitative interviews with the entrepreneurs profiled in Ignite Institute's 2015 study (Naatus, Caslin, Demmelash, Lacka & Zeuli) as well as a broader quantitative survey to validate earlier findings and gain new insights into the local entrepreneurial ecosystem.

The value of this study is to identify various applicable models of local impact investing and articulate the pros and cons of each model, while remaining cognizant of differences in industry sectors and unique characteristics of different cities that may affect implementation and results. The results will be framed as best practices and recommendations and will be used to develop a preliminary model for local impact investing in Jersey City, NJ to be used as an example for mid-sized cities throughout the US. This model should align with the local economy agenda set forth by the Local Economy Working Group and engage a diverse group of stakeholders to maximize buy-in, participation and long-term sustainability.

## **Literature Review**

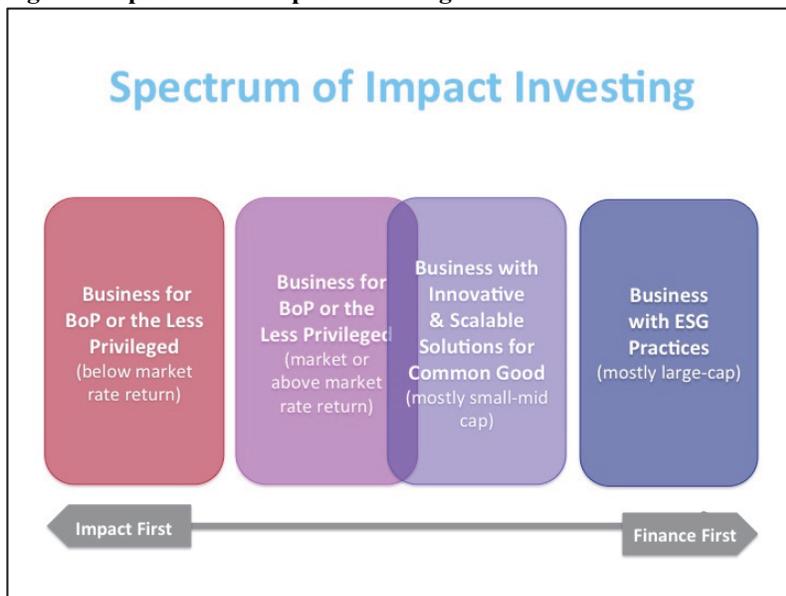
In the field of urban economic development, many studies on entrepreneurship and small business growth cite common challenges to holistic and consistent approaches to community-wide growth efforts, including lack of access to capital and other resources, high costs of storefronts, retail and work spaces, lack of vending opportunities and issues of capacity building, to name a few (Trillo & Naatus, 2015). Proposed solutions to these and similar challenges are being taken on by local governments, nonprofits, philanthropists, higher education institutions and advocacy groups, but too often the efforts are not well coordinated, and there tends to be program replication. One area that is gaining interest and that has potentially broad and significant local impact is local impact investing, which can be defined as the creation and use of investment vehicles that aim to generate specific beneficial social or environmental effects in addition to financial gain in a particular location or local ecosystem. A related topic and more traditional term is community investing, or financing that helps to generate resources and opportunities for economically disadvantaged people in the United States and globally that are under-served by traditional financial institutions. Community investors make it possible for local organizations in urban and rural areas to enhance access to affordable housing, employment, financial services for low-income individuals, small business capital and even

services such as childcare (Maurasse, 2001). This type of investing is carried out organizations ranging from community development banks, credit unions, loan funds and venture capital organizations and also urban funds such as those described in this paper.

Many studies acknowledge the rationale for impact investing or selecting investment vehicles that have high scores for ethics, sustainability and social responsibility. A recent paper from the University of Oxford and Arabesque Partners, 88% found that “companies with robust sustainability practiced demonstrated better operational performance (Gordon, Fiener & Vies, 2014). The article cites another compelling push towards impact investment vehicles, that because women and millennials are increasingly controlling larger portions of the nation’s wealth, and since these two groups generally tend to value social impact more, that these investment returns are likely to grow as well.

The difference between broader social investments and urban impact investing is the place-based case management strategy utilized in these models as well as the degree of impact. The following “Spectrum of Impact Investing” conceptual model (see Fig. 1) is useful in identifying varying levels of financial returns inversely proportionate to the level of impact of the investment. For investments supporting BoP of Bottom of the Pyramid consumers and locations, impacts are greater but returns are lower, while at the other end of the spectrum with more advanced instruments, and using the ESG, Environmental, social and governance (ESG) approach, returns are much higher, yet measurable impact is secondary as an investment decision-making criterion.

**Figure 1: Spectrum of Impact Investing**



Source: The Global Impact Investing Network

The model cases described below as well as the preliminary recommendations described in the conclusion fall towards the impact first end of the spectrum, which may pose a challenge for broad-based or global investors, who may not appreciate a significant local impact on human beings and neighborhoods. These types of funds and programs, therefore must specifically target investors and philanthropists with a stake in local economies, that would reap the broader benefits of positive impact and therefore be willing to forego the higher financial returns of more large-cap impact investments towards to finance first end of the spectrum (Sriram, Mersha & Heron, 2007). In the following section, four notable local urban impact investing models will be assessed and compared.

## **Urban Investing Case Studies**

### **The Boston Impact Initiative**

**Location:** Boston, MA

**City population:** Mid-sized

**City classification:** Well resourced

**Investor:** Private

#### ***Organizational Overview:***

The Boston Impact Initiative (BII) is a private investment fund that works in tandem with local businesses and organizations in the City of Boston, with the mission of creating opportunity shifts for high-need urban centers. The Boston Impact Initiative is unique from many traditional investment firms, stating that they “are committed to creating a better future for those communities who have been impacted by racial, social and economic inequality.” Towards these ends, BII uses an integrated capital approach, which combines investing, lending and giving to keep money within the local community. They seek to beneficially impact the City of Boston, and to serve as an example for similar cities across the nation.

#### ***Why “Place Matters” to BII:***

BII seeks to take into account the unique challenges and assets of Boston, MA. Whereas many organizations seek to address specific issues, BII realizes the interconnection between societal challenges. Change must begin at home in order for it to be lasting. Therefore, BII seeks to invest in communities by investing in community-members.

#### ***Methodology and Criteria:***

BII uses “a target asset allocation of equity investments (15 percent), loans (70 percent) and grants (15 percent) to fulfill its mission.”<sup>ii</sup> It invests in both for-profit and non-profit agencies. The below list represents investment criteria set forth by BII:

We are seeking to invest in organizations and initiatives—both for-profit and not-for-profit—that are committed to creating a better future for Boston’s youth and families. This includes a focus on:

- Challenging structures that perpetuate racial, social, economic and environment justice
- Developing secure job opportunities
- Developing opportunities for social and business entrepreneurship
- Building healthy local food systems
- Creating stable housing environments
- Providing equitable access to transportation
- Engaging youth activism through arts and culture
- Creating opportunities for community and civic engagement

As we seek opportunities for partnership and investment, we’ll explore some of the following questions:

- How does this initiative fit with our values and beliefs about change? What can we learn from our differences?
- Who is leading the initiative? Does the leadership team have the competency and commitment to support this work?

- How will this investment create opportunities for urban youth?
- How will our partner assess their impact?
- Do we believe their financial plan will be successful? What is our risk?
- How does this investment fit with our existing portfolio?<sup>lii</sup>

In order to employ this unique mission to investments, BII’s portfolio uses an integrated approach towards debt, equity and grant-making. Selected businesses are one that contribute to strengthening community resilience. BII, like many funds and organizations involved in impact investing, measures its returns based on the “triple bottom line” model. Rather than looks just at the profit, BII takes into consideration the social, environmental and monetary value of an investment in order to measure an investment’s true value. Moreover, as a social investing firm, they are willing to take certain below market returns in order to invest in overall community benefit.

***Analysis of Place:***

Boston is a well-resourced city with ample intellectual and financial resources. However, wealth and prosperity have not been shared equitably throughout the city. Specific neighborhoods and demographic groups are not presented with equal opportunities; BII, through specific understanding of place and the community landscape, expands these opportunities with a case-management approach.

**Profeta Urban Investment Foundation:** “Revitalizing Newark, One Business at a Time.”

**Location:** Newark, NJ  
**City population:** Mid-sized  
**City classification:** Under-resourced  
**Investor:** Private

***Organizational Overview:***

Profeta Urban Investment Foundation is a private loan fund aimed towards stimulating business development specifically in Newark, NJ. Profeta only supports businesses in Newark, NJ and offers zero interest loans to qualifying businesses. Compared with the BII, Profeta uses more traditional criteria to determine loan eligibility. Specifically, Profeta states that it seeks to attract tourism activities including shopping, dining and entertainment to Newark, NJ from bordering high-wealth communities including Short Hills, Maplewood, Livingston, etc.) in order to bring investment dollars back in the City of Newark.

***Why “Place Matters” to Profeta:***

The Profeta Urban Investment Foundation was established by Paul V. Profeta. Paul Profeta, a real estate investor in West Orange, NJ, established the Profeta Urban Investment Foundation based upon a personal connection to the City of Newark. Profeta, who was raised in Maplewood, grew up visiting Newark and witnessed the city’s decline first hand. Through investing specifically in minority-owned businesses in commercial corridors with high vacancy rates, Profeta hopes to create a spark around the State of New Jersey to encourage business owners to start or relocate their businesses in Newark, NJ, one business at a time.

***Methodology and Criteria:***

Since its creation in 2007, Profeta has invested in 11 Newark-based businesses, from food services, entertainment, language-services, urban agriculture, and non-profit organizations. Although the investment criteria are more stringent and Profeta does not include the “triple bottom line” approach in its organization mission, Profeta

connects businesses with technical assistance programs by partnering with the Rutgers Center for Urban Entrepreneurship and Economic Development. The below lists represents Profeta's desired profile, and criteria for small businesses.

**The enterprises that the Foundation is interested in helping are:**

- owned, controlled and operated by minority individuals
- headquartered in Newark
- do business in Newark
- return real value to Newark and its citizens by making jobs available to Newark residents and by providing goods and services required by those residents

**The enterprises criteria are:**

- reasonable monthly business revenue and expense forecast for the next 3 years
- the appropriate experience to run a business
- detailed outline of how you plan to use the funds we loan to you
- competitive analysis and a solid marketing plan to grow your business
- Must be located in Newark, NJ
- Please be aware that while we don't charge interest on the loan, we will approve a loan only if we believe the business can support the expenses.<sup>liii</sup>

***Analysis of Place:***

Newark, NJ is a city that severely lacks financial resources. Although major pushes have been made to bring businesses back to Newark, especially in the financial district, small business growth remains stunted. By providing investment and assessing the needs for certain businesses in certain areas, Profeta is setting a much-needed example for private investors and business owners throughout Northern New Jersey.

**Invest Detroit**

**Location:** Detroit, MI

**City population:** large sized

**City classification:** Under resourced

**Investor:** Non-profit, private, public

***Organizational Overview:***

Invest Detroit is a certified Community Development Financial Institution which brings together resources from for-profit, non-profit and public sources with the mission of stimulating community and economic development in specific underserved neighborhoods on the City of Detroit. In total, it represents \$225 in funds through utilization of the New Market Tax Credit allocation and capital that had been committed to the fund. Invest Detroit finances real estate development, business expansion and ad hoc project with the purpose of stimulating job growth and revitalizing distressed areas.

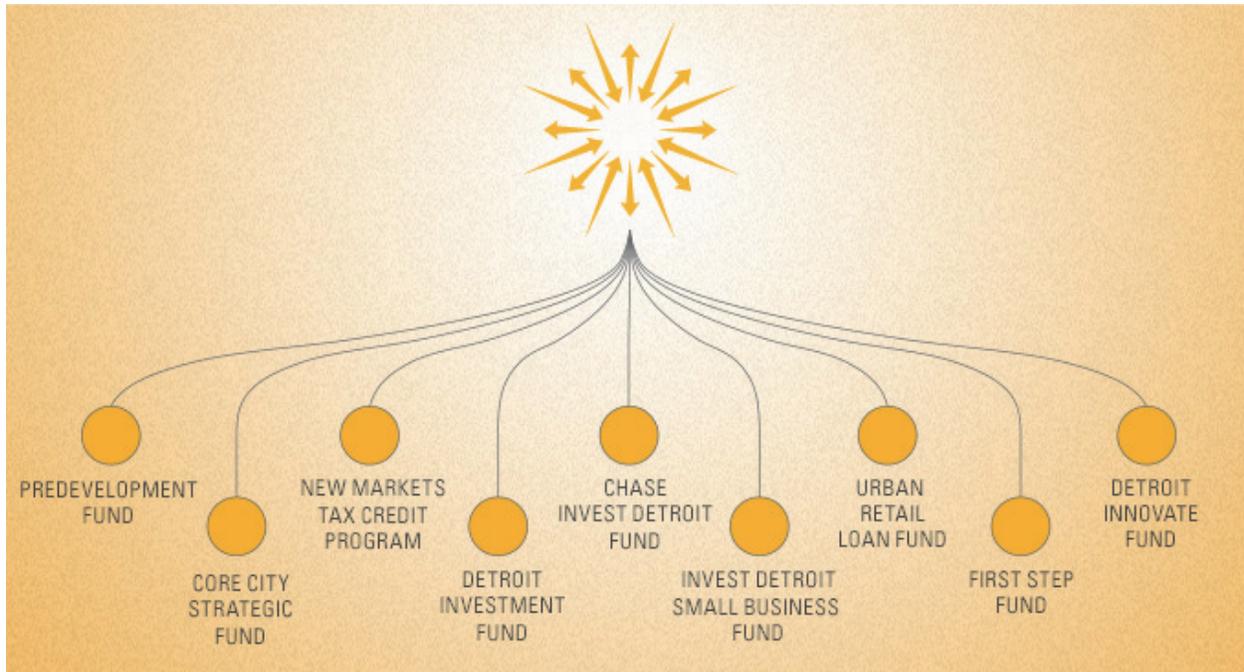
***Why "Place Matters" to Invest Detroit:***

Like Profeta loan fund, Invest Detroit seeks to stimulate commercial growth in Detroit, MI by pooling together resources from the public, private and philanthropic sectors. In an area that faces high vacancy rates and low investment, creating business clusters in specific areas can inspire outside and internal investors to stimulate business growth in the city.

**Methodology and Criteria:**

Invest Detroit has 8 distinct financing programs, illustrated in the model below (Fig. 2). For the purpose of this study, we will focus on the Invest Detroit Small Business Fund.

**Figure 2: The Detroit Investment Fund Model**



liv

The Invest Detroit Small Business Fund is financing by Goldman Sachs and the W.K. Kellogg Foundation. It seeks to finance commercial, industrial and retail businesses.

Criteria for the Small Business Fund are found below:

**General Loan Criteria**

- Business in operation for at least two years
- Revenues above \$150,000 in the most recent fiscal year
- A minimum of two employees
- Potential and desire to grow revenues and create jobs in the community

**Loan Size**

- \$50,000 to \$750,000 [Preferred range \$175,000 to \$275,000]<sup>lv</sup>

### ***Analysis of Place:***

Neighborhood revitalization in Detroit, MI remains a crucial challenge. It remains the 3<sup>rd</sup> most dangerous city in the US, and has the highest concentrated poverty rate among the 25 largest US cities (Wariku, 2016). Like Newark, efforts have been made by public officials, non-profits and outside investors to improve investments and stimulate economic development efforts. Invest Detroit pools resources across sectors in order to begin the process of business development and investment in Detroit.

#### **Pacific Community Ventures**

**Location:** San Francisco, CA

**City population:** Large sized

**City classification:** Well resourced

**Investor:** Non-profit, private, public

### ***Organizational Overview:***

Pacific Community Ventures (PCV) is a 501(c)(3) certified community development financial institution which works across a network of impact investors, policymakers and small businesses. PCV is highly mission driven, and specifically seeks out businesses which have the potential to offer good, sustainable jobs and investments in underserved neighborhoods in order to create an inclusive economy for everyone. PCV accomplishes these goals through its four signature programs, including PCV InSight which provides technical assistance for social investors, Business Advising, PCV Small Business Lending fund and Impact Evaluating.

### ***Why “Place Matters” to PCV:***

PCV was founded by two former executives who operated in the Silicon Valley region. During their time working one-on-one with tech startups and providing capital, business advisement and networking, the founders recognized the need that existed for such resources for small-service sector businesses.

### ***Methodology and Criteria:***

PCV offers technical assistance for small businesses and social investors, evaluation tools and startup capital ranging from \$50,000 - \$200,000. The major criteria for lending is that the business is California based and creates quality, sustained jobs in local communities. In addition, PCV offers intensive technical assistance including pro-bono financial advisors, HR, operations and business strategies.<sup>lvi</sup>

### ***Analysis of Place:***

San Francisco is the tech hotbed of the world and has experienced unprecedented financial growth. However, as has been the case in many American cities, the financial growth has not always occurred equitably. Rent and cost of living have increased for long-time residents, and as high technology jobs have appeared, main street jobs have disappeared. PCV creates a platform for all residents of San Francisco to share the wealth.

### **Analysis and Recommendations**

These urban impact investing initiatives were chosen to highlight in this particular study due to a number of similar city characteristics to Jersey City. These variables include having a diverse, multi-cultural population, a historical identity, a degree of inequality in access, education and income across different neighborhoods, and a loss over time of a manufacturing base and larger employers that have led to many shared challenges. There is often a

particular need for investment and revitalization efforts in underserved urban neighborhoods, and these four case studies provide examples of inclusive and sustainable efforts to target less privileged businesses that might otherwise lack access to loans and funding, and as a result maximize impact.

Findings from the Jersey City entrepreneur survey in 2014 (Lacka, 2015) identified the existence of many barriers, which make it difficult for local entrepreneurs to access available capital. These barriers include a lack of knowledge of available funds or the process of how to apply. Cultural barriers and a lack of trust by certain communities or neighborhoods may impede the process as well. From the existing models described in this paper, the Boston Impact initiative is the most applicable model, due to the nature of the beneficiary businesses and industries, which are similar to those in the Jersey City ecosystem, as well as the incentive structure for investors in this program, which might be similar in the Jersey City context.

Lessons that can be applied from all of these impact model cases described above to the Jersey City model include partnering with large stakeholders, philanthropists and anchor institutions that are part of the local economy to pool resources and funding, provide technical and social support and ensure long-term sustainability and impact. Currently, there are a variety of organizations in the private and public sector of Jersey City that are contributing to the development of entrepreneurial ventures and small businesses in the city, with activities ranging from business coaching and technical training to microloans and business incubation space. The Office of Innovation, a new entity in the City of Jersey City, funded by a Bloomberg Philanthropy grant, is creating a web-based map of available resources, including a local business directory, event calendar and portal of available commercial spaces.

By creating city-wide impact investment vehicle with clear criteria for eligibility, Jersey City has the opportunity to leverage the fast-paced growth of small businesses in the city, as well as target neighborhoods and business owners that face more hurdles in accessing capital from more traditional sources. By incorporating strategic partnerships, such as the Profeta partnership with the local University and the City government in the Boston Impact Initiative, the Jersey City investment model can take hold more deeply and access resources from community anchors to provide the training and capacity building components, which are illustrated in the case study models described in this paper. Another option is creating a portfolio of local impact investment and incentives, as the Detroit model illustrates, which can provide an array of incentives that target a variety of stakeholders to engage in impact-intensive investing with the goal of community improvements that have the potential to create financial returns in the long-term for the investors, who must be selected carefully and have a valid stake in the community.

It will be important in the Jersey City model to explicitly identify the criteria for qualifying for the investments, loans or grants, and we recommend limiting the funds to the neighborhoods that are more in need of economic development investment, which would exclude the very prosperous downtown Jersey City, that has attracted a significant amount of traditional investment and upscale businesses. Further survey studies will also examine if Jersey City should specifically develop and fund businesses in a specific sector, such as tech, advanced manufacturing or services, and more clearly identify specific clusters to promote economies of scale and greater local competitiveness in a particular sector. Clustering is the phenomenon whereby firms from the same industry gather together in close proximity (Porter, 1998), and the purposeful creation of new clusters in targeted neighborhoods through impact investments has a lot of potential. In addition, the input and potential financial contributions of local investors who have a stake in the development of successful local businesses can be a source of funding for these investment vehicles, and must be part of the development process. Another lesson from the Boston Impact Initiative is the holistic approach of addressing a variety of societal problems, from environmental, to health, to poverty to discrimination through funding decisions, in an effort to maximize impact. The conclusions described herein are only the first step in conceptualizing a powerful model for local impact investing in Jersey City, and the goal is to propose a detailed pilot project over the next year.

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<sup>li</sup> <http://bostonimpact.com/integrated-capital/investment-criteria/>

<sup>lii</sup> Criteria from BII.com

<sup>liii</sup> [www.profetafoundation.org](http://www.profetafoundation.org)

<sup>liv</sup> <http://investdetroit.com/managed-funds/>

<sup>lv</sup> <http://investdetroit.com/managed-funds/invest-detroit-small-business-fund/>

<sup>lvi</sup> <https://www.pacificcommunityventures.org/>

## ***Effect of Pre-consumption and Consumption Experience on Perceived Value and Brand Equity***

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### **Abstract:**

*Most empirical studies on evaluation of brand experience only focused on purchasing and consumption experience. However, prior to purchase, consumers normally search for information pertaining to the brand via multiple sources. All these can be brand touchpoints that shape consumers' perceptions of the brand.*

*Following the suggestion of the Theory of Holistic Consumption Experience, our study not only explores the impact of transaction-based experience but also pre-consumption experience on evaluation of the perceived value of retailer brands. Our study contributes to advance our knowledge on how the brand experience occurred before and during transaction can collectively determine the overall perceived value of a brand. In particular, this study explores both individual and combined effects of two key pre-consumption experience elements, advertisement and sales promotion plus the experience of four touchpoints during consumption including sales promotion, product, service and price, on perceived value of a retailer brand. It also investigates the mediator effect of brand preference on the relationship between perceived value and brand loyalty. The results of SEM analysis show that both advertisement and sales promotion have positive influence on perceived value and brand preference; b) service and product experience and price contribute positively to perceived value; c) both perceived value and brand preference have positive impact on brand loyalty.*

**Keywords:** marketing mix; brand experience; customer perceived value; brand equity.

### **Introduction**

Nowadays the experience factor plays an increasingly important role in determining the success of a company's offering. Customer Experience has been widely recognized as a new lever to create value for both the company and the customer (Schmitt, 1999; Addis and Holbrook, 2001; Shaw and Ivens, 2002; Carù and Cova, 2003; LaSalle and Britton, 2003). Despite its strategic importance, brand experience as an antecedent of consumer brand attitude and brand equity has received inadequate discussion in the extant literature (Faircloth, Capella and Alford, 2001; Biedenbach and Marell, 2010).

Brand touchpoint refers to any customer point through which the customer and the brand interact (Neslin, Grewal, Leghorn, Shankar, Teerling, Thomas and Verhoef, 2006). Brand experience is thus the sum of consumers' perceptions at each touch-point (Alloza, 2008). For instance, Ambler, Bhattacharya, Edell, Keller, Lemon and Mittal (2002) explains that brand experiences are created when customer consume the brand, share with others the information of and experience with the brand and solicit brand information through promotions, and so forth.

Experiences with a brand arise from the set of interactions between a company and its customers from pre-consumption to post-consumption stage, such as consumers' exposure to marketing communications, interactions with sales and/or service personnel, consuming the product or service, observation of other consumers' experience, word-of-mouth... and so on. These interaction experiences play a fundamental role in determining the customers' preferences, which then influence their purchase decisions (Gentile, Spiller and Noci, 2007). The Theory of Brand

Touchpoints reveals the fundamental importance of monitoring the experiences originated from critical touchpoints where consumers interact with the brand.

Brand preference is an attitude and behavioral tendency (Zajonc and Markus, 1982) and refers to the consumers' predispositions or biasness toward a certain brand. Brand preference reflects the extent to which a consumer favors one brand over another. In terms of behavioral tendency, brand preference is closely related to brand choice that can facilitate consumer decision making and trigger brand buying behavior. On this ground, brand preference is postulated to have positive effect on brand loyalty.

Nevertheless, brand experience as an antecedent of consumer brand attitude has received little attention in the academic literature (Chaudhuri 1995; Faircloth, Capella and Alford, 2001; Ghose, 2007; Biedenbach and Marell, 2010). Brand experience research should aim to investigate the predictive validity of brand experience with important analytically and cognitively driven concepts in brand literature such as brand attitudes and brand equity (Schmitt, 2009).

Although brand experience should encompass pre-consumption, buying, consuming and post-consumption, most pre-consumption brand experience studies concentrate on the effects of marketing communication activities, such as advertising, PR, and word-of-mouth on brand attitudes, awareness, and perceptions. Two marketing variables are of particular interest here: advertising and sales promotion. Despite their role in shaping brand attitudes and stimulating purchasing behavior, their contributions to customers perceived value of a brand remain unclear and under-researched (Netemeyer, Krishnan, Pullig, Wang, Yagci, and Brashear-Alejandro, 2004; Chu and Keh 2006).

The theory of brand value chain suggests a linkage between a firm's marketing actions and the brand's market performance (Keller and Lehmann, 2006). Previous empirical studies have also revealed such linkages are important in explaining sales (Srinivasan, Vanhuele and Pauwels, 2010; Stahl, Björkman, Farndale, Morris, Paauwe, Stiles and Wright, 2012). However, not much research effort has been made to empirically investigate the causal relationship between consumer experiences with a brand in creating or enhancing its consumer-based brand equity (Fam, Cyril de Run, Shukla, Shamim and Mohsin Butt, 2013).

Theoretically, brand experience is holistic, but many studies in this research stream are transaction-based in nature, focusing on purchasing and consumption experiences but ignoring the potential impact of pre-consumption experience and post-consumption experience on evaluation of brand performance. Our study goes beyond transaction-based experience to include pre-consumption experience for their combined effects on consumers' perceived value of the brand. We focus on two pre-consumption brand elements, mass media advertising and attractiveness of sales promotion. We argue that the information pertaining to sales promotion obtained before transaction and the size of sales promotion during transaction as integral part of brand experience and should both have impact on the perceived value of the brand by the customer.

Customers integrate learning from multiple sources in order to achieve their objectives (Neslin, Jerath, Bodapati, Bradlowet, Deighton, Gensler and Venkatesan, 2014). Incorporating retailer advertising and brand advertising as two major touchpoints, Baxendale, Braatz, Hodnett, Jensen, Johnson, Sharratt and Florence (2015) find their positive impact on brand choice. Besides, sales promotions are typically viewed as temporary incentives that encourage the trial of a product or service (Webster, 1971; Kotler, 1988). Previous research on their use explores the effect of sales promotions at the time in which they are offered (Blattberg and Neslin, 1989; Leone and Srinivasan, 1996). Relatively less attention has been devoted to investigating the consequences of sales promotions for brand preference after the promotion has ended.

Furthermore, there has not been systematic empirical research that explores the relationship between brand preference and CPV, and how they ultimately influence brand loyalty. Therefore, this study attempts to answer the major research questions:

- a) Will pre-consumption experiences with the brand enact the effect of consumption experience on brand preference and brand loyalty?
- b) In addition to its power to stimulating purchase interest and shaping brand attitudes, will sale promotions contribute to the perceived value of the consumption outcome?

By answering the aforesaid research questions, this study aims to achieve two major objectives. The first is to distangle the effect of the experience at individual critical touchpoints from pre-consumption to consumption stage on customer perceived value and brand preference. The second objective is to investigate how the effect of sales promotion and advertising on brand preference mediates the impact of perceived value on brand loyalty.

In the following sections, a brief review of the relevant literature is provided, followed by sections on research methodology, and discussion of the findings. Finally, the paper concludes with a discussion of the limitations of the present study and avenues for further investigation.

### **Literature Review and Hypothesis Development**

**Brand experience:** Brand experience refers to consumers' subjective and internal responses to brand-related stimuli (Brakus, Schmitt and Zarantonello, 2009) and provides sensory, affective, intellectual and bodily stimulation that determines the experiential value to increase the customer's perceived value of a brand (Pine and Gilmore, 1999; Brakus, Schmitt and Zhang, 2008). Brand experiences include specific internal and behavioral responses that are not evaluative in nature (Brakus, Schmitt and Zarantonello, 2009) but should be the input to brand attitudes which are evaluative in nature and are based on consumers' judgments about what they like or dislike about a product or brand (Spears and Singh, 2004). In most cases, consumers might first have an experience with its marketing communication activities and then subsequently form a judgment about the brand based on personal consumption experience and the outcome.

Brand experience is different from product experience, shopping/service experience and consumption experience. The experiential approach offered an original view to consumer behavior and shifted the focus from product consumption experience (functional in nature) to the experiential aspect of consumption: experiential marketing and service consumption experience (Holbrook and Hirschman, 1982; Havlena and Holbrook, 1986; Mano and Oliver, 1993).

Consumers' experience with a brand flows through four stages: Pre-consumption, purchasing, consumption, and post-consumption. Therefore, brand experience is not restricted to consumption experience; instead it occurs whenever there is a direct or indirect interaction with the brand and can affect customers' feelings, brand attitudes, satisfaction (Grace and O'Cass 2005), loyalty (Oliver 1997), and subsequently result in emotional responses or bonds.

**Brand preference:** Brand preference is defined as an attitude to certain brand (Bass and Talarzyk, 1972; Stanton and Lowenhar, 1974). Brand preference reflects the extent to which the customer favors a particular brand in comparison to competing brands in his or her consideration set (Hellier, Geursen, Carr and Rickard, 2003). Brand identity and brand image are two main sources of consumer preference for a particular brand (Aaker, Keller, and Joachimstaler, 2000; Keller 2003). Brand identity refers to a unique set of brand associations that firms manipulate their marketing stimuli, mainly marketing communications, to create or maintain. Keller (2003) has advocated brand preference as an antecedent of brand loyalty and brand equity whereas brand awareness and brand image the antecedents of consumer brand preference (Berry, 2000; De Chernatony and Segal-Horn, 2003; Keller, 2003; Grace and O'Cass, 2005).

Brand are no longer bundles of functional characteristics but are means of providing experiences (Schmitt, 1999). The experiential view of brand preference considers together the combined influences of cognitive,

emotional, and hedonic responses of buying and consumption on the development and dynamics of brand preference (Holbrook and Hirschman, 1982; Pappu and Quester, 2008). The conventional approach explaining variations in brand preference is cognitive in nature and derived from product attribute model (e.g. Fishbein, 1965) and thus encourages marketers to manipulate brand attributes to facilitate preference construction. This attribute-based perspective places emphasis on the role of product information conveyed via marketing communication activities in the formation and change of brand preference.

**Advertisement:** Advertising can be personal or non-personal presentation and promotion of brands. Alrect and Settle (1999) have suggested that consumer preferences for a product or brand might be built through one or more of six distinct modes: need association, mood association, sub-conscious motivation, behavior modification, cognitive processing, and model emulation. The last two modes are largely based on the information given in the brand's marketing communication activities like advertisements and PR events.

Previous studies have reported positive relations between perceived advertising and brand preference (Kirmani and Wright, 1989; Kirmani, 1990; Moorthy and Hawkins, 2005). Thus, consumers generally perceive highly advertised brands as higher quality brands (Yoo, Donthu and Lee, 2000; Bravo Gil, Fraj Andres and Martinez Salinas, 2007). Advertising can also create favorable, strong and unique brand associations (Cobb-Walgreen, Ruble and Donthu, 1995; Keller, 2007) that provoke positive attitudes toward the brand. Therefore, the following hypotheses are proposed:

**H1:** Advertising has positive influence on brand preference

**Sales promotion :** Sales promotions add value to the product and contribute to perceived gain experienced by the consumer (Mendez, Schwindt and Bortolus, 2015). Palazon-Vidal and Delgao-Ballestr (2005) confirmed a positive relationship between sales promotions and brand loyalty. Sales promotions provide information that helps build brand knowledge and stimulate favorable associations. An enjoyable promotion experience will promote consumers to link the brand will more favorable and positive brand associations that subsequently enhance brand preference.

Promotions also influence long-term consumer behavior (Van Heerde and Neslin, 2008). The study by Northwestern University (2002) disclosed promotions could enhance a consumer's brand experience and lead to consumers' stronger commitment in a brand-consumer consumer relationship.

However, it has been argued that subject to the characteristics of the sales promotion and the promoted product, promotions can have a mix effect on brand preference, either positive or negative (DelVecchio, Henard and Freling, 2006). However, sales promotions that deliver hedonic benefits and enjoyable experience and feelings can help differentiate brands, communicating distinctive brand attributes and contribute to the improved brand equity (Papatla and Krishnamurthi, 1996; Chandon, Wansink and Laurent, 2000; Chu and Keh 2006).

Sales promotions, both monetary and non-monetary ones, provide consumers with an array of utilitarian and hedonic benefits. The former refers to benefits like quality, convenience in shopping, savings in time, effort and cost, whereas the latter includes value expression, exploration, entertainment, intrinsic stimulation and even self-esteem (Chandon, Wansink and Laurent, 2000). Normally, non-monetary promotions provide stronger hedonic benefits but weaker utilitarian benefits (Chandon, Wansink and Laurent, 2000). However, we argue that monetary sales promotions can facilitate evaluation of the consumption outcome by making the consumer receive greater value for money because they reduce the perceived financial risk and the gives associated with the purchase. In this regard, sales promotions not only stimulate purchase interest and shape brand attitudes but also contribute to the perceptions of received greater value from consumption. Therefore, the following hypotheses are proposed accordingly:

**H2a:** Sales promotion has positive influence on customer's perceived value of the brand.

**H2b:** Sales promotion has positive influence on brand preference.

Customer perceived value: Brand experience predicts some components of brand equity such as perceived value and brand loyalty (Brakus, Schmitt and Zarantonello, 2009; Iglesias, Singh, Casabayó, Alamro and Rowley, 2011). The most widely adopted definition of CPV is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). The conventional wisdom is that CPV is subject to consumption experience and hence many measurement scales for CPV are transaction-based. But we believe pre-consumption experience will also contribute to transaction-based CPV and global evaluation of brand experience. Previous studies in general adopted product quality, service quality and price as dimensions of CPV. We followed this practice and suggested the following hypotheses for test:

**H3:** Service experience contributes positively to perceived value.

**H4:** Product quality contributes positively to perceived value.

**H5:** Price (value for money) contributes positively to perceived value.

Brand preference, perceived value and brand loyalty: According to Aaker (1991), brand equity is a multidimensional concept whose core dimensions are brand awareness, perceived quality, brand associations and brand loyalty. Brand equity is expected to increase customers' value and their intention for buying and enhance market performance (Cronin, Brady and Hult, 2000; Petrick, 2002; Baldauf, Cravens and Binder, 2003; Brady, Knight, Cronin, Tomas, Hult, and Keillor, 2005). Brand experience determines customer satisfaction and brand loyalty and provokes favorable brand associations that consequently enhance brand preference and brand trust (Keller, 2003; Brakus, Schmitt and Zarantonello, 2009)

For instance, a positive, memorable, and holistic brand experience of a service contributes to establishing a trustworthy relationship with the customer, resulted in brand loyalty (Owren, 2013). Recent studies in Hong Kong have reported a positive and highly significant effect of CPV on behavioral intentions for domestic and tourist shoppers in Hong Kong (Lloyd, Yip and Luk, 2011). Besides, CPV positively affects behavioral intentions of both luxury and mass fashion shoppers (Lloyd and Luk, 2011). Accordingly, the following hypotheses are developed:

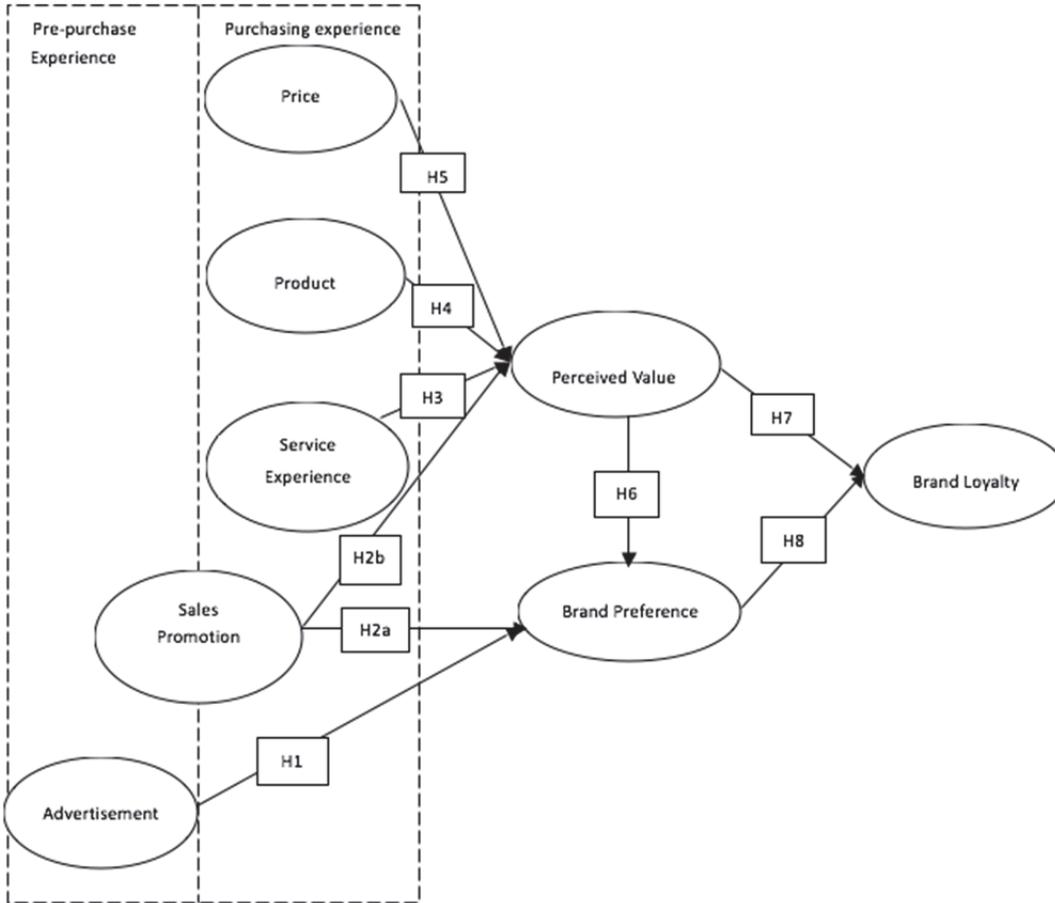
**H6.** Perceived value has a positive impact on brand preference.

**H7.** Customer's perceived value has a positive impact on brand loyalty.

**H8.** Brand preference has a positive impact on brand loyalty.

Fig.1 describes the conceptual model and all hypotheses

FIGURE (1): CONCEPTUAL MODEL AND HYPOTHESES



**Research Methods**

Sampling: The present study collected data from Hong Kong’s cosmetics retail market to test the hypothetical relationships among perceptions of pre-consumption marketing communications, consumption experience, brand preference, customer perceived value, brand loyalty and self congruence. Face-to-face interviews were conducted using mall-intercept technique to recruit respondents with convenience sampling method during the period from April to May, 2015. Experienced interviewers approached the shoppers immediately after they finished shopping. Of the 504 received questionnaires, 479 valid questionnaires were used for statistical analysis. Table (1) describes the respondent profile.

TABLE 1: DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

Category	Percentage
Gender	
Female	97.1%
Male	2.9%
Age(in years)	
Below 20	8.4%
21~30	35.1%
31~40	40.3%
41~50	14.8%
Over 51	1%
Monthly income(monthly in HK\$)	
Less than HK\$ 5,000	24%
HK\$ 5,001-10,000	32%
HK\$ 10,001-20,000	33%
Over HK\$ 20,000	13%
Education level	
High school or below	42.5%
College/University	56.3%
Postgraduate degree	1.2%
Home city	
Mainland China	56.4%
Hong Kong	31.5%
Others	12.1%

Measures: All measures were adopted from the existing scales that have been proved to be robust Sales promotion (3 items), advertisement (4 items), brand preference(5 items), perceived value(3 items), service experience(3 items), product factor(3 items), price(2 items) and brand loyalty(4 items). The questionnaire adopted the Likert 7 items as measurement items, with values ranging from 1 (strongly disagree/very low/far below your expectation) to 7 (strongly agree/very high/far above your expectation).

## Findings and Discussion

Since we collected all our data from the same source in a single survey, our study may suffer from common method variance (CMV), we followed the procedures minimize the risk of common method variance as recommended by (Podsakoff, MacKenzie and Lee, 2003). No personal information from the participants was collected from the participants to ensure complete anonymity and hence reduced the possibility of socially desirable responding and evaluation apprehension. No compensation was provided to the respondents to prevent any self-selection bias, plus the sequences of the questions were not aligned in the order implied by relevant theories. We also used scales with different response formats (Likert and semantic differential to reduce the “method bias due to the commonalities in scale endpoints and anchoring effects” (Podsakoff, MacKenzie and Lee, 2003). In fact, the Hartman one-factor test indicated no dominant factor, suggesting the common method variance should not be a serious concern here.

Measurement model: As shown in Table (2) and (3), the Cronbach Alpha value of each scale is higher than the threshold of 0.7, suggesting a high level of reliability. The results of Confirmatory Factor analysis show that all standardised factor loading values are above 0.5, ranging from 0.586 to 0.971. All Composite reliability values are greater than 0.7, ranging from 0.807 to 0.950. In addition, the average variance extracted (AVE) values all are above the cut-off value of 0.5, from 0.567 to 0.905, The fit statistics indicate the measurement model has adequate level of fit: CFI = 0.947, NFI = 0.911, IFI = 0.947, and RMSEA = 0.053.

With respect to the convergent validity, all of the items are statistically significant at t-value greater than 1.96 and all standardized loading coefficients are greater 0.50 (Steenkamp and Van Trijp, 1991). As illustrated in Table (3), the square root of the AVE value of individual construct is larger than its correlation with other constructs (Fornell and Larcker, 1981), providing support to discriminant validity.

Structural model and invariance test: We use maximum likelihood estimation method to estimate path coefficients between variables in the structural model (Figure 1), the results show that a good model fit and support all the hypotheses. Advertisement is positively related to brand preference; sales promotion is positively related to perceived value and brand preference; service, products and price have positive contributions to the perceived value that will enhance brand preference positively; finally, higher level of brand preference and perceived value will lead to higher level of brand loyalty.

## Conclusion: Limitations and Further Research

Our study perhaps represents the first attempt to test the combined effect of pre-consumption and post-consumption experience on brand equity. The findings show how brand preference is shaped and developed by both pre-consumption and consumption experience. In particular, sales promotions have long been considered as a pre-consumption marketing mix element used to stimulate purchase interest and influence brand attitudes like brand preference. Our findings reveal that sales promotions can also be part of the consumption experience that determine the perceived value of consumption outcome.

Brand experience is the delivery of brand promised values at pre-purchase, purchasing and post-purchase stages. Our study focuses on pre-consumption and consumption but excludes post-purchase brand experience, future research should include post-consumption experience to investigate the effect of holistic brand experience on the perceived value of the brand and other major measures of brand equity.

Brand managers base on consumer attitude information and brand health check results to guide marketing strategies and actions that help improve business performance of the brands. Our findings offer constructive guidance for marketing spending decisions. For instance, investment in advertising and sales promotions aiming at

shaping brand preference is justified. Sales promotions can also influence brand evaluation by making consumers feel that they have gained more from the brand.

This study only based on the data from one retail category and thus the generalizability of the findings is open to debate. Future research should include more industries to enhance generalizability. The theory of holistic brand experience requires the researchers to ask about touchpoints holistically, but respondents very likely find it difficult to remember their experience at all touchpoints accurately (Wind and Lerner, 1979). Though we only required respondents to recall their experiences with the key touchpoints in both pre-consumption and consumption phase, some respondents in our survey might have encountered the same memory problem. Moreover, we treated touchpoints as independent and this simplification ignored the dynamics of brand experience and may bias the analysis. Future research should pay attention to deal with the aforesaid issues.

TABLE 2: MEASUREMENT ITEMS AND VALIDITY ASSESSMENT

	Standardized Factor Loading
Sales promotion: CR = .817; AVE = .599; Cronbach's $\alpha$ = .811	
- I enjoy buying products at promotion offer, regardless of the amount I save by doing so.	.706
- Receiving a promotional offer with a product purchase makes me feel like I am a smart shopper.	.863
- The promotion offer makes me feel that the purchase is more than just "value for money".	.745
Advertisement: CR = .895; AVE = .681; Cronbach's $\alpha$ = .892	
- Dislike	.785
- Unfavorable	.883
- Feel negative	.839
-Unappealing	.790
Service experience: CR = .804; AVE = .583; Cronbach's $\alpha$ = .788	
-Service employees at this store are willing to help customers.	.590
- Service employees at this store showed respected to me.	.825
- Service personnel at this store were flexible in responding to my requests.	.849
Product factor: CR = .803; AVE = .579; Cronbach's $\alpha$ = .795	
- This store has a lot of variety.	.742
- Products in this store are of consistent quality.	.854
- Products in this store are of good design.	.676
Price: CR = .940; AVE = .888; Cronbach's $\alpha$ = .950	
- Goods at this store are reasonably priced.	.882
- Goods at this store offer value for money.	.999
Brand preference: CR = .889; AVE = .616; Cronbach's $\alpha$ = .886	
- I like this retail brand	.882
- This retail brand is good	.804
- I react favorably to this retail brand	.732
- I feel positively toward this retail brand	.817
- I feel trustworthy toward this retail brand	.744
Perceived value: CR = .891; AVE = .733; Cronbach's $\alpha$ = .889	
- Overall my satisfaction with the service offered at this store is...	.786
- Overall, the value of the service/products offered to me at this store is...	.890
- Compared to what I had give up (e.g. time/money), the overall ability of this store to satisfy my needs is...	.888
Brand loyalty: CR = .837; AVE = .566; Cronbach's $\alpha$ = .831	
-I will share my shopping experience about this store with others.	.712
- I will make positive comments about this store.	.834
- I will recommend this store to others.	.808
- I plan to shop at this store again.	.638

$\chi^2$  (DF) = 686.385 (296)\*\*\*; SRMR = .046; CFI = .947; NFI = .911; IFI = .947; RMSEA = .053

\* $p$ < .05, \*\* $p$ < .01, \*\*\* $p$ < .001

Notes: CR = composite reliability

Scale Items (Factor Loadings & Descriptive Statistics)

Scale Items	<u>Std Factor</u>		<u>Descriptives – Mean (Std. Dev.)</u>		
	<u>Loadings</u>		Overall N=479	Low SC N=262	High SC N=217
	Low SC N=262	High SC N=217			
<b><i>Sales promotion</i></b>					
			<b>5.57</b>	<b>5.41</b>	<b>5.75</b>
			<b>(0.76)</b>	<b>(0.74)</b>	<b>(0.74)</b>
1. I enjoy buying products at promotion offer, regardless of the amount I save by doing so.	.60	.82	5.56 (0.83)	5.42 (0.84)	5.74 (0.78)
2. Receiving a promotional offer with a product purchase makes me feel like I am a smart shopper.	.80	.93	5.55 (0.92)	5.38 (0.95)	5.76 (0.85)
3. The promotion offer makes me feel that the purchase is more than just “value for money”.	.76	.71	5.59 (0.92)	5.45 (0.91)	5.76 (0.90)
<b><i>Advertisement</i></b>					
			<b>4.83</b>	<b>4.74</b>	<b>4.94</b>
			<b>(0.56)</b>	<b>(0.54)</b>	<b>(0.57)</b>
4. Dislike	.75	.81	4.85 (0.62)	4.75 (0.59)	4.96 (0.63)
5. Unfavorable	.86	.91	4.85 (0.62)	4.76 (0.63)	4.95 (0.60)
6. Feel negative	.81	.86	4.88 (0.64)	4.78 (0.63)	5.00 (0.64)
7. Unappealing	.81	.76	4.75 (0.71)	4.67 (0.69)	4.85 (0.72)
<b><i>Service experience</i></b>					
			<b>5.42</b>	<b>5.33</b>	<b>5.52</b>
			<b>(0.62)</b>	<b>(0.60)</b>	<b>(0.64)</b>
8. Service employees at this store are willing to help customers.	.59	.57	5.37 (0.77)	5.23 (0.77)	5.54 (0.73)
9. Service employees at this store showed respected to me.	.75	.88	5.42 (0.73)	5.36 (0.72)	5.49 (0.74)
10. Service personnel at this store were flexible in responding to my requests.	.83	.90	5.48 (0.74)	5.43 (0.71)	5.53 (0.76)
<b><i>Product factor</i></b>					
			<b>5.42</b>	<b>5.35</b>	<b>5.51</b>
			<b>(0.61)</b>	<b>(0.63)</b>	<b>(0.56)</b>
11. This store has a lot of variety.	.75	.72	5.46 (0.71)	5.38 (0.74)	5.55 (0.66)
12. Products in this store are of consistent quality.	.84	.87	5.43 (0.69)	5.35 (0.73)	5.53 (0.63)
13. Products in this store are of good design.	.72	.62	5.37 (0.76)	5.32 (0.76)	5.43 (0.76)
<b><i>Price</i></b>					
			<b>4.90</b>	<b>4.64</b>	<b>5.22</b>
			<b>(0.82)</b>	<b>(0.79)</b>	<b>(0.73)</b>
14. Goods at this store are reasonably priced.	.81	.92	4.89 (0.83)	4.61 (0.80)	5.22 (0.75)
15. Goods at this store offer value for money.	.99	.99	4.92 (0.84)	4.68 (0.84)	5.21 (0.74)
<b><i>Brand preference</i></b>					
			<b>5.13</b>	<b>4.97</b>	<b>5.32</b>
			<b>(0.61)</b>	<b>(0.58)</b>	<b>(0.59)</b>
16. I like this retail brand	.82	.79	5.09 (0.72)	4.91 (0.67)	5.29 (0.72)
17. This retail brand is good	.80	.77	5.19 (0.72)	5.04 (0.71)	5.38 (0.69)
18. I react favorably to this retail brand	.73	.74	5.15 (0.76)	5.03 (0.80)	5.29 (0.69)

19. I feel positively toward this retail brand	.78	.84	5.18 (0.67)	5.04 (0.65)	5.35 (0.66)
20. I feel trustworthy toward this retail brand			5.03 (0.79)	4.83 (0.76)	5.26 (0.76)
<b>Perceived value</b>			<b>5.22</b> <b>(0.64)</b>	<b>5.07</b> <b>(0.64)</b>	<b>5.40</b> <b>(0.60)</b>
23. Overall my satisfaction with the service offered at this store is...	.80	.73	5.15 (0.68)	5.00 (0.66)	5.34 (0.67)
24. Overall, the value of the service/products offered to me at this store is...	.88	.89	5.26 (0.73)	5.10 (0.74)	5.45 (0.66)
25. Compared to what I had give up (e.g. time/money), the overall ability of this store to satisfy my needs is...	.88	.89	5.26 (0.72)	5.13 (0.72)	5.45 (0.68)
<b>Brand loyalty</b>			<b>4.99</b> <b>(0.68)</b>	<b>4.81</b> <b>(0.69)</b>	<b>5.20</b> <b>(0.60)</b>
26. I will share my shopping experience about this store with others.	.75	.60	4.97 (0.92)	4.79 (0.99)	5.18 (0.78)
27. I will make positive comments about this store.	.86	.77	5.16 (0.77)	4.98 (0.78)	5.36 (0.71)
28. I will recommend this store to others.	.75	.85	4.95 (0.85)	4.76 (0.88)	5.19 (0.75)
29. I plan to shop at this store again.	.56	.70	4.89 (0.79)	4.73 (0.76)	5.07 (0.78)

TABLE 3 : CORRELATION MATRIX AND DISCRIMINANT VALIDITY

Construct	M	SD	Construct								
			1	2	3	4	5	6	7	8	
1. Price	4.90	.82	<i>.952</i>								
2. Service experience	5.42	.62	<i>.207</i>	<i>.767</i>							
3. Product factor	5.42	.61	<i>.235</i>	<i>.561</i>	<i>.785</i>						
4. Sales promotion	5.57	.76	<i>.021</i>	<i>.240</i>	<i>.178</i>	<i>.774</i>					
5. Advertisement	4.83	.56	<i>.103</i>	<i>.237</i>	<i>.325</i>	<i>.231</i>	<i>.822</i>				
6. Brand preference	5.13	.61	<i>.172</i>	<i>.351</i>	<i>.359</i>	<i>.321</i>	<i>.552</i>	<i>.785</i>			
7. Perceived value	5.22	.64	<i>.284</i>	<i>.434</i>	<i>.471</i>	<i>.347</i>	<i>.440</i>	<i>.476</i>	<i>.856</i>		
8. Brand loyalty	4.99	.68	<i>.180</i>	<i>.413</i>	<i>.345</i>	<i>.342</i>	<i>.465</i>	<i>.580</i>	<i>.590</i>	<i>.753</i>	

\*p &lt; .05, \*\*p &lt; .01, \*\*\*p &lt; .001

# Sq. roots of AVE were shown in italic

TABLE 4: RESULTS OF SEM ANALYSIS

	Full Sample
	N=479
H1 Advertisement > Brand preference	.363***
H2a Sales promotion > Perceived value	.282***
H2b Sales promotion > Brand preference	.153**
H3 Service experience > Perceived value	.228***
H4 Product factor > Perceived value	.309***
H5 Price > Perceived value	.196***
H6 Perceived value > Brand preference	.316***
H7 Perceived value > Brand loyalty	.400***
H8 Brand preference > Brand loyalty	.391***
$\chi^2$	943.197***
DF	315
$\chi^2 / df$	2.994
CFI	.915
NFI	.878
IFI	.915
GFI	.864
RMSEA	.065
sRMR	.137

# p &lt; .10; \*p &lt; .05; \*\*p &lt; .01; \*\*\*p &lt; .001

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## ***Interface between Marketing, Social Policy and Development: An Evaluation and Future Directions for a Global Economy***

*By Dr. Rodney Oudan*

This paper focuses on exploratory study of the role of marketing social policy and development for emerging economies as they move toward a market-driven economic environment. There is an emphasis on historical reviews as a foundation. Deductive analysis from theoretical reviews and transcripts which have revealed that marketing is still the developmental stages and has become a necessary element for the future direction of these economies. Following the findings the paper provides managerial marketing implications and highlights market orientation and market-driven approach is necessary in a global economy context for the greater social good.

“What we are engaged in today is essentially a race between the promise of economic development and the threat of international worldwide class war. The economic development is the opportunity of this age. The class war is the danger. Both are new. Both are indeed so new that most of us do not even see them as yet. But they are the essential economic realities of this industrial age of ours. And whether we shall realize the opportunity or succumb to the danger will largely decide not only the economic future of this world – it may largely decide its spiritual, its intellectual, its political, and its social future.”

– Peter F. Drucker, Parlin Memorial Lecture on  
Marketing and Economic Development, June 6, 1957

Ducker’s prediction, made nearly 50 years ago, is upon us today as a stark reality. Dholakia and Dholakia (1984) argue that while there has been significant economic development on the global scale, it has been skewed heavily in favor of the already affluent sections of the world population. The discontentment due to this increasing disparity in the economic development has multiplied manifold because of the widespread progress in communications. The television and telephone have reached where bread has not. Seeing life in developed societies being depicted on TV raises expectations initially, but over time, it results in frustration. The unfulfilled promise of development is creating huge populations of frustrated people, who take recourse to violence, militancy, terrorism, extortion and vengeance. Drucker’s class war is at our doorstep, but there is still time to avert it through positive action. Drucker (1954) argued that marketing can go a long way to promoting economic development in developing countries. This study will show that marketing can be a very valuable tool in bringing the benefits of economic development to developing countries, and that it can contribute significantly to optimizing the utility of these benefits.

Several scholars (Drucker, 1958; Rostow, 1964; Bartels & Jenkins, 1977; and Cundiff & Hilger, 1982) have examined marketing’s role in fostering development in emerging global economies. “Development” is the process of raising the level of prosperity and material living in a society through increasing the productivity and efficiency of its economy. In less industrialized regions, this process is believed to be achieved by an increase in industrial production and a relative decline in the importance of agricultural production. Development of a region or a country gains urgency based on the disparity it suffers in comparison with the more affluent or developed countries in its vicinity or with whom it has active bilateral relations. In the present context, the speed and ease of instantaneous electronic communications, the global world has become very small, in that there is nothing the peoples of one country do not know about the life and economic condition of people of distant lands. This knowledge, besides its many advantages, also breeds frustration and unrest among people living in less advanced countries. This unrest, when allowed to persist, transforms into frustration and militancy. To combat this situation, a large number of emerging countries have to open up their economies to a market-driven approach and trade liberalization, because, historically, experiments with communist and socialist systems have failed to lift the

economies of these countries to global levels. On the other hand, they have become victims of bureaucratic and business corruption and inefficiency. This has resulted in the gap between the “haves” and “have-nots” increasing to a dangerous level.

Another aspect of life in emerging countries is the rapid growth of population, which absorbs whatever resources are available for the economic upliftment of its existing population. The increase in population introduces large numbers of young people into the job market. In most cases this population growth is faster than the growth of jobs, resulting in ever-increasing unemployment (Kinsey, 2001). This increase in population growth and trade liberalization has now made these countries attractive markets for foreign investment and marketing.

A market economy gives a free hand to individuals and groups of individuals to do business their way and to compete freely in the marketplace. Of course, this requires effective regulation of businesses, including the marketplace itself, by government agencies. The market determines what the customer desires, and the business exerts to meet those desires, so that its product sells, leading to profits and growth. It is in this context that the marketing concept assumes such overarching importance, and clearly, it is very important for any business in this type of economy to define its market orientation.

In the last four decades, researchers have established that companies with a better market orientation perform better financially and are more popular with their customers and stakeholders. Employees of these companies also appear to be more contented than others.

In 1958, Peter Drucker stressed the role of marketing in economic development from several perspectives, and he noted the absence of marketing in planned economies of totalitarian forms of governments. In the world of the 1980s, developing nations aspired, more than ever, for economic growth, trade and better standards of living. Schneider (2005) argues that marketing stimulates growth and development and is difficult to understate. Imports bring additional competition and variety to domestic markets, benefiting consumers, and exports enlarge markets for domestic production, benefiting businesses. Marketing exposes domestic firms to the best practices of foreign firms and to the demands of discerning customers, encouraging greater efficiency giving firms access to improved capital inputs such as technology, greater productivity and providing new opportunities for growth and innovation.

Kotler (1987), stresses that marketing have played a major role in helping today’s leading economies arrive at their current levels of development, and he stresses that emerging countries need to import modern marketing ideas. Marketing, he argued, is the match that will ignite the economic takeoff of these countries. According to Kotler, Marketing may be seen as the coordination of resources and activities directed at satisfying customer needs and wants. Marketing is the business function that identifies unfulfilled needs and wants, defines and measures their magnitude, determines which target market the organization can best serve, decides on the appropriate products, pricing and promotion programs to serve these markets and calls upon everyone to think of and serve the customer. From a societal point of view, marketing is the link between a society’s material requirements and its economic patterns of response (Kotler 2009)

Marketing can play a stimulative role in economic and social development by promoting economic growth through foreign direct investment. (Kindra, 1984). Before more fully exploring various aspects of marketing’s role in economic development, it will be useful to review some definitional and conceptual issues regarding the terms “marketing” and “development.”

According to Kotler, marketing is the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives. He argues that it relies heavily on designing the organization’s offering in terms of the target market’s needs and desires, and on using effective pricing, communications, and distribution to inform, motivate, and service the markets (Kotler, 1982). The second definition, given by the American Marketing

Association, states that “marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives” (American Marketing Association, 1985, p. 1) The Chartered Institute of Marketing 2008 defines marketing is the managerial process of identifying and satisfying customers needs and requirements profitable

Ellis (2005) argues that the marketing concept is universal construct when measured in terms of specific business activities and institutions with a market orientation tend to perform better in the market place. However, Ellis (2004) said that market orientation will affected by the size and level of development of the host market. Marketing is seen as a process of exchange that futhers societal goal.

### **Government’s Role**

In the past government in most emerging economies minimized the need for scientific marketing principles. The economy was seen as one that concentrated on the production of raw materials and scarce resources for export. The economy’s prosperity was historically based on the production-driven strategy (Kinsey 1988). In early studies by Cook (1959) and Boyd (1959, 1961) discussed the role governments can play to increase market demand and marketing expenditure through incentives that help firms achieve economies of scale. They emphasized the need to reduce foreign controls that repatriate profits to home nations and to reduce the number of small-scale inefficient traders that give rise to marketing inefficiencies.

According to Kotler (1987), the government must play four major roles – planner, facilitator, regulator and entrepreneur – in a way that demonstrates market-based thinking and action. The emphasis of each role and the government’s involvement in each varies from country to country, based on the state of development of its economy in general and of different components in particular. For example, in highly developed economies, the government needs to act as an effective facilitator and regulator, because the private sector is sufficiently developed to do its own planning and entrepreneurship. The government becomes, mainly, a regulator of fair practices. It also facilitates those sectors of business which need support or which seem to have suffered due to circumstances beyond their control or which have a direct bearing of issues of national importance. On the other hand, in less developed economies, the government may play a major role in planning of national economy to guide it along a path of growth and towards the nation’s well being. It may need to take on the role of entrepreneur in sectors which the private sector does not find attractive due to low profits and long gestation periods. However, as the economy grows and the private sector develops financial strength, the government’s role as planner and entrepreneur must gradually decrease, but the roles of facilitating and regulating must get strengthened.

As a planner, the government must define the direction in which the developing economy should move in the world trade picture. The government must search for value-adding opportunities so that the economy is less dependent on world commodities prices. This requires careful marketing research and data analysis. The government must evolve plans and policies that exert a formative influence on the economy. The plan must revolve around an “action strategy” (Varadarajan, 1984, p. 125). Planning for an effective marketing and distribution infrastructure is another important government function in developing countries, where the size of existing businesses does not permit the business community to undertake development of such infrastructure. This includes an efficient network of surface, air and sea transportation, specialized storage facilities and data banks.

As a facilitator, the government needs to create and kindle entrepreneurial energy in society. The current liberalization and globalization of economies of developing countries has increased the responsibilities and activities of governments in encouraging and facilitating the growth of business (Mallampally and Sauvart, 1999, p. 37). Issues like market entry, foreign ownership and coherence between FDI policies and trade policies have become critical to economic development. Governments also play an important role in development of marketing education, market research, large data bases and the like in facilitating economic development (Varadarajan, 1984, p. 126). Another aspect of facilitating business is the framing of market credit policies and control of prices through

subsidies and price control where required (Varadarajan, 1984, p. 125). The influence of these measures on macro-marketing systems in a developing economy is vital as the costing, pricing and market competition systems in these countries are still fairly under-developed.

As a regulator, the government must establish rules and regulations to encourage trade. In this role, the government must create a legal and administrative framework to enforce business ethics, and develop regulations to ensure a level playing field and protect consumer rights and welfare. The laws and agencies created to enforce these regulations must deter malpractices and foster a healthy competition (Varadarajan, 1984, p. 127). A universal system of weights and measures, audits and regulatory bodies form the backbone of the regulatory system. In the case of some basic commodities, price controls and price regulation fall under the umbrella of regulation of business.

As an entrepreneur, the government should determine which business industries it will own and operate (Kotler, 2003). According to the IMF, governments in developing countries have, during the past decade, begun liberalizing their national policies to establish a hospitable regulatory framework by relaxing rules regarding market entry and foreign ownership and are moving away from being centrally planned towards being market-driven. In developing countries, the establishment of marketing boards, trading houses and marketing cooperatives, becomes essential till the private sector is able to undertake macro-marketing functions on a gradually increasing scale (Varadarajan, 1984, p. 127).

### **Role of Multinationals**

The multinational variable is an active force for introducing marketing principles and methods and applying them to emerging economies (Kinsey, 1988, p. 24). According to the IMF and 1988 World Bank statistics, global marketing has shown a consistently increasing trend, from 3% of the world GDP in 1970 to nearly 20% in 2000. This accounts for 54,000 multinational corporations doing business globally (Mallampally & Sauvant, 1999).

Multinationals bring with them a treasure of funds, knowledge, expertise and work culture, which can literally change not only the marketing systems, but also the entire business environment of the country. With reference to the contribution of Sears, Roebuck and Co., then the world's largest retailing chain, to economic development in Latin America, Drucker (1958) notes that the entry of Sears into the Latin American market forced spectacular changes in retailing over wide surrounding areas such as store modernization, customer credit, retailers' attitude towards customers, selection and training of sales personnel, vendor development, assortment and quality of merchandise, pricing, inventory control, advertising and sales promotion. Sears, by selling goods manufactured in these countries, has helped in the establishment of hundreds of local manufacturers who were assured of a market for their product where previously there was none. The insistence by Sears of high standards of workmanship, quality, service and delivery is reported to have accelerated the adoption of more progressive management techniques.

Similarly, Hindustan Lever (a subsidiary of Unilever) in India is like a state within a state. In 1984, when the Indian economy had not yet been opened up fully for foreign companies, Hindustan Lever had the most extensive production and retailing network in the country. It had 22 factories and 400 salesmen covering 220,000 retail outlets in 3600 markets. In an interesting study on the role of multinationals, Dawson (1980) suggested a number of actions. Specifically, according to him, profitable relationships can be realized if multinational corporate strategies are compatible with national development plans, reflect social responsiveness, provide for local enterprise participation, reflect understanding of inter-regional differences, preserve national identity and culture, and adapt to rapid changes (Dawson, 1980, p. 182).

Kayak (1982) commented on the effectiveness of multinationals, stating their importance and relevance to these economies. He indicated that most emerging nations see multinationals as reducing the cost of imports and

improving the standard of living. Kinsey (1988) referred to the injection of multinationals in the last thirty years as being unprecedented on the removal of protectionist policies and a market driven approach by selected emerging economies. She indicated that products marketed in developed countries are considered suitable for new markets elsewhere, notably in developing countries, by using effective marketing strategies to target markets.

### **Role of the Commercial Sector**

In emerging markets, the commercial sector is highly underdeveloped. Kinsey (1988) made the point that “there are very few indigenous marketers in these countries, if the marketer is defined as someone who understands and applies marketing in order to create, build and maintain beneficial relationships with target markets. Most of the commercial sector in developing countries is production oriented, neglecting market research and a marketing planning” (p.124). In order to move away from this situation, the indigenous marketer must adapt to a marketing system approach.

Early researchers like Holton (1953) and Hirsch (1961) noted that the macro-profit sector of economic development devoted almost exclusive attention to the problems of increasing industry’s production levels, correcting unfavorable balances of trade and reducing capital shortages. They investigated the universally applicable marketing principles of profit growth through expansion of buying, selling, risk taking, credit extension and sorting and assorting of goods in the distribution channels. Then, Abbott (1963) and McCarthy (1963) investigated inefficiencies in the marketing institutions that bridge the gap between producers and consumers. They concluded that not just more wholesalers and retailers are needed, but more effective and efficient marketing system and orientation.

### **Marketing Orientation and Development**

“Marketing concept” is a business philosophy that holds that the key to achieving organizational goals consists of determining the needs of target markets and delivering the desired outcome more effectively and efficiently than competitors. Also, a marketing concept starts with a well defined market, focuses on customers needs, and coordinates all activities that will affect customers and produces profit through creating customer satisfaction (Kotler, 2005). Marketing is the business function that identifies unfulfilled needs and wants, defines and measures their magnitude, determines which target market the organization can best serve, decides on the appropriate products, pricing and promotion programs to serve these markets and calls upon everyone to think of and serve the customer.

“Market orientation” is the implementation of the marketing concept (Narver & Slater, 1990). Jaworski and Kohli defined market orientation as the organization-wide generation of market intelligence about the current and future needs of customers, forces in the environment, the dissemination of information across different departments in the organization and responsiveness to the information. The result is a business culture committed to creating superior value for customers through an increase in the firm’s performance.

There is a large body of research that asserts a positive relationship among market orientation, organizational performance and economic growth. There has also been a great interest in market orientation as an intangible factor that has an effect on macro organizational performance which can lead to development (Homburg, Krohmer, & Workman, 2004). Market orientation is a business culture that produces performance by creating superior value to customers (Slater & Narver, 2000). Kohli and Jaworski (1990) argued that organizations must innovate in every aspect of their business operations in order to compete and survive in a competitive marketplace. They provided an interpretation of the marketing concept which led to a market orientation. They defined market orientation as the organization-wide generation of market intelligence pertaining to the current and future needs of customers, dissemination of intelligence across departments and the organization-wide responsiveness to it. Slater and Narver found a positive relationship between market orientation and business profitability where market

orientation was primarily concerned with learning from various forms of contact with customers and competitors in the market.

Shapiro (1988) conceptualized market orientation as an organizational decision-making process starting from information and proceeding to execution. At the heart of this process is a strong commitment by management to share information interdepartmentally and to practice open decision-making between functional and divisional employees. The main thrust of Shapiro's (1988) position is that markets and customers must be understood, information needs to permeate into every corporate function, firms ability to make strategic and tactical decisions is important, there must be an open decision-making process, decisions must be well coordinated, and strength and weaknesses of competitors must be understood. Exactly two years later, Kohli and Jaworski (1990) developed the intelligence perspective of market orientation, after their extensive review of the literature. They argued that market orientation involves three behavioral processes including the generation of market intelligence pertaining to current and future needs of the customer, dissemination of intelligence within the organization and also responsiveness to it. Kohli and Jaworski (1990) believed that a measure of market orientation need only assess the degree to which a company is market-oriented, that is, generate intelligence, disseminate intelligence, and takes action accordingly (see also Jaworski and Kohli, 1993; Wood and Bhuian, 1993). Environmental evaluation and analysis is a major antecedent of market orientation. It enables the enterprise to take advantages of opportunities in the environment whilst planning for threats. All the firms do a kind of environmental scanning and analysis. This allows the firms to re-orient their focus and short-term objectives especially with regards to customers. Areas covered include general economic factors, competition in the industry and the entire market, the socio-political environment and the technological environment. (David, 2009; Pearce and Robinson, 2009). For a market oriented organization, there must be system(s) to monitor rapid changes in the environment against the customer's needs and desires and place their concerns at the top-most level of the organizational structure. This will result in customer oriented, competitor oriented and inter-functional coordination activities such as determining the impact of the changes to the customer's satisfaction, improve product innovation, and implement strategy that could develop superiority of the company in order to compete (Kotler and Keller, 2009). To achieve this, intelligence generation, intelligence dissemination and responsiveness to this intelligence are essential to achieving the firms' objectives (Blankson et al., 2006).

Similarly, Narver and Slater (1990), in their study entitled "the effect of market orientation on business profitability", defined market orientation "as the organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and thus, continuous superior performance for the business". According to them, market orientation consists of the three behavioral components including customer orientation, competitor orientation, and inter-functional coordination. According to this perspective, market orientation also involves having a long term focus for growth (Narver 1990).

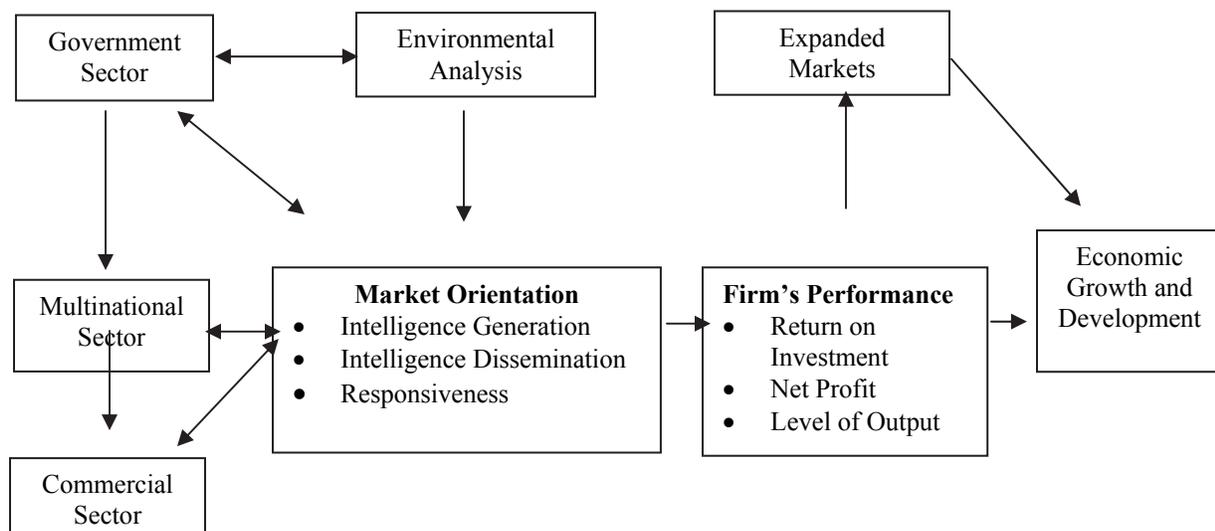
Slater and Narver's earlier findings (1995) suggested that a market-oriented culture is the prerequisite to developing a set of core competencies that will lead to a sustainable competitive advantage. Webster (1992) supported this concept, stating that "marketing as culture is a set of values and beliefs about the central importance of the customer that guide the organization, is primarily the responsibility of leadership" (p.10). Deshpande (1993) suggested that a company's customer orientations and organizational culture determines its business performance. Slater and Narver (2000) focused on the values and beliefs that a market orientation approach encourages, such as the continuous cross-functional learning about customers' needs, expressed and latent, and the development of competitive capabilities and strategies.

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achieve this, intelligence generation, intelligence dissemination and responsiveness to this intelligence are essential to achieving the firms' objectives and the long run development benefits to society ((Blankson et al., 2006).

There has also been increasing interest in the use of market information for strategic purposes. Choe (2003) argued that external factors, such as competition, uncertainty and needs, are the driving forces for strategic applications and provide a competitive advantage when understood and applied effectively. Despite an increase in research and the growing importance of market orientation in marketing literature, there are few comparative studies have been done regarding emerging countries. This limits the understanding of the importance and need for understanding how marketing is carried out in these markets. Deshpande and Webster (1989) pointed out the lack of comparative studies between countries. Increasing attention given to market orientation by both researchers and practitioners is based on the assumption that market orientation improves organizational performance and relies not only on the concept of competitive orientation (Choe, 2003).

Conceptual Model Showing Relationships Between Variables and the Outcome of Economic Growth and Development



*Developed by the Author*

### Summary and Future directions

Most emerging countries seek a better standard of living and are experiencing some degree of industrialization and urbanization. Many have abandoned protectionist policies in recent years (see Vamvakidis, 2002) and are adopting a market –driven approach towards economic development. Marketing, since it is concerned with the satisfaction of needs and wants and the optimum allocation of resources, if used effectively, can ensure that economic development is promoted. Despite the fact that marketing concepts evolved in the advanced world, their most basic purpose is to serve and satisfy human needs and wants, which can be found in any cultural context. Thus, marketing may be considered a strategic element in the structure of any society, since it directly allocates resources and has an important impact on other aspects of economic and social life. Consequently, its relevance to economic development would seem clear (Kinsey, 1988). Second, marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives. Irrespective of its level of development, every economic system is suffused with marketing activities. These activities are carried out by private firms, governments and

individuals (Kaynak, 1986). Third, the adoption of new marketing and distribution methods is vital; as productive capacity increases it will not only yield higher standards of living in developing countries but will also help to create an important source of investable capital to support industrialization (Woodruff, 1958). Finally, since globalization has increased significantly in the past two decades, most developing countries have begun liberalizing their economic policies to establish hospitable environments for foreign investments.

Based on the review of the literature, it is evident that marketing's role in development, and market orientation in particular, is a complex process. This survey of literature suggests that there exists a strong need for increased marketing in emerging countries, and that market orientation can contribute to increased production and improvement of consumption. The literature also suggests that a challenging opportunity awaits the marketing profession and that development calls for interpretations and application of marketing concepts. Most of the authors agree that emerging countries cannot rely on a production system alone, but that a sophisticated marketing system is necessary to achieve global competitiveness. While there are broad general prescriptions being made for the utilization of marketing in emerging countries, what needs to be done is to address what this actually means in practice. The literature indicates that marketing is currently practiced in some form in these countries, but the extent and effectiveness of marketing and development remain to be studied.

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# ***“I am too BUSY!!!!!! Come back some other time” – Exploring the ability of Entertainment Marketing to change this***

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## **Abstract**

*The ability of marketers to reach consumers has increased tremendously with the advent and growth of the entertainment era. The consumers are taking their time out to reach and try new entertainment activities every now and then. This paper finds its relevance in these settings where - marketers breaks out from traditional concepts and embraces the change of amalgamation of entertainment in their marketing endeavors. It explores the definition of entertainment from marketing prospective. It further pinpoints the classification of entertainment marketing. The paper uses the Need for Entertainment (NEnt) scale for ascertaining the requirement of entertainment needs of consumer. With the use of MANOVA the differences across gender and locations has also been studied in this paper.*

**Keywords:** Entertainment, Entertainment Marketing, Need for Entertainment, Gender and Location

## **1. Introduction**

Every day, hundreds or maybe thousands of people are looking for ways to amuse, relax and entertain themselves so as to give them a peace of mind. Life has become so hectic and cumbersome that there is not an inch of free space to try something new. Advertisers are also fighting to grab the attention of consumers by increasing the entertainment level in their advertisements (CNN Money 2007). All the activities of the marketers are directed towards making their campaigns as *entertaining*. But what actually is entertainment? And can we include entertainment as an ingredient with traditional marketing communications or do we need some new paradigms to understand and exploit the full potentialities of entertainment. This study aims to answer all the above stated questions. The paper puts forward the definition of entertainment from marketing prospective. Apart from this, it gives clear conceptualization of entertainment marketing – by classifying them as marketing of entertainment and marketing through entertainment. The paper further implements the Need for Entertainment (NEnt) scale on the Indian audiences to ascertain their entertainment requirements.

## **2. Literature Review**

### **2.1 Entertainment: A Paradox**

Defining something, which is more of an attitude or a feeling towards someone, or something is always difficult for the researchers. Similarly, what actually entertainment unfolds in its definition is cumbersome to pen down. It could be associated with a product or a reaction or a response after using that product (Zillmann and Bryant 1994) or it could be the entire series of emotions the consumer undergoes while consuming the product – for instance a movie (Vorderer 2001). But if we look it carefully there are two essentialities for defining entertainment as “entertainment” –

- 1) It should be associated with money and time (Kaser and Oelkers 2008). Any individual who not only has spare time but also has money to spend - can walk the path of entertainment. However, in some cases even only time at your disposal can also help to get entertained (but these cases are very few and are not included in this study).

- 2) A feeling of joy, happiness and relaxation should come to the individual who undertakes these entertainment activities (Bosshart and Macconi 1998; Zillmann and Bryant 1994).

## **2.2 Entertainment Marketing**

Very easily, entertainment marketing is understood by many as marketing of entertainment - where entertainment is considered as a product – film, music and game and the marketing of this category is termed by many as marketing of entertainment. But in reality entertainment marketing is far wider in scope. It is a hybrid technique of selling products (Balasubramanian 1994) which has nuances of advertising, promotion and sponsorships .It is a marketing technique that can be used to sell not only entertainment products but also non entertainment products – with the theme of entertainment being the centre for both the product categories (Rehman 2014).Through this prospective entertainment marketing is categorized as (Figure 1) :

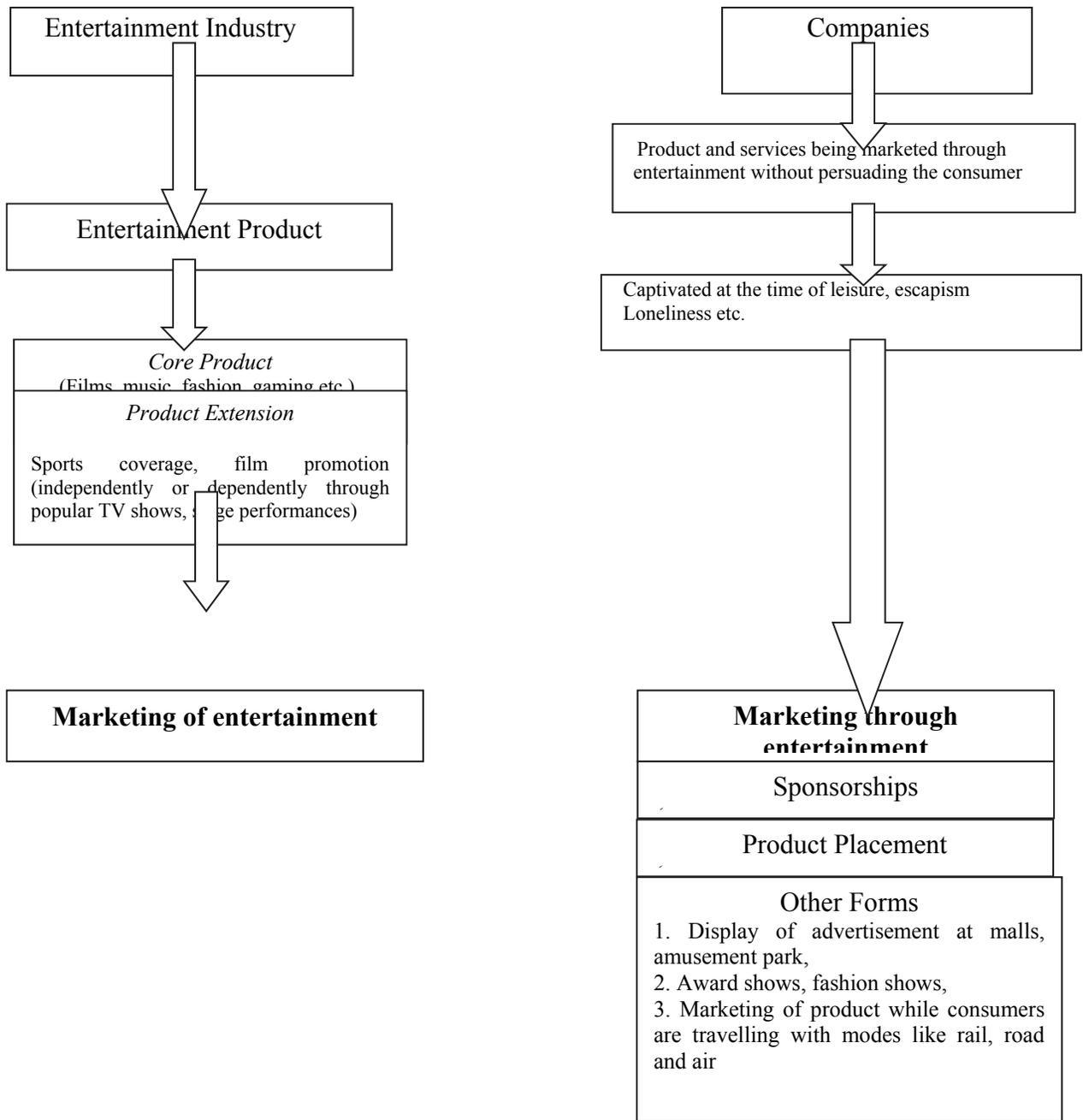


FIGURE 1: CONCEPT OF ENTERTAINMENT MARKETING  
(ADAPTED FROM: REHMAN 2014)

- 1) *Marketing of entertainment* – In this category, entertainment is considered as a product and the marketing is similar to traditional form of marketing. But the only difference is the characteristics of the entertainment product – that is - they are perishable, variable and intangible.
- 2) *Marketing through entertainment* – In this category entertainment is treated as an activity, while the product could be any non-entertainment products like soap, candy, furniture etc. The only difference is that these marketing activities happen when the consumer is totally immersed in his entertainment activities and the marketer promotes and sells his product to him in a way that it does not hamper their flow of happiness. The mostly commonly used example is product placement –where the product is placed unobtrusively in the flow of entertainment (Gupta et al. 2000, d’Astous and Seguin 1999; Karrh 1998).

### 2.3. Need for Entertainment (NEnt) scale

Development of social psychology scale is not only beneficial for consumer psychology but also for studying marketing. Most commonly used scale in the study of consumer behavior are need for cognition (Cacioppo and Petty 1982) and need for affect (Maio and Esses 2001). Due to the upsurge growth in the entertainment industry, lack of time and over boarding of advertisement on the consumer, the researchers have focussed their attention towards entertaining the audience and then convincing and selling the product. Brock and Livingston (2004) have developed the Need for Entertainment (NEnt) scale for understanding the magnitude and impact of entertainment needs on different individuals. NEnt can facilitate the message acceptance rate. This scale was developed on the pretext that when respondents were asked about NEnt they had implicitly understood it as being entertained by media, TV, movies and books. The impact of entertainment on an individual’s life can be gauged with this scale. However, what further needs to be explored is the extent of differences across gender and location for different settings.

- H<sub>1</sub> – There requirement of NEnt vary between genders.  
H<sub>2</sub> – There requirement of NEnt vary between locations.

## 3. Research Methodology

### 3.1. Instrument Design:

The objective behind this study was to ascertain the impact of Need for Entertainment (NEnt) across genders and location. The questionnaire used for the research was the Need for Entertainment (NEnt) scale developed by Brock and Livingston (2004). The questionnaire comprised of three variables – *entertainment drive*, *entertainment utility and passivity* having 12, 4 and 3 items respectively for each identified variable. Thus, making it a 19 item questionnaire. Reverse coding was done for several questions like – “I tend not to seek out new ways to be entertained”, “I do not spend much time during the week on entertaining activities”, “Very little of my money is spent on entertainment”, “It is a waste of tax money to fund entertainment programmes”, “Entertainment is an unnecessary luxury”, “I feel like my time spent on entertainment purposes is generally wasted”, “Entertainment is something you do when you are too lazy to do anything else”. The responses were taken on a five point Likert scale where one denoted strongly disagree and five denoted strongly agree. Though we used a standardised questionnaire for the study, but still its replication on the Indian consumers demanded further validation. Therefore, Cronbach alpha was done for internal consistency of the data. The value of Cronbach alpha ranged from 0.678 to 0.862 (Table 1). Thus, showing that the scale was reliable (George and Mallery, 2003).

TABLE 1: CRONBACH ALPHA

<b>Factors and Items</b>	<b>Cronbach Alpha</b>
Entertainment is the most enjoyable part of life	
I tend not to seek out new ways to be entertained	
I spent a lot of money on entertainment expenses	
I do not spend much time during the week on entertaining activities	
I enjoy being entertained more than my friends do	
I need some entertainment time each and every day	
If I don't have enough fun in the evening I find it hard to function properly the next day	
I think life should be spent being entertained	
I spent most of my free time seeking out entertainment	
Very little of my money is spent on entertainment	
I am always on the lookout for new forms of entertainment	
I could be describes as an "entertainment-oholic"	
<b>Entertainment Utility</b>	<b>0.791</b>
It is a waste of tax money to fund entertainment programmes	
Entertainment is an unnecessary luxury	
I feel like my time spent on entertainment purposes is generally wasted	
Entertainment is something you do when you are too lazy to do anything else	
<b>Passivity</b>	<b>0.862</b>
My idea of entertainment is a situation where everything is done for me	
I prefer to be entertained in ways that don't require any effort from my part	
I like to take active role in my entertainment activities	

### 3.2. Sample Size

The study was conducted in Delhi and Chennai - two major cities of India. Both the cities being capital of two major states – Delhi and Tamil Nadu respectively. They were chosen to represent diversity in the population. The choosen states represented two different parts of the country - Delhi representing North and Chennai South. In spite of being capital cities both Delhi and Chennai are completely different in their outlook namely – people,

customs, culture, food, education, hospitality, safety etc. Thus, the data collected from the population depicted a diverse mix of people and their insights into entertainment experiences.

Overall 80 questionnaires were floated out of which 68 were used for this study ( Males 45 and Females 23). The respondents were from the age groups of 18- 25 years. The sample predominantly comprised of graduate and undergraduate students. Random convenience sampling was used for the study. The respondents were confined only to younger people owing to two reasons – firstly they were more accessible and open to answer the questions and secondly the ease of availability of the respondents.

#### 4. Analysis and Discussions

The research objective of the study was to ascertain the impact of independent variable gender and location on dependent variable Need for Entertainment (NEnt).For this purpose MANOVA was used. The three variables of the NEnt scale – entertainment drive, entertainment utility and passivity are measured separately with gender and location to ascertain their impact on the collected data.

MANOVA results presented in Table 2 shows that both gender and location have a significant impact on NEnt scale. The Wilks Lamda for gender is significant with value of  $f = 2.838$  and  $p < 0.05$ . Similarly the Wilks Lamda for location and gender \* location is also significant with  $f = 2.779$ ;  $p < 0.05$  and  $f = 1.982$ ;  $p < 0.05$  respectively. Furthermore, the **Box's Test of Equality of Covariance Matrices** is also significant ( $p= 0.878$ ;  $p<0.001$ )

TABLE 2 : MANOVA TEST FOR NEED FOR ENTERTAINMENT (NENT)

Effect	Model	F	Sig.**
Location	Wilks' Lamda	2.838	0.043
	Pillai's Trace	2.779	0.027
Gender* Location	Wilks' Lamda	2.779	0.027
	Pillai's Trace	1.982	0.012
	Wilks' Lamda	1.982	0.012

\*\*Significance level = 0.05

Since ,we had obtained a significant multivariate main effect for each factor, we can go ahead and do the univariate F tests (Table 3 ) where we look at each DV (Need for Entertainment) in turn to see if the two IVS (Gender and Location) have a significant impact on them separately. The results showed that there is statistically significant difference between Gender and Entertainment Drive  $f(3, 65) = 8.459$ ,  $p = 0.006$ ;  $p < 0.05$  and Entertainment Utility  $f(3, 65) = 5.665$ ,  $p = 0.003$ ;  $p < 0.05$ . However, the relationship with Passivity was not significant  $f(3, 65) = 2.636$ ,  $p = 0.128$ ;  $p > 0.05$ . Entertainment drive could be understood as the motivation towards entertainment. Since, the data set is comprised of youngsters within the age groups of 18-25 years they are expected to be more entertainment driven. The results also validate this that both the genders are inclined towards entertainment channels for happiness and recreation purpose. The entertainment utility can be explained as the importance or usefulness of entertainment. Being entertained or being connected with the world leads the visibility of individual on social arena with fan groups, activities on social media (Kozinets 2001). Entertainment is something associated with relaxation so that their transportation into fictional world becomes easy (Green and Brock 2000). However, our study depicts that passivity is what both the genders don't associate with .They probably take the channel of marketing through entertainment as their mode of entertainment- where entertainment is associated as a fun filled active participation.

Considering Delhi and Chennai as the location point for this study, we found that there were statistically significant results with Entertainment Utility and Passivity with p values of 0.049 and 0.021 respectively, but not with entertainment drive (p = 0.213). The study has taken into consideration two very important yet very different cities. Their relationship with entertainment differs because of influence of culture or geographic location, as they direct the choice of media channels chosen for entertainment (Hirschman 1982). While taking gender and location together we found significant results in all the three variables Entertainment Drive, Entertainment Utility and Passivity with value of p being 0.034, 0.017 and 0.002 respectively.

TABLE 3: TEST OF BETWEEN – SUBJECTS EFFECTS

Source	Dependent Variable	F	Sig.**
Gender	Entertainment Drive	8.459	0.006
	Entertainment Utility	5.665	0.003
	Passivity	2.636	0.128
Location	Entertainment Drive	1.567	0.213
	Entertainment Utility	3.281	0.049
	Passivity	5.810	0.021
Gender * Location	Entertainment Drive	3.803	0.034
	Entertainment Utility	2.305	0.017
	Passivity	1.560	0.002

\*\* Significance at 0.05

## 5. Conclusion

With the bombardment of advertisement and promotional techniques on consumers mind – there is possibly not an inch left to further explore and capture. Many a times the consumers are multitasking during the time of their exposure to advertisement. This evoked in marketers to try out something more compelling and engrossing than the traditional formats of marketing. The overarching theories of marketing – advertising and sponsorships were blended with the techniques of product placement and gave the origination to the concept of entertainment marketing. Entertainment marketing in itself is classified as marketing of entertainment and marketing through entertainment. Where the former includes entertainment as a product and the later includes entertainment as an activity.

The Need for Entertainment (NEnt) scale was used for the study to understand the entertainment preferences among genders and location. Delhi and Chennai were picked as location for the study for adding a diversity mix to the data. The results of MANOVA revealed significant difference for gender and location which further facilitated conducting univariate analysis. The results of the f test also showed significant difference across genders (entertainment drive and entertainment utility) and location (entertainment utility and passivity).

The study is probably the first of its kind to be implemented on the Indian audiences. Its result will give marketers the idea of entertainment needs of two different regions of India. The gender differences on two entertainment variables – drive and utility will help the marketers to frame marketing campaigns around entertainment marketing that not only motivates the consumers towards it but also have certain relevance in their lives. For instance, watching of television does not only give entertainment at the time of viewing it but it also has pre and post exposure phases in an individual (Levy and Windahl 1984) that also evokes an anxiety of getting entertained. Usually the entertainment activity chosen by the individual is actually a representation of his character and he tends to connect with it more intimately. The level of connectedness also has gender differences. Females for instance are more connected with fictional characters (Bleich, 1978; Rosenblatt 1978 ) while males are detached (Friestad and Wright 1994).The more vivid the connectedness the more easy it is to transport the individual to the fictional world of entertainment (Green and Brock 2000) and this transportation phase is underlining every entertainment activity – Television, computer games, books etc. Each of these phases can be exploited on the dimensions of gender and location to yield fruitful and unobtrusive response from the audiences.

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## *e-Business Decision Making In Mexican Exporting SMEs: An Empirical Study*

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### **Abstract**

*Small and medium sized enterprises (SMEs) are critical to most developed and developing economies. They usually represent the main generator of economic activity and the largest private sector employer group. Effective adoption of an electronic business ebusiness strategy can be used to create value throughout the value chain of any organization. Studies show that nowadays, firms' business strategies supported by the Internet not only create a true competitive advantage, but also reflected long-term profitability. Nevertheless, contrary to early predictions, the evidence suggests that e-business adoption among SMEs has been limited because of resource constraints and a failure to understand the strategic value of e-business. It is thus important to understand what drives these firms to engage in e-business. Importance-Performance Analysis (IPA) offers a simple, yet useful method for simultaneously considering both the importance and performance dimensions when evaluating or defining a strategy. This technique has been successfully utilized to research ebusiness strategies evaluation previously. This study uses IPA to evaluate e-business strategies among Mexican exporting SMEs following a methodology proposed and previously applied in USA. Results indicate that marketing motivations are most important in adopting e-business; improving e-profitability being least important. The present research extends the scope of the analysis of the prior literature on ebusiness strategies and contributes to the debate about whether the path of a "stable" phenomenon differ from the path of one that is more "evolutionary," such as e-business strategy adoption and development.*

**Keywords:** importance–performance analysis, e-business, e-commerce, sme

### **Introduction**

It is widely acknowledged that the emergence of information and communications technology (ICT) have contributed to the rapid growth of electronic marketplace (Norzaidi, Chong, Murali, & Salwani, 2007). The favorable characteristics inherent in the Internet such as speed, user friendliness, low cost and wide accessibility have allowed electronic commerce (ecommerce) to be increasingly diffused globally, bringing countries together

into a global networked economy (Gibbs & Kraemer, 2004). It is for these reasons that ecommerce has been widely regarded as a new frontier for business environment and that businesses all over the globe are attempting to shift to EC to achieve their business objectives (Chandran, Kang, & Leveaux, 2001) in terms of pursuing efficiency and quality (Mougayar, 1998).

Early observers forecasted that it would enable small businesses to “level the playing field” when competing with larger firms (e.g., Hsieh & Lin, 1998; Wilder et al., 1997). The argument was that the ubiquitous nature of this technology would allow small and medium enterprises (SMEs) to deploy ebusiness applications to support all aspects of their operations, enabling them to more effectively compete with larger organizations. For example, by implementing ebusiness applications, SMEs could cost effectively extend market scope (Hamill & Gregory, 1997; Wilder et al., 1997), build name recognition, transform their supply chains, (Rayport & Sviokla, 1995), and track customers’ tastes and preferences (Haynes, Becherer & Helms, 1998). These potential benefits were expected to be the motivating characteristics of ebusiness that would spur ebusiness adoption among SMEs. Nevertheless, while some small firms have achieved strong growth through leveraging ebusiness technologies (Strauss et al., 2003), others have been guarded and slower to adopt these new technologies (Grandon & Pearson, 2004; Thong, 1999; Zank & Vokurka, 2003). Consequently, in contrast to early predictions, several researchers have concluded that the firms benefiting the most from ebusiness have been larger, rather than smaller, organizations (Auger & Gallagher, 1997; Griffith & Krampf, 1998; Hart & Ellis-Chadwick, 2000; Haynes et al., 1998; Jeffcoate et al., 2002; Poon & Swatman, 1999).

Firms are under pressure to “do something” with ebusiness lest they be left behind. These pressures can come from internal or external (e.g. trading partners) sources (Beckinsale, Levy, & Powell, P., 2006; Wymer & Regan, 2005;) and have been identified as important reasons for ebusiness investment (Barnes & Mieczkowska., 2003; Chong & Pervan, 2007). SMEs may be expending their limited resources to implement applications without fully understanding their strategic role within their organizations (Chong & Pervan, 2007; Eikebrokk & Olsen, 2007).

Few studies have focused on the business goals that small firms hope to achieve by engaging in ebusiness. While several recent studies have focused on the realized benefits of ebusiness, yielding valuable information about potential EB opportunities (e.g., Pflughoeft, Ramamurthy, Soofi, Yasai-Ardekani, & Zahedi, F.M 2003; Wu, Mahajan, & Balasubramanian, 2003; Zhuang & Lederer, 2003), there is a scarcity of research focused on understanding the motivations, or the anticipated benefits. As a result, the potential for mismatch between ebusiness goals and deployment of applications is high. Given the potential value of ebusiness to organizations and given that small firms represent the vast majority of businesses worldwide (Kuratko & Hodgetts, 2001), this paucity remains surprising. Understanding why firms, especially small ones, engage in ebusiness is an important step in understanding how to match the plethora of ebusiness applications with appropriate strategy, calling for the development of simple, low cost tools to help SMEs develop more effective approaches to ebusiness planning. This can enable firms to more effectively select, use, and monitor ebusiness investments over time (Auger & Gallagher, 1997; Raymond, 2001) and can help small firms to maximize scarce resources (Auger & Gallagher, 2003). Levenburg and Magal (2005), and Magal, Kosalge and Levenburg (2009), have demonstrated the value of importance-performance analysis (IPA) as a tool to: (1) assess e-businesses strategy based on underlying motivations (i.e., anticipated benefits); and (2) to make resource allocation recommendations. This study applied the framework developed by Magal, et al., (2009) to evaluate why and how Mexican exporting SMEs should engage in ebusiness.

## **Literature review**

The Internet and related technologies have enabled firms to change the way they interact and coordinate value chain activities with customers and suppliers with the objective of improving operational and financial performance. These changes, referred to as Net-enabled business transformation (NBT) (Straub & Watson 2001),

involve substitution of everyday business activities involving paper, telephone, and fax-based communication with electronic transaction and information exchange, and significant redesign of processes, incentives and information technology to enable tighter coordination with customers and suppliers. Such changes may enable firms to enhance customer satisfaction, understand customer preferences, reduce inventory, increase inventory turnover, decrease stock-out situations, and improve response time and time-to-market, which may eventually lead to financial benefits (Barua, Konana, Winston, & Yin, 2004)

IS researchers have adopted the theory of RBV to study how IT helps firms gain business value (e.g., Bharadwaj 2000; Mata, Fuerst, & Barney, 1995; Ross, Beath, & Goodhue, 1996) by treating certain IT and IT-related resources (e.g., IT skills, IT human resources, IT knowledge, IT capability) as rare and valuable. Wade and Hulland (2004) provide an overview of the literature on IT-related resources and their impact on firm strategy and performance. They rely on the definition of resources from Sanchez, Heene, and Thomas, (1996) that resources are a set of assets and capabilities available for a firm that is useful in detecting and responding to market opportunities or threats. Assets, both tangible and intangible, are defined as those resources available for a firm to "use in its processes for creating, producing, and/or offering its products (goods/services) to market," whereas "capabilities are repeatable patterns of actions in the use of [IT] assets" (Wade & Hulland 2004).

IPA is a strategic approach to measure users' satisfaction and simply and functionally identify the strengths and the areas of improvement in a particular service. Martilla and James (1977) first adopted IPA to develop the market strategy of an organization. It is also known as quadrant analysis or gap analysis (Bacon, 2003). IPA is based on a set of theoretical contributions, particularly the multi-attribute and expectancy-value models (Fishbein & Ajzen, 1975; Rosenberg, 1956; Wilkie & Pessemier, 1973). It identifies strengths and weaknesses of brands, products, and services (Keyt, Yavas, & Riecken, 1994; Martilla & James, 1977). It combines measures of attribute importance and performance in a two-dimensional grid; its development leads to the production of a graph in which each criterion is placed on a two-dimensional axis (Martilla & James, 1977). The x-axis is the horizontal axis of a two-dimensional plot. It represents the performance, which is measured by the average score of the criteria of all respondents. The y-axis is the vertical axis and it represents the importance, which is also measured by the average score of the criteria of all participants (Oh, 2001). Finally, the graph produces four zones enabling the classification of service attributes according to their importance and performance (see Figure 1). Each area is the combination of the importance and performance assigned by the users to each service attribute. By examining the points in each zone of the graph, managers can identify which attributes have the most or the least priority for improvement. Zone 1, called "concentrate here", combines the attributes of low performance and high importance. This zone constitutes a priority for managers, in case an action should be taken immediately to improve the performance of the attributes. Zone 2, called "keep up the good work", and represents the attributes for which the performance and importance are high. This area is not a priority for improvement; it is nevertheless necessary to maintain the current efforts on these attributes as they represent a strong competitive advantage for companies. Zone 3, called "low priority", it contains elements with low importance and low performance. It is unnecessary to provide additional effort for these attributes. Finally, zone 4, called "Possible Overkill", it combines attributes with high performance and a low importance score. The resources allocated to these attributes must be reduced or even reallocated for other attributes that are most important to customers. Several advantages arise from the use of IPA (Tarrant & Smith, 2002, p. 70). It displays the results as a grid, which makes finding the data easy for managers to read, to interpret, and then to make decisions, as each zone is associated with a particular strategy for resource allocation (add, maintain, reduce or remain at the same level).

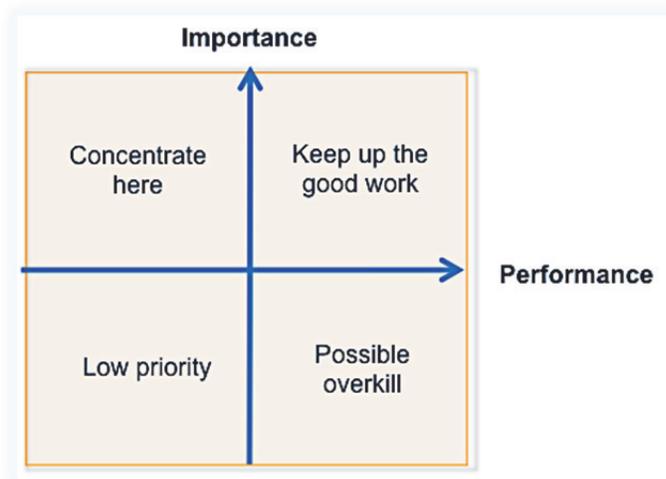


Figure 1. Classic representation of IPA. Source: Martilla and James (1977)

This graph allows an intuitive assessment of its operation and the implementation of appropriate recommendations for management; however, the final location of the axes of the quadrants is one of the main difficulties in IPA. This location will influence the interpretation of the results and the strategic management of the entire organization. (Ferreira Lopes & Frazão Maia, 2012). IPA is based on the conceptual foundations of multi-attribute choice models (Edwards & Newman, 1982; Martilla & James, 1977). These models have been developed as a tool to support managers when formulating product and marketing strategies. IPA is diagnostic in nature, facilitating the identification of attributes for which, given their importance, a product or service under-performs or over-performs.

By using a central tendency e.g. mean, median or a rank-order measure, the attribute importance and performance scores are ordered and classified into high or low categories; then by pairing these two sets of rankings, each attribute is placed into one of the four quadrants of the importance performance grid (Crompton & Duray, 1985). Mean performance and importance scores are used as coordinates for plotting individual attributes on a two-dimensional matrix. This matrix is used to prescribe prioritization of attributes for improvement (Slack, 1991) and can provide guidance for strategy formulation (Burns, 1986).

IPA analysis is a multi-step process. Typically three steps are followed that consist of (a) identifying a list of program attributes that may impact variables management can control, (b) rating the attributes on importance to the experience and how well the agency performed on them, and (c) interpreting the ratings in a two-dimensional grid that also provides a visual data representation (Figure 1). The vertical axis represents the importance scale and the horizontal axis represents the performance scale. Thus, the upper left quadrant represents attributes considered important by respondents, but which rate low in performance. The upper right quadrant signifies attributes considered important by respondents, and that the agency is performing well. The lower left quadrant indicates attributes that are low in both importance and performance and the lower right quadrant represents attributes not considered important, but which respondents rate high in performance. Accordingly, the evaluating organization should provide attention to items in the upper left quadrant, maintain services to those in the upper right, and consider reducing resources to those in the lower right.

Although IPA is an extremely valuable method, previous studies have several important shortcomings. For example, Matzler, Bailom, Hinterhuber, Renzl, & Pichler, (2004) noted that the original IPA has two implicit assumptions: (1) attribute performance and attribute importance are independent variables and (2) the relationship

between attribute performance and overall performance is linear and symmetrical. These assumptions are erroneous in the real world, the relationship between attribute-level performance and overall customer satisfaction (OCS) is asymmetrical (Kano, Seraku, Takahashi, & Tsuji, 1984; Matzler, Rier, Hinterhuber, Renzl, & Stadler, 2005; Matzler & Sauerwein, 2002; Matzler, Sauerwein, & Heischmidt, 2003; Ting & Chen, 2002); and the relationship between attribute performance and attribute importance is causal (Matzler et al., 2004; Oh, 2001; Sampson & Showalter, 1999).

IPA has been applied in a number of settings with relatively little modification in form (e.g., Chon, Weaver, & Kim, 1988; Nitse & Bush, 1993), however other researchers have extended the basic IPA model. Some extensions of IPA pertain to conceptualization and measurement of attribute performance. To ‘importance’ and ‘performance’ Burns (1986) added ‘performance of competitors as a third dimension. Dolinsky and Caputo (1991) apply what appears to be Burn’s extension in a study of health care. In the study conducted by Slack (1994; 66), service performance and competitor’s performance were taken as composite measure by evaluating performance as being ‘better than competitors’. In 1982, O’Leary and Adams described a method for deriving importance measures as a composite ranking of median importance scores and Pearson correlation coefficients. Crompton and Duray (1985) introduced a similar method involving Spearman’s rank order correlations, which are more appropriate given non-parametric data. Dolinsky and Caputo (1991) solicited attribute performance ratings from customers, which are used to derive importance indicators. The performance scores for the attributes were regressed on scores for overall satisfaction – the standardized regression coefficients were used as measures of attribute importance. This is similar to what others have done to determine attribute importance outside of IPA (e. g., Neslin, 1981; Parasuranam et al., 1988; Richard & Allaway, 1993). A slight variation of this method is seen in basic conjoint analysis, which uses dummy variable regression to determine coefficients for specific levels of attributes, and specifies importance as the range of coefficients for each attribute (Liljander & Stradvik, 1993: 19; Malhotra, 2010).

Sampson and Showalter (1999) noted that a weakness of IPA is that it conceptualizes attribute importance as a scalar, which is independent of attribute performance. When attribute performance changes, importance does also, which can change the relative priority of subsequent improvement efforts. They propose a dynamic model, one that views attribute importance as been closely related to attribute performance. Burns (1986) asseverates that traditional IPA has two inherent weaknesses. First, while the technique considers an object’s own performance in terms of a particular attribute, it ignores its performance relative to competitors. Yet consumer evaluations of an object do not occur in a competitive vacuum. On the contrary, the ultimate degree of a differential advantage a product enjoys is determined by its performance relative to competitors. In other words, the absolute own performance measure of the traditional importance-performance analysis needs to be augmented with a relative performance measure. Therefore, Burns (1986) added “performance” of “competitors” as a third dimension. Matzler et al. (2005) applied IPA to modern management and an orientation study of the tools and Yavas & Shemwell (2001) modified IPA by multiplying the gap between the company’s performance and that of rivals using relative performance.

Some other studies have also modified and extended IPA. For example, O’Leary and Adams presented in 1982 a method for generating importance measures as a composite ranking of median importance scores and Pearson correlation coefficients. Crompton and Duray (1985) introduced a similar method utilizing Spearman’s rank order correlations, which are suited to non-parametric data. Easingwood and Arnott (1991) adopted the dimension “current effect on performance” rather than importance, and adopted the dimension “scope of improvement” rather than performance. They also proposed an additional matrix for “ease of change” and “sensitivity to change” to determine the practicality for, and barriers to, improvements. However, the basic framework has largely remained the same (Sampson & Showalter, 1999).

Notwithstanding, the IPA framework has steadily gained in popularity among social science researchers and has been applied in various fields (Eskildsen & Kristensen, 2006). It has been used widely in tourism and hospitality (Cvelbar & Dwyerb, 2013; Dominique-Ferreira & Silva, 2011; Duke & Mont, 1996; Dwyer, Knezevi

Cvelbar, Edwards & Mihalic, 2011; Enright & Newton, 2004; Evans & Chon, 1989; Go & Zhang, 1997; Gupta, 2011; Hollenhorst, Olson, & Fortney, 1992; Oh, 2001; Hudson, Hudson, & Miller, 2004; Oh & Parks, 1997; Weber, 2000; Zhang & Chow, 2004) assessment of consumers (Sampson & Showalter, 1999), marketing management (Ford, Joseph, & Joseph, 1999), health (Ábalo, Varela, & Rial, 2006; Dolinsky & Caputo, 1991; Ferreira Lopes & Frazão Maia, 2012; Hawes & Rao, 1985; Nitse & Bush, 1993; Skok, Kophamel, & Richardson, 2001; Yavas & Shemwell, 2001), banking (Joseph, Allbrighth, Stone, Seknon, & Tinson, 2005; Yeo, 2003), training evaluation (Siniscalchi, Beale, & Fortuna, 2008), industrial marketing management (Hansen & Bush, 1999; Matzler et al., 2004), marketing (Charafa and Rahmouni, 2014; Chon, et al., 1988; Gillespiea, Kennedy & Solbec, 1989; Novatorov, 1997), service quality (Ennew, Reed, & Binks, 1993; Huang, Wu, and Hsu, 2006; Kitcharoen, 2004; Kwon, & Lee, 1994; Matzler, et al., 2003; Tzeng, & Chang, 2011), supply chain analysis (Hong, Kwon & Li, 2014), in studying the performance of IT services (Ainin & Hisham, 2008) and ebusiness strategies (Levenburg, & Magal, S. R. 2005; Magal, et al., 2009).

Since its emergence in 1977 (Martilla & James, 1977), IPA has become a commonly used tool in developing strategies in various fields (Riviezzo, de Nisco, & Napolitano, 2009; Skok, Kophamel, & Richardson, 2001), such as transportation, (Feng & Jeng, 2005; Huang et al., 2006), banking (Joseph, Allbrighth, Stone, Seknon, & Tinson, 2005), education (Alberty & Mihalik, 1989; Pike, 2004; Siniscalchi, Beale, & Fortuna, 2008), public management (Riviezzo et al., 2009; Lai & To, 2010), tourism (Fuchs & Weiermair, 2003; Smith & Carol, 2009; Zhang & Chow, 2004; Ziegler et al., 2012), health (Dolinsky, 1991), industry (Sampson & Showalter, 1999), telecommunication (Pexeshki, Mousavi, & Grant, 2009), E-government (Wong, Fearon, & Philip, 2007) and leisure (Rial, Varela, Real, & Rial, 2008; Tarrant & Smith, 2002). The IPA can also be used to assess the strategy evaluation and therefore provides the necessary recommendations to improve resource allocation (Magal et al., 2009; O'Neill, Wright, & Fitz, 2001). IPA has been also applied as an effective means of evaluating a firm's competitive position in the market, identifying improvement opportunities, and guiding strategic planning efforts (Hawes & Rao, 1985; Martilla & James, 1977; Myers, 2001).

A major shortcoming of the quadrant model of Martilla and James (1977) is that a dramatic change in priority can result from a slight change in the position of an attribute in the grid (Bacon, 2003). In Figure 1, for example, if the position of an attribute changes from in the center of the graph just a small distance, its priority can change dramatically from "concentrate here" to "overkill." Bacon suggests the need for a model that allows for a more continuous transition from one priority to another. Slack (1994) developed such a model. His gradient-based IP map identifies four zones (Figure 2) starting from the top left (high importance/low performance), gradually transitioning to the bottom right (high performance/low importance). The four zones are labeled "urgent action," "improve," "appropriate," and "excess," respectively. He further suggests a "lower bound of performance acceptability," above which lies the region for improvement. It is recommended that organizations move from the "urgent action" or "excess" zone to the "appropriate" zone through redistribution of resources.

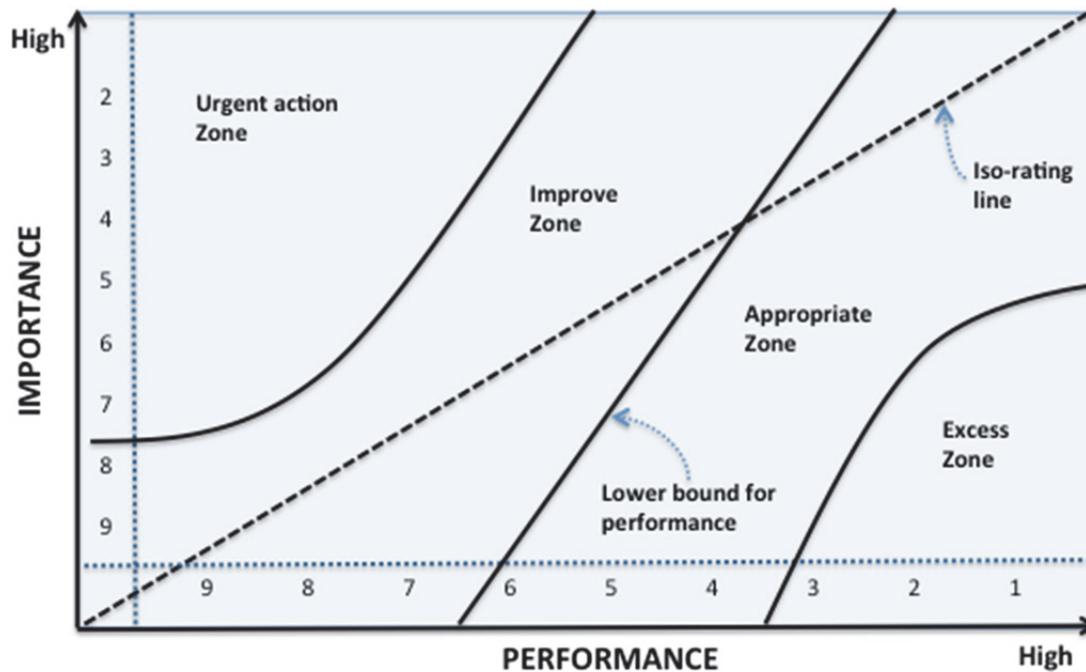


Figure 2. Modified IPA map. Source: Adapted from Slack (1994), Hawes and Rao (1995), Magal et al. (2009).

A third model, the “gap” model, is based on identifying performance gaps determined for each attribute by subtracting the satisfaction rating from the importance rating. These gaps are an indication of how well the organization has performed (O’Neill et al., 2001; Skok et al., 2001; Shaw et al., 2002; Roskowski, 2003). Shaw et al., used in 2002 gap analysis to measure service quality of IS/IT systems and concluded that gap analysis is rigorously grounded and can be appropriately used in an IS context. Others have criticized this method due to theoretical shortcomings (e.g. Bacon, 2003).

Slack (1994) initially suggested a possible relationship between importance and performance, that could influence priority. The existence of a relationship was confirmed and explicated by three studies (Roskowski, 2003; Metzger et al., 2004; Sampson & Showalter, 1999). Sampson and Showalter (1999) hypothesized and found support for a negative relationship, that is, as performance increases, importance decreases. They reference Maslow’s hierarchy of needs theory to argue that, as performance increases and satisfies a need, the need becomes less important. However, they also found that for some attributes, there is a small region on the high end of the performance scale where importance begins to increase or remains unchanged (flat). Roskowski (2003) also found strong evidence that importance and performance are related. He argues that for data with a wider range of performance values, the v-shape is visible (Figure 3); else, only the right side of the v-shape is visible, indicating a positive relationship (Figure 3). Matzler et al., (2004) argue that the nature of the relationship depends on the type of attribute –“basic factors,” “excitement factors,” and “performance factors,”– and suggest a negative, positive and no relationship, respectively.

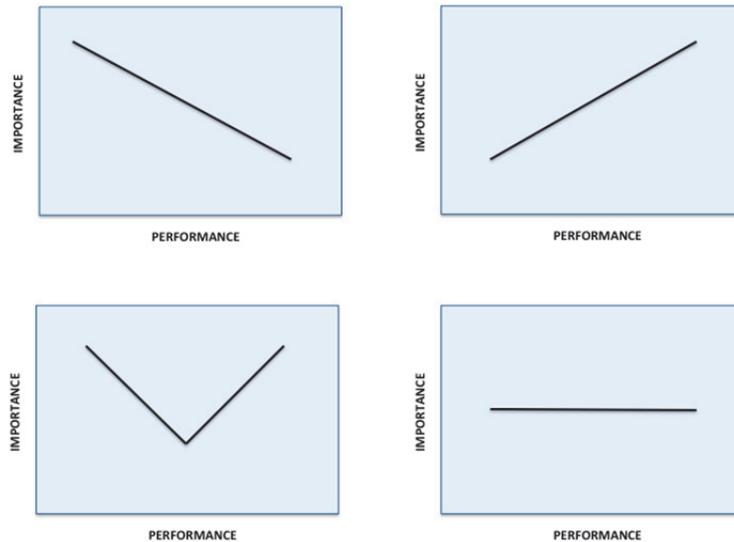


Figure 3. IPA Relationships from the literature. Source: Adapted from Magal et al. (2009)

### Research methodology

Traditional IPA consists of identifying the variables of interest through literature review and/or use of managerial judgment, gathering data on the importance and performance dimensions of these variables using an appropriate survey instrument, plotting the data (average importance and average performance of each variable) to generate IPA maps, and an analysis leading to strategy recommendations (Martilla & James, 1977; Skok et al., 2001). We used a total of 19 motivations and four higher-level factors identified by Magal et al. (2009), they are reproduced in Table I. Then we followed Sampson and Showalter's (1999) methodology to evaluate the relationship between importance and performance: correlation analysis to identify the existence of a relationship between importance and performance, and plotting the data to investigate the nature of this relationship.

In a previous research Levenburg et al. (2006) defined e-business motivation as a reason or a business goal that provides impetus and direction for a firm to adopt e-business applications. Organizations anticipate certain benefits from implementing e-business applications, and these anticipated benefits (e.g. increased sales) drive decision-making regarding technology adoption (Levenburg et al., 2006). Subsequent to their adoption, the firm gathers information concerning the extent to which it believes its goals (i.e. motivations) were achieved. What is actually realized may be the same as or different from the initial motivations. For example, a firm may be motivated to engage in e-business out of desire to increase sales. After deploying the e-business applications the firm deems necessary to increase sales, it may find that it is able to not only increase sales, but also reduce the cost of sales and increase the firm's image. Indeed, it may not even realize any increase in sales, but may instead realize other benefits.

Following Magal et al. (2009), importance and performance data on these items were collected using a survey, with five point Likert-type scales. The questionnaire responses were collected personally from 235 CEOs (or owners) of Mexican exporting SMEs which were randomly selected from the Bancomext (Banco Nacional de

Comercio Exterior, <http://www.bancomext.com>) list of exporting firms. Bancomext is the Mexico's Development Bank in charge of financing international trade and the most reliable source for statistics and information on international trade and commerce in Mexico.

It is important to highlight that there is not so far a formalized internationally or universally accepted definition to describe SMEs. Definitions used vary widely among countries, and depend on their stage of economic development, the size of the country as well as the prevailing social conditions. Although different measurement criteria for defining an SMEs has been used -such as number of employees, capital investment, fixed assets, sales volume and productive capacity-, number of employees seems to be the most frequently used criteria. Globally, in general terms, a firm is considered SMEs if it has no more than 500 employees. Nevertheless many countries use a lower figure, typically between 300 and 100 employees. The Eurostat definition (fewer than 250 employees) is applied in 19 European countries and is currently the most widely accepted definition. Even if some economies use the same criterion to define SMEs, this can result in different ratings for different economies. For example, a manufacturing company in Canada considered medium sized is also considered a medium sized company in Australia, while it would be designated as a large company in China. In any case, criteria used in developed countries are not suitable for developing countries in Latin America. Katz (1999) points out that Latin American SMEs are on average one-tenth the size of their counterparts in developed countries, and that in this region, most of the companies are composed primarily by micro family businesses and self-employed professionals with units economic of about 5 to 10 employees. That's the reason why the criteria used in this study is the existing official criteria in Mexico. Criteria used in Mexico to define SMEs not only depends on the number of employees, but also sector in which the company is located; the number of employees range from 31 to 500 for the industrial sector, 21 to 100 for the services sector, and 6 to 100 for the retail sector.

A total of 235 valid responses were obtained. Of the respondents, 100% percent of the companies have at least one Internet connection. 98% of them had a Webpage, all the companies manifested to conduct occasionally or regularly, business activities supported by TICs or the Internet at the time of the interview. Regarding applications, all the companies said to be using email, 90% of them were using mobile communications (SMS, MMS, WAP, mPOS (mobile point of sale) and/or smartphones). 100% had an extranet, 75% had a Facebook company page, 38% used Twitter for business purposes, and 35% used YouTube.

Table I. Factor analysis: e-business motivations among SMEs. Source: Adapted from Magal et al. (2009).

<b>Market factor</b>	<b>E-profitability factor</b>	<b>Communication factor</b>	<b>Research factor</b>
Enhance company image/brand	Sell products online	Improve communications with customers	Improve marketing intelligence
Distribute product/company information	Reduce administrative costs	Improve communications with channel partners	Find information about new sources of supply
Identify new markets or customers	Reduce direct costs of creating product or service	Improve communications with employees	Find information on industry or other economic data
Generate sales leads	Reduce shipping costs	Comply with requirements of a large customer or supplier	
Gain an edge over competition	Reduce advertising expenses for traditional media		
Provide or improve customer support	Increase net profit		

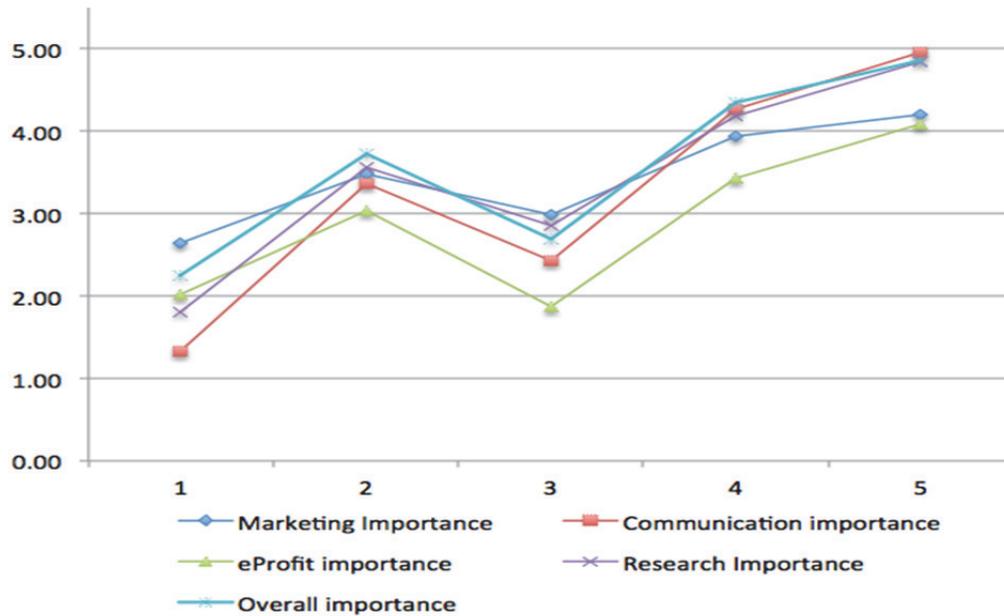
## **Results**

The first step in the analysis was to determine if importance and performance are related. Following Roskowski (2003) and Sampson and Showalter (1999), we used correlation analysis to assess the presence of a relationship. The second step was to determine the nature of the relationship between importance and performance. We followed Magal et al., (2009) method wherein average importance scores are computed for each level of satisfaction and then plotted. The results for the four factors are shown in Figure 4. Our results closely resemble those obtained by Magal et al., (2009) in the sense that in our study the “N” shape emerged. This “N” shape is clearly visible for all the individual variables, the four factors, and the overall average.

Table II. Correlation between importance and performance

E-business motivations/attribute	Mean imp.	Mean sat.	$\rho$	Pr >   $\rho$
1. Enhance company image/brand	4.36	4.34	0.7252	<0.001
2. Distribute product/company information	4.22	3.54	0.5243	<0.001
3. Identify new markets or customers	4.23	3.64	0.6218	<0.001
4. Generate sales leads	4.28	3.88	0.6321	<0.001
5. Gain an edge over competition	4.25	3.96	0.4981	<0.001
6. Provide or improve customer support	4.20	3.72	0.4256	<0.001
7. Improve communications with customers	4.22	4.68	0.3568	<0.001
8. Improve communications with channel partners	4.14	4.08	0.5896	<0.001
9. Improve communications with employees	3.75	3.50	0.6854	<0.001
10. Comply with requirements of a large customer or supplier	4.28	3.88	0.5245	<0.001
11. Improve marketing intelligence	4.20	3.82	0.4965	<0.001
12. Find information about new sources of supply	4.05	3.62	0.4723	<0.001
13. Find information on industry or other economic data	4.31	3.90	0.4569	<0.001
14. Reduce administrative costs	4.08	3.74	0.4723	<0.001
15. Reduce direct costs of creating product or service	3.87	2.58	0.3542	<0.001
16. Reduce shipping costs	3.05	2.80	0.5214	<0.001
17. Reduce advertising expenses for traditional media	3.87	3.59	0.4725	<0.001
18. Sell products online	4.28	2.88	0.2789	<0.001
19. Increase net profit	4.14	3.28	0.3126	<0.001
Marketing	4.26	3.85	0.4725	<0.001
Communication	4.10	4.04	0.56	<0.001
E-profits	3.88	3.14	0.52	<0.001
Research	4.19	3.78	0.38	<0.001
Overall	4.09	3.65	0.48	<0.001
<b>Note:</b> Rho, $\rho$ = Spearman correlation coefficient				

Figure 4 shows the IPA plot for the average of all the variables. Given that the graphics for almost all individual variables factors are very similar, this plot of the average overall importance was considered sufficiently representative. The literature on the relationships of IPA explains the relationship IPA as the path of change (Sampson and Showalter, 1999; Roskowski, 2003; Mätzler et al, 2004). For example, Sampson and Showalter (1999) and Magal et al., (2009) as well, show how increasing the satisfaction or performance led to a subsequent decrease in importance. Similar to Magal et al., (2009), we arrived at an N-shaped IP relationship that describes a path showing the effect of an increase in satisfaction or performance of e-business in SMEs affects on its importance.



Marketing Importance	2.64	3.48	2.98	3.93	4.21
Communication importance	1.32	3.37	2.43	4.27	4.96
eProfit importance	2.02	3.03	1.87	3.43	4.09
Research Importance	1.80	3.57	2.86	4.18	4.84
Overall importance	2.25	3.73	2.70	4.36	4.85
Satisfaction	1	2	3	4	5

Figure 4. IP Plot for all four factors and the overall total of the 19 variables

As seen in figure 5, initially both importance and performance are low (point A). In addition, the A point is located in the quadrant of "low priority". The quadrant model, either in the area of urgency or improving the model of gradient, and above the line of iso-rating line, which indicates a difference in performance. As performance increases, the movement is toward the point B is in the area of "concentrate here", or 'Urgent action zone'. In addition, the performance difference increases toward the position more undesirable in the map, as indicated by previous researches. Further increases in performance toward the line iso-rating line, possibly move beyond the line of iso-rating (point C) into the "possible overkill" and "improve" zones. Point C is the local minimum point on the path. According to Sampson and Showalter (1999), this minimum corresponds to a point where performance meets expectations. Additional performance improvements result in a movement towards point D, roughly following the iso-rating line and into the "keep the good work" and "appropriate" zone.

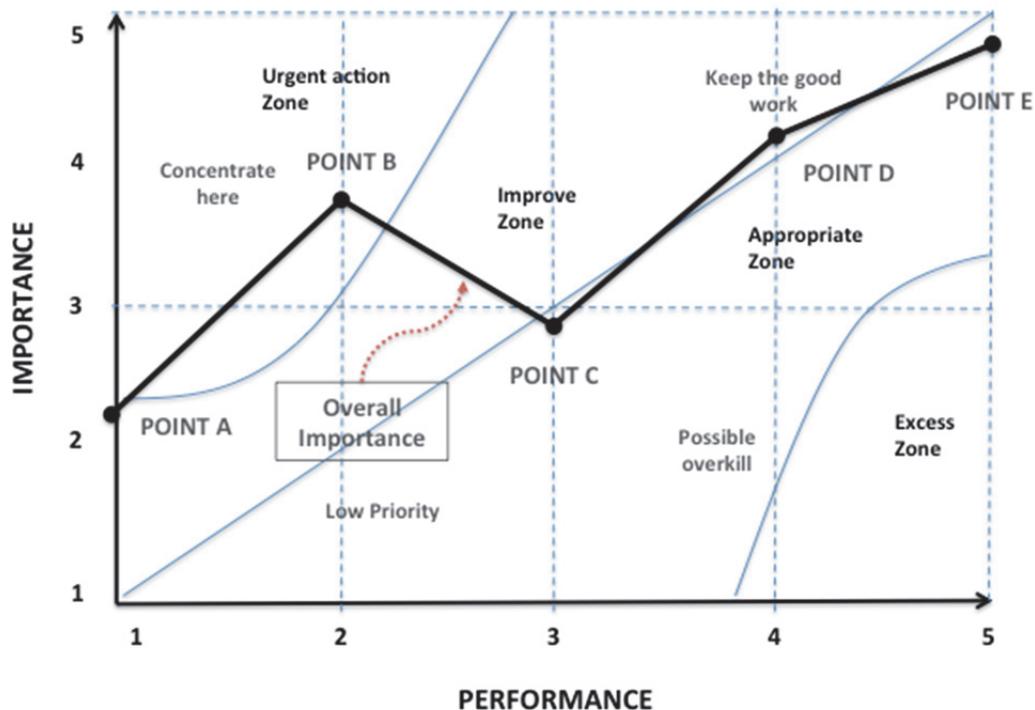


Figure 5. Results superimposed on IPA model

With this, our results confirm the results obtained by Magal et al., (2009), since small differences in the values of importance can be attributed to sampling errors or different technology assessments derived from different view about the importance of e-business for firm performance among managers of SMEs in Mexico and the United States. It also can be due to different analysis capabilities or differences in knowledge about the uses and applications of TICs. The small differences can come also from the rapid advance of TICs, ebusiness applications, ebusiness processes and technological infrastructure as studies were performed with a six years gap between them

## Discussion

The purpose of this paper is to explore the relationship between importance and performance, and replicate the work by Magal et al. (2009) in a different technological and economic context to prove if the relationships suggested in the literature and the results obtained by these researchers hold for our population of Mexican exporting smes engaging in e-business. We find that there does indeed appear to be a specific path that these firms follow as they move across the IPA map no matter if there are differences in the business environment. Our findings indicate the presence of a similar “N” shaped relationship to the one obtained by Magal et al., (2009) that is an extension of the “V” shape identified by Roskowski (2003).

## Conclusions, limitations and implications for future research

This paper was aimed to explore the relationship between importance and performance of the motivating characteristics of e-business among Mexican exporting SMEs. We confirmed that importance and performance are indeed related as previously found by MAGAL et al., (2009). The specific nature of the relationship was somewhat different from that suggested in the literature, but closely similar to the one found in this similar research. The results provide additional validation for the use of IPA maps as low cost tools for SMEs to shape e-business strategy

at a global level. Findings can prove useful for owners or director of SMEs as they can first identify their location on the IPA map relative to the N-shaped path and then identify the path to the optimum location on the map. For example, the map will identify the extent of change in performance necessary to reach the optimum. This can be used to influence resource allocations decisions and helping improve investment decisions. In their paper, Magal et al., (2009) made a question: Does the path of a “stable” phenomenon differ from the path of one that is more “evolutionary,” such as e-business? If so, do theories of learning or those related to stages of growth offer insight on this phenomenon? Apparently and following our results, we can confirm that paths for “stable” phenomenon do not differ from the path of one as “evolutionary” as the e-business phenomenon. It is still pending the second part of the question as a venue for future research in this area.

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## ***Management Students Engagement with Social Networking Sights (SNS) and Regularity***

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### **Abstracts**

*The study identified eight users dimensions for Management PG students of Indore city Regarding SNS engagement on the basis of regularity in access.. These dimensions were -ethical users, utility and satisfaction seekers, updated users, complying users, connected users, personal value seekers, prompt purposive users and trust inclined users. Irregular students who visited SNS more trust information shared in friends' group rather than who were regular in engaging with SNS. PG management students regularity in accessing SNS had no effect on ethical users, utility and satisfaction seekers, updated users, complying users, connected users, personal value seekers and prompt purposive users responses. The study derived some interesting conclusions about Indore management PG students regarding Social Networking Sites engagements on the basis of regularity in access. Indore management PG students mainly use SNS for information updation regarding regular academic developments and opportunity available globally. It is also observed that students kept engaged themselves in non academic activities like music, movies, games etc. Students declined the role of teachers and seniors as a guide and mentor because of little interaction between them on SNS. The institution need to bring in SNS platform and its usages via academic apps regarding tutorials, notes, exam portals, assignments and exercise portals , blogging and web pages for online interactions of teachers-students and alumni.*

**Key Words:** Management students, Social networking websites(SNS), Engagement, Users

### **Introduction**

A **Social Networking Site** (SNS) is the phrase used to describe any Web site that enables users to create public profiles within that Web site and form relationships with other users of the same Web site who access their profile. Social networking sites can be used to describe communitybased Web sites, online discussions forums, chatrooms and other social spaces online.( webopedia.com).

This study adopts the survey to investigate why college students join and participate in Social networking sites (SNS) and the influence of various factors on their attitude towards SNS which allows them to create their own content or space .Social network sites (SNSs) such as Friendster, Cy World, MySpace, Facebook and Twitter allows students to present themselves, articulate their social networks, and establish or maintain connections with others. These sites can be oriented towards professional contexts , romantic relationship, connecting those with shared interests such as sports or politics. Participants may use the sites to interact with people they already know offline or to meet new people. These sites enables its users to present themselves in an online profile, accumulate "friends" who can post comments on each other's pages, and view each other's profiles. Facebook members can also join virtual groups based on common interests, see what classes they have in common, and learn each others' hobbies, interests, musical tastes, and romantic relationship status through the profiles.

Social network sites (SNSs) have become some of the most popular online destinations within the user-generated content sites, the role and growth of social networking sites has been undeniably overwhelming. Not surprisingly, this level of user attraction has been accompanied by much coverage in the popular press, including speculations about the potential gains and harms stemming from the use of SNS services. Academic researchers

have started studying the use of SNSs, with questions ranging from their role in identity construction and expression to the building and maintenance of social capital and concerns about privacy.

### **Brief Literature Review:**

Social networking websites are virtual communities and allows persons to interact with each other (Murray & Waller, 2007). Membership of online social networks has increased exponentially . social network website activity accounted for 6.5 percent of all Internet traffic in February 2007 (Hitwise., 2007).

Social networking websites has laid the impression upon student motivation to learn, affective learning, and classroom climate (Mazer, Murphy, & Simonds, 2007). SNS creates an online social space where university students can build and maintain social capital with others (Ellison, Steinfield, & Lampe, 2007; Lytras and Garcia, 2008; Lytras & Ordóñez de Pablos, 2007). University students should build social capital with the industry for development(Chakrabarti & Santoro, 2004).

Compliance occurs when an individual perceives that a social actor wants him/her to perform a specific behavior, and the social actor has the ability to reward the behavior or to punish the non-behavior (Venkatesh & Davis, 2000).

Purposive value, self-discovery, entertainment value, social enhancement, and maintaining interpersonal connectivity are the key values (or needs) that are widely adopted to determine the use of virtual communities (Cheung & Lee, 2009). Learning strategies are shifting towards a more active and group-oriented learning approach (Chatti, Jarke, & Frosch-Wike, 2007). Student engagement is a determinant of academic performance (Zhao & Kuh, 2004, p 1332; Wise, Skues, & Williams, 2011). Presently, many students are using this cross-connectivity of SNSs for non-academic (or purely social) purposes (Ahmed & Qazi, 2011a). Merchant (2012) has suggested that there are three possible approaches to the use of social networking sites in educational settings: learning about SNSs (including understanding and identifying the knowledge, skills, dispositions and learning involved); learning from SNSs(to understand and appreciate the kinds of learning a social networking site can support).Social networking could, in general terms, be seen as a way of describing the modelling of everyday practices of social interaction, including those that take place within family structures, between friends, and in neighbourhoods and communities (Merchant, 2012).

Teachers who are using SNS in the classroom, it has been proposed that social networking-type interactions such as quality relationships, connectedness, modelling positive behaviours and sharing information have been observed taking place through social networking sites (Martin & Dowson, 2009).

Even though online social networking sites are a relatively new phenomenon, popularity is growing rapidly among college-aged youth, with 95% of 18 and 19 year olds using Facebook(Smith & Caruso, 2010). The emerging literature suggests that SNSs are becoming ubiquitous components of youth and young adult life, and the nature of SNSs was reported by Hargittai (2008), who found few demographic differences between users and nonusers of social networking sites in a sample of college students. Facebook was initially designed by Mark Zuckerberg, Dustin Moskovitz and Chris Hughes in 2004 as a means by which fellow Harvard students could communicate, share study-related information and socialize with peers at the University level(Calvi, Cassella, & Nuijten, 2010; Ellison, Steinfield, & Lampe, 2007). The education system has an opportunity to reach the students in a mode of communication they enjoy and use, but educators are not doing so; a fact reiterated by Akyildiz and Argan (2010) when they concluded that students rarely used Facebook for educational purposes.

## Objectives of study

- 1-To study Management Students engagement Regularity for Social Networking Sights (SNS)
- 2-To study factors affecting Management Students engagement for Social Networking Sights (SNS)

## Research Methodology:

The research undertaken was exploratory in nature. The structured questionnaire of 21 statements were prepared and distributed to Management PG students of Indore city. Only AICTE approved institutes were considered. The sample area was Indore city. The sample size targeted was 200 but only 155 questionnaires were duly filled that is why they were taken into account. The validity and the reliability of the instrument were tested. The alpha value was found 0.71. Books, internet websites, magazines, journals etc used as source of secondary data collection. Primary data for the study was collected through structured questionnaire. Respondents were asked to give their opinion for engagement with Social networking sites on 1 to 5 scale where ;1= Strongly Disagree, 2= Disagree , 3= Neutral, 4= Agree, 5=Strongly Agree. Principal component analysis, mean, standard deviation and variance were used to analyze the data. Following hypotheses have been formulated.

H<sub>(01)</sub>: There is no significant difference in mean value of PG management Ethical users on the basis of regular status for engaging in SNS.

H<sub>(02)</sub>: There is no significant difference in mean value of PG management Utility and Satisfaction Seekers on the basis of regular status for engaging in SNS .

H<sub>(03)</sub>: There is no significant difference in mean value of PG management Updated Users students on the basis of regular status for engaging in SNS .

H<sub>(04)</sub>: There is no significant difference in mean value of PG management Complying Users on the basis of regular status for engaging in SNS .

H<sub>(05)</sub>: There is no significant difference in mean value of PG management Connected Users on the basis of regular status for engaging in SNS

H<sub>(06)</sub>: There is no significant difference in mean value of PG management Personal Value Seekers on the basis of regular status for engaging in SNS

H<sub>(07)</sub>: There is no significant difference in mean value of PG management Prompt Purposive Users on the basis of regular status for engaging in SNS

H<sub>(08)</sub>: There is no significant difference in mean value of PG management Trust Inclined Users on the basis of regular status for engaging in SNS

**Tools for Data Analysis:** SPSS 16 software used for analyzing data.PCA applied for data reduction . KMO Bartlett applied. t-test, standard deviation and co-relation coefficient applied.

## Results and discussion:

Kaiser-Meyer-Olkin Measure of Sampling Adequacy is found .605 . Bartlett's Test of Sphericity tested and significance value is found 0.00 . Eight components emerged using Principle Component Analysis. Eight components explained 61.71% Cumulative variance.

### **1. Ethical Users :**

In this component ethical users are those who adhere to moral and legal values and act as responsible one. who are guided by seniors and teachers frequently on SNS. They are respected in their circle on using SNS and who thinks it discipline their life. The mean value for students who are regular in SNS engagement was (M1) 2.91 and Standard deviation was (SD1) 1.15 . The mean value for students who are irregular in SNS engagement was (M2) 2.93 and Standard deviation was (SD2) 1.16. t Value was 0.115 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means regularity status has no effect upon students engagement with SNS on moral, legal values and responsibility. The response was low and students were not agreeing on ethical issues.

### **2. Utility and Satisfaction Seekers:**

In this component SNS users are utility and satisfaction seekers they use this platform for instant information and feedback exchange. They like information first verified in group and then spread . They use for friend circle news update. The mean value for students who are regular in SNS engagement was (M1) 3.52 and Standard deviation was (SD1) 1.035 . The mean value for students who are irregular in SNS engagement was (M2) 3.42 and Standard deviation was (SD2) 1.116. t Value was 1.213 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means all students believe that SNS is a platform for instant information and feedback exchange. Regularity status has no effect on students opinion.

### **3. Updated Users:**

In this component SNS users updates themselves regarding academic development ,global academic activities and advancement. They believe that SNS enhances job prospects. Understanding why students use online social networking sites is crucial for the academic community, as this new communication platform exhibits important impact on student motivation to learn, affective learning, and classroom climate (Mazer, Murphy, & Simonds, 2007). The mean value for students who are regular in SNS engagement was (M1) 3.78 and Standard deviation was (SD1) 0.925 . The mean value for students who are irregular in SNS engagement was (M2) 3.57 and Standard deviation was (SD2) 0.946. t Value was 1.142 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means that students use SNS as global academic development and advancement tool irrespective of their regularity status.

### **4. Complying Users:**

In this component users derives instant gratification if somebody likes their post. They expect quick response on post and they think that they earn respect having associated with aspiring group. The mean value for students who are regular in SNS engagement was (M1) 3.40 and Standard deviation was (SD1) 1.135 . The mean value for students who are irregular in SNS engagement was (M2) 3.28 and Standard deviation was (SD2) 1.071. t Value was 0.6629 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means instant gratification is not dependant on regularity status of students who access SNS.

### **5. Connected Users:**

In this component users are motivated to follow other useful connections through available contacts on SNS. SNS kept them connected to music, movie, fashion and attire. The mean value for students who are regular in SNS engagement was (M1) 3.96 and Standard deviation was (SD1) 0.812 . The mean value for students who are irregular in SNS engagement was (M2) 3.79 and Standard deviation was (SD2) 0.912. t Value was 0.2028 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means whether students are regular or irregular SNS kept them connected to Music , Movie, Fashion and Attire.

## **6. Personal Value Seekers:**

In this component users always add value to them and their profile by accessing friends on SNS and for them sharing personal information on SNS is pleasant. The mean value for students who are regular in SNS engagement was (M1) 2.97 and Standard deviation was (SD1) 1.177 . The mean value for students who are irregular in SNS engagement was (M2) 2.89 and Standard deviation was (SD2) 1.051. t Value was 0.441 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. Irrespective of regularity status students believed that SNS helped in value addition in personal profile and sharing was a pleasant experience.

## **7. Prompt Purposive Users:**

In this component users access SNS because it provides them instant communication platform. They visit SNS to be regarded as active friend in circle but they doubt personal information security on SNS. The mean value for students who are regular in SNS engagement was (M1) 3.63 and Standard deviation was (SD1) 1.022 . The mean value for students who are irregular in SNS engagement was (M2) 3.58 and Standard deviation was (SD2) 1.038. t Value was 0.29411 which was less than t tabulated 1.962 i.e. no significant difference found in students engagement on regularity status. It means both regular and irregular students are skeptical about personal information security. Indubiously they term SNS as instant communication platform and matter of respect.

## **8. Trust Inclined Users:**

In this component users trust information shared in friends' group. The mean value for students who are regular in SNS engagement was (M1) 2.99 and Standard deviation was (SD1) 1.064 . The mean value for students who are irregular in SNS engagement was (M2) 3.22 and Standard deviation was (SD2) 1.150. t Value was 4.117 which was greater than t tabulated 1.962 i.e. significant difference found in students engagement on regularity status. It means irregular students who visited SNS more trust information shared in friends' group rather than who were regular in engaging with SNS. Sharing information regarding study and other academic development were also discussed in previous research. (Calvi, Cassella, & Nuijten, 2010; Ellison, Steinfield, & Lampe, 2007). We also connect these findings with Ahmed & Qazi, (2011a) research that many students enjoy cross-connectivity of SNSs for non-academic and social purposes. Co-relation coefficient ( $r = 0.9527$ ) suggested a positive strong correlation between regularity status and eight components. As observed in with all eight components that whether Management PG students access Social networking sites (SNS) regularly or not their responses are almost similar. Since students of same discipline remains in constant touch with one another because of nature of management education so their responses were not differing despite of regular or irregular access to SNS. Coefficient of determination  $r^2 = (0.9527)$  was 0.90763729 i.e. it suggested 90% of the variability in components was explained by regularity status.

## **Conclusion:**

Above study identified eight users dimensions for Management PG students of Indore city Regarding SNS engagement on the basis of regularity in access.. These dimensions were -ethical users, utility and satisfaction seekers, updated users, complying users, connected users, personal value seekers, prompt purposive users and trust inclined users. Irregular students who visited SNS more trust information shared in friends' group rather than who were regular in engaging with SNS. PG management students regularity in accessing SNS had no effect on ethical users, utility and satisfaction seekers, updated users, complying users, connected users, personal value seekers and prompt purposive users responses. The study derived some interesting conclusions about Indore management PG students regarding Social Networking Sites engagements on the basis of regularity in access. Indore management PG students mainly use SNS for information updation regarding regular academic developments and opportunity

available globally. It is also observed that students kept engaged themselves in non academic activities like music, movies, games etc. Students declined the role of teachers and seniors as a guide and mentor because of little interaction between them on SNS.

Previous study observed the SNS importance in motivating students to learn, affective learning, and classroom climate (Mazer, Murphy, & Simonds, 2007) therefore the institution need to bring in SNS platform and its usages via academic apps regarding tutorials, notes, exam portals, assignments and exercise portals, blogging and web pages for online interactions of teachers-students and alumni. Our study also points out similar concerns raised by Akyildiz and Argan (2010) regarding reviewing students and teachers relationship in new era in line with existing challenges looming ahead.

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TABLE 1: RELIABILITY STATISTICS

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.713	.703	21

TABLE 2 : ITEM STATISTICS

	Mean	Std. Deviation	N
VAR00001	3.41	1.005	155
VAR00002	2.48	1.286	155
VAR00003	4.07	.815	155
VAR00004	3.86	.912	155
VAR00005	3.78	.899	155
VAR00006	3.49	1.002	155
VAR00007	3.84	.818	155
VAR00008	3.17	1.163	155
VAR00009	3.46	1.118	155
VAR00010	3.44	1.146	155
VAR00011	3.08	1.105	155
VAR00012	3.32	1.167	155
VAR00013	3.34	1.027	155
VAR00014	3.59	.978	155
VAR00015	3.59	1.091	155
VAR00016	3.97	.925	155
VAR00017	3.20	1.235	155
VAR00018	3.05	1.136	155
VAR00019	2.41	1.199	155
VAR00020	3.03	1.069	155
VAR00021	3.41	1.091	155

TABLE 3 : KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.605
Bartlett's Test of Sphericity	Approx. Chi-Square
	561.581
	df
	210
	Sig.
	.000

TABLE 4 : TOTAL VARIANCE EXPLAINED

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance
1	3.4421364	16.391126	16.391126	3.4421364	16.391126	16.391126	2.1620165	10.295316
2	1.8835043	8.9690682	25.360194	1.8835043	8.9690682	25.360194	1.9527695	9.2989025
3	1.6691974	7.948559	33.308753	1.6691974	7.948559	33.308753	1.7862003	8.5057158
4	1.3527507	6.44167	39.750423	1.3527507	6.44167	39.750423	1.5287388	7.2797087
5	1.2485849	5.9456423	45.696065	1.2485849	5.9456423	45.696065	1.4561204	6.9339067
6	1.1644471	5.5449863	51.241052	1.1644471	5.5449863	51.241052	1.4286887	6.8032794
7	1.1547466	5.4987933	56.739845	1.1547466	5.4987933	56.739845	1.3977335	6.6558739
8	1.0449781	4.9760864	61.715931	1.0449781	4.9760864	61.715931	1.2480779	5.943228
9	0.9890341	4.7096861	66.425618					
10	0.9217781	4.3894194	70.815037					
11	0.7995573	3.8074157	74.622453					
12	0.7642397	3.6392365	78.261689					
13	0.7491724	3.5674875	81.829177					
14	0.6521048	3.105261	84.934438					
15	0.5856441	2.7887813	87.723219					
16	0.5692507	2.7107174	90.433936					
17	0.4912533	2.3393016	92.773238					
18	0.4638428	2.2087752	94.982013					
19	0.4456867	2.1223175	97.104331					
20	0.3465517	1.650246	98.754577					
21	0.2615389	1.2454233	100					

TABLE 5 : EXTRACTION METHOD : PRINCIPAL COMPONENT ANALYSIS

	Component							
	1	2	3	4	5	6	7	8
VAR00001	0.0892256	0.1017909	0.117202	0.1368065	0.1257662	0.7849905	-0.0318741	-0.0711994
VAR00002	0.0431038	0.3364892	-0.0980431	0.0936061	-0.075685	0.4934571	0.1595021	0.2427276
VAR00003	0.0135227	-0.11563	0.0024509	0.2375456	-0.0154451	0.0641407	0.6631473	0.2025331
VAR00004	0.1530584	0.0560381	0.7703724	0.2316289	-0.2368754	-0.0032029	0.0862663	0.0646797
VAR00005	-0.0731898	-0.1294486	0.6625542	0.061189	0.2842122	-0.0570154	-0.0269461	-0.2125336
VAR00006	0.0803829	0.0377042	0.6568612	-0.2817781	0.0367481	0.1163213	0.0437355	0.1291878
VAR00007	-0.0005807	-0.0036948	0.0592774	0.0119528	0.832184	0.1308309	-0.0378429	0.144958
VAR00008	0.3288657	0.2523995	-0.2615864	-0.1586438	-0.0554832	0.3193448	0.5150651	-0.1352622
VAR00009	0.0124746	0.5894315	-0.2294359	0.1520369	0.0704586	-0.0372602	-0.0381247	0.1256588
VAR00010	0.0251035	0.1219573	0.0021256	0.5940479	0.3951001	0.1394483	0.2001769	-0.0547572
VAR00011	0.0915639	0.083655	0.0119517	0.0189364	0.0912823	0.0376468	8.878E-05	0.9101859
VAR00012	0.1559987	0.1275227	0.0310576	0.8064115	-0.1348224	0.0768472	0.0892332	0.062266
VAR00013	0.2506277	0.2547236	-0.1141275	0.3411701	0.2539764	0.2140718	-0.2968914	-0.2692487
VAR00014	0.0481718	0.7041716	0.1685347	0.1104495	-0.0386802	0.0412363	0.0181296	-0.0273814
VAR00015	-0.1121836	0.2259469	0.2449784	0.0201238	0.1406486	-0.1256451	0.6002704	-0.2032897
VAR00016	0.0969948	0.3085731	-0.0318912	-0.0045464	0.5294411	-0.4080871	0.1954958	-0.1373932
VAR00017	0.7897715	0.0296252	0.2374001	0.0908027	0.0551478	-0.0840307	0.1516006	-0.110069
VAR00018	0.6778467	-0.0755085	-0.1088508	0.0944582	0.1288501	0.2953901	0.0841086	0.140777
VAR00019	0.7717029	0.1968406	0.0446292	0.0200713	-0.1075033	-0.0208808	-0.158749	0.0780414
VAR00020	0.4326958	0.3599937	-0.0207396	0.3284257	0.0072851	0.1099948	-0.2119205	0.1204811
VAR00021	0.1483807	0.6806465	0.0119823	-0.0400665	0.1247763	0.2532153	0.1342968	-0.0250677
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								
a. Rotation converged in 9 iterations.								
<b>Total</b>								<b>22</b>

$$t = \frac{M1 - M2}{\sqrt{\left(\frac{SD_1^2}{n_1} + \frac{SD_2^2}{n_2}\right)}}$$

TABLE 6 : MEAN OF DIMENSIONS

COMPONENT	REGULAR X	IRREGULAR Y
<b>1.Ethical Users</b>	2.91	2.93
<b>2. Utility and Satisfaction Seekers</b>	3.52	3.42
<b>3.Updated Users</b>	3.78	3.57
<b>4. Complying Users</b>	3.40	3.28
<b>5. Connected Users</b>	3.96	3.79
<b>6. Personal Value Seekers</b>	2.97	2.89
<b>7. Prompt Purposive Users</b>	3.63	3.58
<b>8.Trust Inclined Users:</b>	2.99	3.22
	AVG M1=3.395	AVG M2=3.335

$$SS_{XX} = \Sigma (X-M1)^2 ; SS_{YY} = \Sigma (Y-M2)^2 ; SS_{XY} = \Sigma (X-M1)(Y-M2) ; r = SS_{XY} / \sqrt{SS_{XX} \cdot SS_{YY}}$$

$$SS_{XX} = 0.2304 + 0.0169 + 0.1521 + 0.0001 + 0.3249 + 0.1764 + 0.0576 + 0.16 = 1.1184$$

$$SS_{YY} = 0.16 + 0.0081 + 0.0576 + 0.0025 + 0.2116 + 0.1936 + 0.0625 + 0.0121 = 0.708$$

$$SS_{XY} = 0.192 + 0.0117 + 0.0936 - 0.0005 + 0.2622 + 0.1848 + 0.06 + 0.044 = 0.8478$$

$$R = 0.8478 / \sqrt{(1.1184)(0.708)} = 0.7918272$$

$$\text{correlation coefficient } r = 0.8478 / 0.8898467284 = 0.9527$$

$$\text{Coefficient of determination } r^2 = (0.9527)^2 = 0.90763729$$

## *The influence of peers and brands in the skateboarding subculture: A Mexico and U.S.A comparison*

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### **Abstract**

*The paper shows a comparison about how peers influence the acceptance of brands in the skateboarding subculture, and how the marketing for use specific skateboarding brands is morphing this counterculture subculture into a consumer culture through the use of media and famous skateboarding people. The importance of their symbols is analyzed to see how they are an influence for choosing some of the brands that they wear and use. Two samples from two countries were performed, first in Guadalajara, Mexico, where the skateboarding is popular and still a representation of rebellion, and not fully allowed by the government, and second in Portland, Oregon in the U.S.A, where the city has policies open to the practice of the sport. Statistical analysis was performed to test the hypothesis.*

**Keywords:** Branding, Consumer Behavior, Consumer Culture, subcultures, counterculture, sports marketing.

### **Introduction**

The skateboarding subculture has been mutated from be considered some like “white suburban rebels” to a group of consumers who worth to invest in them. Since this subculture appeared in the 1970s, were from be considered something like a young fad, as the same way to the Hula Hoop, to a bunch of rebels and today’s a extreme sport were sponsorships invest millions of dollars to have their brand on it (Atencio et al., 2013). People practicing this sport, or having it like a way of life spend millions of dollars in shoes alone: Between 1995 and 2002 only Vans, a classic skateboarding brand, quadrupled its sales to \$353 million dollars (Hamton, 2007). According to the data reported by the Surf Industry Manufacturers Association (SIMA) and published in the Web portal of the magazine Surfer Today (2008) the surf/skate industry is worth \$7.22 billion dollars in 2008. This sport and lifestyle has been steadily growing in numbers: from 1993 to 2000 in the U.S. the skateboarding industry increases to around 10 million, according to the Sporting Goods Manufacturers Association (Dougherty, 2009). But not only the skateboarding has been growing alone; it has been also used to promote different products, from Cars to Soda brands

oriented to young audiences. At the beginning were only oriented to white teenagers but later they include females and minorities in the group (Atencio et al. 2013)

All these numbers have attracted the attention of the major sneakers manufacturing players such as Nike, who initially faced troubles to attract them because the company was perceived as a corporate monster (Hamton, 2007) but its efforts finally caught this subculture into them. The process was no easy, first Nike bought some independent skateboarding shoes companies such as Hurtle, and later performing a huge market research to find out which Nike model, the *DUNK*, a 1985 model very appreciated by the skaters. After those movements Nike finally becomes one of the main players in the skateboarding industry. The key was to communicate the proper image to the skaters of the company not like a giant trying to get their money.

### **Subculture as a consuming group**

“If there is a youth oriented consumer market, then a subculture may be existing” (Feixa, 1998). The members of the subculture add their own style into items such as fashion style, clothes and ornaments (Dowd and Dowd, 2003), but it is not only a “copy and paste” way to adopted all the elements to look like a member of a specific subculture, it is a complex process that not only a marketing campaign would shape the members. There is a discussion about how the adoption process is made. Some researchers argue that the adoption of codes, dressing and other characteristics to fit into a subculture or into a group starts from a higher status role model and goes through the next level and so on until it becomes adopted by the group. Some others states that earliest adopters may not be necessarily in the top levels but they must be part of a network that have access to those innovations (Suzuki and Best, 2003).

Sometimes many fashion trends are originated in lower level subcultures, as was the case with punks, and then their codes of fashion spreads into higher level subcultures, or even they became part of the high fashion. Usually the adoption of distinctive objects go to a process were first a subculture adopts an object, changing their original use and giving it a new meaning: Punks wear Dr. Martens boots to look like a punk, not to use them for work, as those boots were originally intended to be.

Socialization has been a way to learn about brands inside a group of persons, being the consumer the learner and the group the socialization agent to choose a specific brand (Beaudoin and Lachance, 2006). Those teenagers, who are part or interact with a group of similar people, are more concerned about decisions for brands and styles, selecting clothes that represent them (Shim and Kho, 1997). A subculture has a lot with the socialization process in a group, fulfilling criteria among the members of a group (Dowd and Dowd, 2003):

1. The members often interact among them
2. They share a common view of the word around the characteristics that define the group by itself
3. They don't want or cannot be assimilated by a much larger culture, or a dominant culture, so they see as “normal” inside the subculture

During the socialization step the members of a group, especially in their teen years, acquires the attitudes that later will be relevant as consumers (Ward, 1974). The members of a subculture usually look for to reveal an image through the objects that they are using: garments, shows, haircuts, etc. showing their commitment with the subculture ideology. For them, is basic to acquire products related with their group (such as specific brands), it is in a certain way to be committed toward the group.

It has been found that influence over individuals is affected for demographic and socioeconomic factors but also by the environment around the person, so the members of a group may make purchasing decision based on their familiarity with the products or the place where they buy the item (Girard, 2010). When the person is not part of a group, but want to be recognized as a part of them, he or she will try to get the same items used for the members of a

group, but the impact of marketing advertising have influenced both groups (Weale and Kerr, 1970). The interaction among the members of a social group may influence in the choice of a brand, and influenced by peers the pressure to fit into the reference group affects in the economic demands for the teenagers to their parents to get access to the items that they want to be part of the group (Lachance et al., 2010).

### **The Skateboarding subculture**

The skaters or skateboarding subculture had been overrated for many years, just perceived as a bunch of rebels no fitting into the society. But is important to state that a subculture is also a culture of consumption (Schouten and McAlexander, 1995), just like another culture, a subculture has their own personality reflected in their lifestyle, including consumer identity, where they reflect their sense of belonging (Fournier, 1998).

The politics about skateboarding are also different between the two cities, while in Portland, Oregon, is considered “the skateboarding capital” of the world, thanks to decades of citizen activism in pro of parks and areas for practicing the sport (Dougherty, 2009), other places such as Guadalajara, Mexico still perceives the skateboarding like a hobby for people who have nothing else to do, usually like a plague. There are not policies for support specific areas where people can use their boards, and sometimes they are persecuted under the idea they are vandalizing the public areas (El Informador, 2013; Prieto, 2013).

Anyway, skateboarding is a lifestyle where the members think about themselves like a rebels, and despite the government programs to give them space, they will look for what is forbidden or illegal (Doughter, 2009). The skateboarding subculture has created their own norms and relationships, oriented more in open participation instead of what they considered “elite competition” or corporate bureaucratic forms of sport: baseball, football, etc. (Beal, 1995). Even more, there is a difference between what they perceived as bureaucratic skate, where the skaters buy commercial and mass-produced products related with skateboarding versus skater who resist the “professionalization” of their sport. When they buy commercially produced items such as skateboards and clothes, they personalize them in order to have their own expression reflected on it, and make a difference (Beal, 1995).

Working with girls who practice skateboarding, Kelly et al. (2005) identified three categories of skaters:

*“The ‘hardcore’ or ‘serious skaters’, who consider themselves as skaters, frequented skate parks, had mastered a number of tricks, and knew how to assemble their own board.*

*The ‘skaters’ (the biggest category), liked the ‘lifestyle’ but skated more infrequently, and they had usually mastered only the basics, although some knew a few tricks.*

*The ‘skater affiliates’, identified as, or were known as, skaters mainly because of their friendships with other skaters, an affinity for skater culture, or both...”*

The two late groups are more oriented to be followers than trendsetters but gave value to the fact to be considered different or alternative. Their clothing styles were oriented to the wear by the serious skaters, and have a concern that skater style had become a ‘cool’ commodity (Kelly e al, 2005).

As happened with other subcultures, like surfing, punk, gothic, etc, skateboarding went from suburban youths to the rest of the world, and other aspects of consumption related with skateboarding became part of the industry: music, movies, clothes, etc. (Moye and Ritz, 2009), today skateboarders and their culture are used by the industry as trendsetters influencing adopters.

Big companies started to pay attention on them, and trying to a assimilate the skaters, some like Nike even purchased front companies oriented to skateboarding such as Hurley and Savier but it prove to be a mistake, until

they got into a model who was accepted by the skaters (Hampton, 2007). Companies like Adidas understand the value of authentic, self-expression and originality and start to work in collaboration with artist to project an idea of an “real” company (Bai et al., 2009), companies traditionally oriented to the skateboarding market started to follow what the big names made, and Vans also launched a campaign for artist collaborating in their shoes design.

### **Hypothesis and experimental design**

To see how much the skaters are influenced by their peers, by the media, and how much are brands are important to them, our research focused in items dealing with fashion awareness and dressing codes and was based in the works of Sha et al., (2007) dealing with consumers inside the so called “pink market”, oriented to the gay consumers and with a high importance of brand awareness. Additionally we incorporate the influence of peers and Internet on brand sensibility, based in the work of Lachance et al. (2003), but modifying the original item of TV, and not using the family as influence. The proposed hypotheses are as follows:

**H1: The impact of the brand depends on the influence of idols**

**H2: The influence of the brand depends on the influence of the Internet and the brand awareness**

**H3: Brand Impact depends on the brand awareness, the influence of the internet and the influence of friends**

The Items for each dimension are built as:

Dimension for “brand impact”:

- I use brands made for skaters
- I use brands I consider for skateboarding
- I identify myself as skater wearing skating-only brands
- Real skaters only use skater brands
- I am part of the skateboard movement if I use skateboarding brands
- It is important to use the right brands for practice skateboarding

Dimension for “peers influence”:

- My friends wear brands made for skateboarding
- I wear brands recommended by my friends
- Friends use skate brands

Dimension for “skate symbols influence”:

- I buy my clothes only in skateboarding stores
- I wear in the same style the whole week
- I like the brands wear by famous skaters
- I know which brand are used by my favorite skaters
- I like to dress like my favorite skaters
- I am what I wear

Dimension for “brand awareness”:

- I care about my clothes brand
- I care if my clothes are original brands and not a copy
- I only wear original brands
- I wear imitation brands
- I buy my clothes in shopping malls
- I buy my clothes in flea markets

Dimension for “Internet influence”

- I like the clothing brands that I see on Internet
- Brands that I see on Internet influence my clothing style

The survey was performed in two steps: first in Guadalajara, Mexico, between May and June of 2013, visiting skate parks and in the area known as “Chapultepec”, a bohemian zone of the city, where young skaters meet and practice their sport. The second part was made in Portland, Oregon, during the month of August, where the skaters were interviewed in the skating zones of the city. To develop this research an exploratory factor analysis was developed for the needed latent variables to apply the method of Ordinary Least Squares (OLS) as part of hypothesis testing.

### Data Analysis

The basic assumptions of factor analysis are conceptual rather than statistical type. You can ignore the assumptions of normality, homoscedasticity and linearity, being aware that its failure causes a decrease in the observed correlations. It is desirable to have some degree of multicollinearity, since the objective is to identify sets of interrelated variables (Hair et al., 1999). But in cases of structural equation model is required to have a linearity test data.

To develop the factor analysis, first an inspection must be performed in order to ensure that the matrix of correlation among the variables is significant. From the 252 variables there 78 were significant at 0.01 level; 71 with a significant level of 0.05; 59 with a significant level of 0.1; and 44 without any significant level. In total there are 208 interrelationships above the 0.10 significance level, so we can continue with the factor analysis.

The next step is to assess the correlation matrix with Bartlett's spherical test, which measures the statistical probability that the correlation matrix is an identity matrix. In this case we have that correlations that were taken together, and significant at the 0.01 level (Table 1 and 2), which is pretty good. Also for this research must have a value of statistical Kaiser - Meyer - Olkin (KMO) of 0.810, so it is appropriate to develop the factor analysis.

**TABLE 1. KMO AND BARTLETT'S TEST**

Kaiser-Meyer-Olkin.		.810
Bartlett's sphericity test	Chi-square	1021.839
	Df	253
	Sig.	.000

For the derivation of the factors (latent variables), the principal component method was developed, obtaining six latent variables that analyzes a total of 59.27% of the total variance, a number acceptable by the criteria in the social sciences, moreover, the latent root criterion was applied and according to theory we should consider the factors having self values greater than 1 (Hair et. al. 1999). Developing the following factors is the formation of latent variables (table 3, table 4, table 5, table 6, and table 7):

**TABLE 2. CORRELATIONS**

Items	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12	IT 13	IT 14	IT 15	IT 16	IT 17	IT 18	IT 19	IT 20	IT 21	IT 22	IT 23	
IT 1	1																							
IT 2	0.433**	1																						
IT 3	0.503**	0.515**	1																					
IT 4	0.269**	0.449**	0.380**	1																				
IT 5	0.264**	0.319**	0.461**	0.300**	1																			
IT 6	0.174*	0.279**	0.275**	0.246**	0.227**	1																		
IT 7	0.177*	0.208**	0.295**	0.312**	0.257**	0.295**	1																	
IT 8	0.148*	0.323**	0.324**	0.366**	0.415**	0.297**	0.333**	1																
IT 9	0.133*	0.153*	0.168*	0.224**	0.400**	0.084**	0.376**	0.469**	1															
IT 10	0.140*	0.159*	0.134*	0.118*	0.236**	-0.005	0.239**	0.295**	0.39**	1														





Transformations were made to prove the hypothesis of each of the eight latent variables, using the method known as classification of variables, useful to eliminate the dependence regarding the measure units used. Classification of  $\sqrt{x}$  was made to press high values and expand the small ones. To test the hypothesis, an analysis of Ordinary Least Squares (OLS) was also performed, having the following results:

“Skater” identity is influenced by their symbols, we can see that the influence of the skate symbols is significant at a level of 0.10 to explain how brands can impact on urban tribes, if one observes the correlation coefficient (R<sup>2</sup>) is only just under 0.036, however the F statistic has a significance level of 0.10, which means that globally this model statistically explains reality.

The influence of the brand depends on the influence of the Internet and the brand awareness. The influence of the Internet has a significance level of 0.10, while the brand awareness has a level of significance of 0.05, plus they both have a positive relationship with the dependent variable. If the coefficient R<sup>2</sup> is analyzed, this is low, but the overall level of significance there is a significance level of 0.05, which you can say that this model explains 95% of globally influenced brand.

Brand Impact depends on the brand awareness, the influence of the internet and the influence of friends, it is observed that the influence of the brand has a positive and significant relationship with the concern for personal appearance but with respect to variable influence of internet friends and influence of these fail to be significant in explaining the dependent variable. It also has the model globally can explain up to 95 % personal appearance variable.

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**TABLE 8. HYPOTHESIS TESTING**

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H1: dependent variable "skater identity is influenced by their symbols"

Influence of skate symbols	0.190347*
Constant	0.667572***
R <sup>2</sup>	0.035672
F	4.919942*

H2: Dependent Variable "Brand Influence"

Internet influence	0.132413*
Brand awareness	0.254547**
Constant	0.491277***
R <sup>2</sup>	0.094471
F	6.885609**

H3: Dependent Variable "Brand Awareness"

Brand Impact	0.242782**
Internet Influence	0.124448
Peer Influence	0.1875
Constant	0.519975***
R <sup>2</sup>	0.093046
F	6.771044**

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## Conclusions

As we can observe, the influence on the skaters still is based in their symbols, such symbols are the skaters who appear in the media, and are considered as the top ones. It is important to point the several of them are already signed by big brands related to skateboarding, and they are presented in magazines and sponsored by companies in the skateboarding business.

The influence of their peers for choose a brand to wear and to be considered a “real” skater is not really significant, but it is important the influence of Internet and to know a brand to choose the “right” one. Internet here is having an influence for choose a brand, but not for to be aware of the brand. The name of the brand is still important, probably those are brands considered to be part of the skateboarding subculture, such as *vans*, or *vision street wear*, just to cite some names.

One of the main limitations of this paper was the size of the samples, especially in Mexico, where there were not enough participants. The American skaters were more positive to be interviewed than the Mexican ones, probably because the attitude of the people and the government against them. In Mexico the skaters are perceived as a young people who is just wasting the time and destroying the public property. Another limitation is that the work skipped a question to see which brands were considered authentic for them.

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## The interpretation and enlightenment of Chicago marathon organization to China

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### 1. Background

As times go into the 21st century, running become more and more popular in the whole world. China's marathon also springing up in the ascendant. Especially in 2014, with the approval of the Chinese government to release events, 2014 National Marathon just 50 games into a blowout field 134 (Chinese Athletic Association data) in 2015, as many as 1.5 million people participate. Current China has Beijing International Marathon, Xiamen International Marathon, Shanghai International Marathon and other events become IAAF Gold Label Race. However, because of later known about the marathon, most of the race by the whole event, half race, 10 km race and so on. Until 2015 Beijing International Marathon became China's first whole marathon race. Meanwhile, business events, grassroots events, crowdfunding events everywhere in China, driven by the city publicize and promote its economic interests, the country is still crazy held the marathon events, Many of it just want "to do and to do," because there is no recognizable, Race homogeneity is serious, will soon be lost in near future. China's current marathon participants is more and more, how suitable due to build first-class marathon, The Bank of America Chicago Marathon can give us some inspiration.

### 2. Bank of America Chicago Marathon's developing

Bank of America Chicago Marathon is one of the world's most famous marathon. Its race route demonstrating the Chicago city charming, from the skyscrapers of downtown to the different ethnic neighborhoods, it attracting all the marathon lovers, and it has been considered the world marathon majors series of events (World Marathon Majors) famous for its outstanding management and very good take care of the participants. Through literature, the author investigate the Bank of America Chicago Marathon's whole development process, it can be divided into initial germination (1977-1989), a preliminary exploration (1990-2001), developing (2002-present) three stages. And use the Bank of America Chicago Marathon's development as the main line, to explore the characteristics of their race, and why the Bank of America Chicago Marathon's management is so excellence. Now Bank of America Chicago Marathon has become the world's most famous marathon. So we can give some reference and inspiration to the China's marathon events.

### 3. Bank of America Chicago Marathon's e key management features

Through three stages of development of the Bank of America Chicago Marathon, We can conclude why Bank of America Chicago Marathon become the world's leading marathon, there have some key management features in this event. 1. Delicate track, Generous bonuses: Push to achieve first-class performance; 2, Focus on humane Management and the details management: pay attention to the competition experience; 3, The events been the whole city's big party: first-class race atmosphere makes the events great; 4The pursuit of excellence, never stop

improvement: makes the Event Management perfect. After analysis of the Bank of America Chicago Marathon's characteristics, combined with China's current situation, we can draw a little inspiration for the development of China's marathon events.

#### **4. The inspiration for the development of China's marathon events.**

##### **A. Change the organizer's opinion, to service the athletes**

Race organizers to change from managing athletes to service the athletics. People is the most important factor in management, people management skills and management concepts determine the extent of the perfect event organization. As a broad public participation in marathon, athletes are the core of the competition organizers. How to manage participants, so that participants in the events and accomplishments during the race out of the city to leave a good impression, event organizers need to service event management philosophy, management transition from athlete to athlete services management events.

##### **B. Pay attention to the network function**

Network development over the past decade become very fierce, has become a part of life for many people, the network gives people convenient, fast and make our lives more efficient and perfect. Faced with the world development trend of information technology and network, event organizers should keep pace with the times, to the official website as a platform, while the initiative to use other modern media such as micro-channel, micro blogging and other means and participants, and the general public communication, exchanges and timely feedback to improve event management.

##### **C. Success depends on details, focus on the details of the event organization management**

People management is inseparable from the details of the event management. Essence personalized management the details of management, people management, quality management, value management and innovation management. This requires event organizers to athlete-centered, experience in practice and use the same type of event before the event organizers continue to accumulate through the tournament conducted every step of careful planning, execution and innovation, while introducing interested in long-distance running to enter the event management ranks.

##### **D. People-oriented, and increase volunteer training**

Volunteerism is an important symbol of modern civilization level of society, is an effective way to promote strong starting point under the new situation of social construction, but also the people involved in public affairs. Volunteers are a showcase of urban vitality and good human image of the perfect media, how to do in the event during the service of the people present, should increase the intensity of the training of volunteers, the introduction of long-distance sports enthusiasts in volunteers, targeted for the marathon has been analyzed to establish a scientific volunteer service model; while enhancing service awareness, sense of responsibility and civility education training, and gradually turn these internalized into personal habits, volunteer service levels to enhance the event.

##### **E. Collaborative innovation, strengthen the sector with all the parts of organizes**

Event organization is a complex system engineering, especially marathon often tens of thousands the number of participants, the need for coordination and cooperation in various sectors. Should be a clear division of responsibility for each event project management, play each department initiative. At the same time improve inter-sectoral coordination mechanisms to rationalize relations department, focusing on the responsibility of the department, "points" and focus on "cooperation" in efforts to clear division of labor based on the coordination

between departments highlighted achieve overall coordination tournament run, improve event management efficiency.

#### **F. Continuous improvement, focusing on the evaluation after the game**

The world is not perfect, the competition organizers should be people-oriented, always with a sincere heart and a humble attitude to organize events. Pay attention to use scientific methods to gather athletes evaluated after the game, after the game to collect feedback event organizers of various departments to strengthen communication volunteers, event organizers, athletes and spectators and other groups, eventually forming after the game summary. Find and solve problems, and constantly improve the problems in event organization, improving the ability to strive for excellence.

## *Analysis on Kun Opera Performing Art Products for Tourism - Taking The Peony Pavilion staged at Kezhi Garden as an example*

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### **Abstract:**

*Kun Opera has become a performing art product for tourism in the modern society. In this paper, the performance of The Peony Pavilion at Kezhi Garden is studied based on the theory about performing art products for tourism, and this performance is regarded to have the same features as other performing art products for tourism, namely, long-term repetition, market orientation and close link with intangible cultural heritage. However, compared with other outstanding performing art products for tourism, there exist shortcomings for the live-action show at Kezhi Garden: small market size, lack of derivative products and marketing approaches, poor product innovation, etc. The tourism productivity of Kun Opera can be revitalized through a better management philosophy and involvement, precise marketing, use of technology and intensive development.*

**Key words:** Kun Opera, performing art products for tourism, the Peony Pavilion

UNESCO recognized 19 “Masterpieces of the Oral and Intangible Heritage of Humanity” on May 18, 2001 as the first time, and Chinese Kun Opera is at the top of the list with unanimous vote. After 15 years of development, the preservation of Kun Opera has got abundant outcomes. For more than a decade, a variety of Kun Opera shows have been performed in theaters, hotels, scenic spots and gardens. The Peony Pavilion (Youth Edition) has been staged for nearly 300 times in many places of the world since its debut in Taipei in 2004; the Palace of Eternal Youth were staged in Lyceum Theatre for 32 times in 2009 with the box hitting RMB 1.25 million.<sup>[1]</sup> Meanwhile, the Peony Pavilion in various editions, e.g. unabridged edition, youth edition, imperial granary edition, master edition, classic edition, live-action edition and Chinese-Japanese edition, has promoted public recognition of Kun Opera, particularly the Peony Pavilion. At present, the Peony Pavilion has become the most influential masterpiece in Kun Opera repertoire.

There are two major academic viewpoints in Kun Opera study. First, the traditional academic viewpoint represented by Xie Yufeng keeping Kun Opera’s development is still facing difficulties (it is even escalating). And what they should do presently is to save existing repertoire and realize inheritance of the “original” art;<sup>[2]</sup> Second, the open viewpoint represented by Cai Zhengren maintains that traditional opera highlights should be preserved, and an adaptation of traditional operas, historical dramas and modern dramas is essential. Otherwise the “inheritance” of Kun Opera is hidebound.<sup>[3]</sup> The academic circle focuses on the study of Kun Opera from perspectives of opera, drama, music, literature and history. The author believes that the Peony Pavilion in youth edition, live show of garden edition or imperial granary edition, shares basic characteristics of performing art product for tourism and the theory of performing art product for tourism should be one part of Kun Opera study.

Performing art product for tourism is a distinctive cultural tourism product which combines the tourism industry and performing art, and the concept of performing art for tourism has no clear definition in the academic circle. Scholars incorporated performances in opera, festival celebrations and ceremonies into Kun Opera study from perspectives of anthropology and tourism. Hughes held drama tourism was thriving worldwide<sup>[4]</sup>, and he divided cultural tourism into four categories in 2002 according to tourists’ interest in culture, verified such classification in the form of performing art for tourism, explored the effects of performing art on tourist destination and tourism market.<sup>[5]</sup> Charassri and Naraphong thought performing art for tourism could serve to interpret the world’s cultural heritages based on on-site investigation.<sup>[6]</sup> In China, the theory on performing art for tourism is preceded by its

practice, which falls into four categories according to different venues: impression series of live-action landscape performance produced by Zhang Yimou and Mei Shuaiyuan ; scenic area performance represented by *Ancient Songcheng*; theater performance tour represented by *Yunnan Impression* produced by Yang Liping; urban theater performance represented by *ERA-Intersection of Time*, etc. All these products have become tremendously popular on the market. *Guiding Opinion on Promoting Joint Development of Culture and Tourism* was jointly released by the Ministry of Culture and National Tourism Administration in August 2009 to encourage use of modern high-tech methods, innovative (innovative treatise) performing forms, improvement of performance quality and emphasis on local and cultural features and deliver superior performing art product for tourism.<sup>[7]</sup>Presently, the concept of performing art for tourism has been variously defined in China; Zhuge Yiting, Li Youchang, Li Leilei and Chen Mingjie have defined performing art for tourism from different perspectives. The author attempts to define performing art product for tourism from the perspective of tourism: performing art product for tourism refers to a kind of combined service & product provided in the form of performing art by tourism operators through developing and exploiting cultural tourism resources.

### **I. The Peony Pavilion at Kezhi Garden**

The Peony Pavilion at Kezhi Garden is a life show in a Ming garden co-produced by “Kun Opera Prince” Zhang Jun, musician Tan Dun and dancer Huang Doudou. The show was launched during Shanghai Expo 2010 and had been staged for 200 times (in six seasons) till the end of 2015.

The Peony Pavilion at Kezhi Garden presents the masterwork *The Peony Pavilion* by Tang Xianzu in the Ming Dynasty in the form of garden and Kun Opera, reflecting the hospitality of “Music comes upon guests’ arrival, fine poems abound in royal family” in the traditional Chinese culture. The show abandoned the limits of traditional “three-sided wall” frame-style stage, and instead the original setting of a garden was adopted. It was staged at Kezhi Garden in Zhujiajiao Scenic Area, a national AAAA scenic area. Zhujiajiao Ancient Town has been reputed as a “National Eco-town” and “One of top 50 must-visit places in China for foreigners”. More than 200 audience sit at the Watermoon Pavilion and Dew Pavilion of the southern Chinese garden dating back to the period of the Republic of China, which stand across a lake and are surrounded by exquisite long corridors, arched bridges, winding paths, halls and other garden buildings, and enjoy a fascinating show about the beauty of love. Tall bamboo and willow wiggle in the moonlight as gentle breeze blows, and the scent of peony, crabapple and wintersweet is wafted from time to time; Du Liniang and Liu Mengmei dressed in exquisite costumes whisper in a “tone of watermill” by a lake: “How could we have found such an amazing spring landscape if we didn’t go to the garden?”

Fig.1: Seat Arrangement of the Peony Pavilion at Kezhi Garden



The show has been a huge success with rave reviews from People’s Daily, Wall Street Journal and New York Times. New York Times calls it “Shakespeare in a Garden” of Shanghai, claiming it is a modern classic masterpiece to revitalize Chinese traditional opera and it injects new life into the intangible cultural heritage of Kun Opera.

## II. Analysis on Characteristics of Performing Art Product for Tourism of the Peony Pavilion at Kezhi Garden

Scholars don’t focus much of the study on characteristics of performing art products for tourism, and some of them claim that performing art products have the characteristics of long-term repetition, derivativeness, interaction, entertainment and nonresident. The author sums up some characteristics based on research and literature.

### 1. Long-term repetition

Performing art products for tourism distinguish themselves from ordinary performing art products in long-term repetition. Normally, performing art products are performed or shown in scenic areas or tourism cities, and the audience are mainly tourists from other places; the same show can be staged for several times. The table shows the ages of well-known performing art products for tourism in China:

Table 1: Ages of Major Performing Art Products for Tourism

Name of the product	Date of launch	Venue	Altered or not	Number of yeas (till 2015)
Ancient Songcheng	1998	Hangzhou Songcheng Scenic Area	Small alteration each year	18 years
Charming Western Hunan	2000	Zhangjiajie Scenic Area	Small alteration each year	16 years
Impression Sanjie Liu	2003	Yangshuo, Guilin	Almost no alteration	13 years
Shaolin in the Wind	2004	Zhengzhou	Almost no alteration	12 years
Jinshan	2005	Chengdu	Almost no alteration	11 years
Impression Lijiang	2006	Lijiang	Almost no alteration	10 years
Yishui Lichuan	2006	Tenglong Cave Scenic Area	Almost no alteration	10 years
Shaolin Zen Grand Musical Ceremony	2006	Songshan Mountain Scenic Area	Almost no alteration	10 years
Impression West Lake	2006	Hangzhou West Lake Scenic Area	Almost no alteration	10 years
Tianmen Fox Fairy Liu Hai Cuts Firewood (New Version)	2009	Zhangjiajie Scenic Area	Almost no alteration	7 years
The Peony Pavilion at Kezhi Garden	2010	Zhujiajiao Scenic Area	Almost no alteration	6 years

The table suggests that the ages of most well-known performing art products for tourism are over 10 years. Except for mixed shows like *Ancient Songcheng* and *Charming Western Hunan* that require frequent alterations, most theme shows are almost unaltered. The Peony Pavilion at Kezhi Garden has been staged for more than 200 times without major alterations since it was launched in 2010. The shows in Table I all take place at renowned scenic areas or tourism cites, where huge tourist flow guarantees their long-term repetition.

## 2. Close link with intangible cultural heritage

Many items of intangible cultural heritage can be transformed into performing art products for tourism. Intangible cultural heritage is often specific to one ethnic group and one region, attracting tourists from other places who seek exotic and exciting things and knowledge. Some items of intangible cultural heritage can directly be turned into performing art products for tourism without alteration. All performing art products shown in the table 2 are somewhat linked with intangible cultural heritage, e.g. Shaolin Kungfu of Shaolin in the Wind, the Zhuang people's song fair of Impression Sanjie Liu, and mixed shows involve more kinds of intangible cultural heritages.

Table 2: Major Performing Art Products for Tourism & List of Intangible Cultural Heritage Items

Performing art product for tourism	Name of programs	Type of intangible cultural heritage	Level of intangible cultural heritage
Yishui Lichuan	Wuluo Zhongli Mountain, Yanyang Yishui, Yanyang Goddess, chieftain of Ba clan, elegy of Yicheng, hunting dance, bridegroom selection, climbing a ladder of knives, wooden house projecting over the water, Xilankapu brocade, Kujia (crying for marriage), ten unwed girls in company, right of the first night, burning for love, seeing the bridegroom off, festive lantern of Enshi, eight treasures copper bell dance, Roulianxiang dance, dragon boat melody, flaming grass dragon, Maogusi dance, Sanerhe funeral dance, bonfire dance, Gumingsheba (hand-waving dance).	Folk literature, folk dance, folk music, folk customs, craftsmanship	Provincial-level, national-level, world-class
Charming Western Hunan	Miao drum dance, border town, stair climbing, Maogusi dance, Coriaria sinia lantern erection stand, get-together banquet, girls' festival, crying for marriage, dead body running in western Hunan, Tu hard qigong show, three witchcraft shows in western Hunan (i.e. climbing a mountain of swords, walking on iron plough, plunging into a sea of flames), large-scale hand-waving dance of Tu people.	Folk dance, folk music, festival celebration, folk customs, folk literature, craftsmanship	Provincial-level, national-level, world-class
Ancient Songcheng	Liangzhu Light, banquet dance of Song palace, shining spears and armored horses, Story of Xi Shi, Charming Hangzhou	Folk literature, folk customs, folk music, festival celebration, craftsmanship	Provincial-level, national-level, world-class
Impression Sanjie Liu	Impression Sanjie Liu: the Zhuang people's song fair, torch festival, wedding customs, real-life show	Folk music, folk dance, folk customs, festival celebration, folk literature	Provincial-level, national-level, world-class
Shaolin Zen Grand Musical Ceremony	Zen state <i>Delight in Water</i> : meditation in Xishan, walking on water while singing; Zen meditation <i>Delight in Woods</i> : Shaolin temple block Kungfu, flapping flag and moving mind; Zen realization to truth <i>Delight in Wind</i> : wind chime in the temple, wind in mountains; Zen martial arts <i>Delight in Light</i> : pagoda forest in four seasons, drumbeat of Samsara; Zen ode <i>Delight in Stone</i> : Stone song of Song Mountain, Zen ode to great perfection.	Folk music, folk dance, folk sport, craftsmanship, folk literature	Provincial-level, national-level, world-class
The Peony Pavilion at Kezhi Garden	Frightmare, soul wandering, a rendezvous in the dark region, rebirth; Chinese zither	Folk opera, folk music	World-class

Most performing art products for tourism in Table II involve intangible cultural heritage, e.g. literature, dance, music, folk customs, craftsmanship, etc. They are provincial-level to world-class arts, making up more than ten programs relating to intangible cultural heritage. The Peony Pavilion at Kezhi Garden introduces another element of world-class intangible cultural heritage - Chinese zither - based on an inheritance of Kun Opera, which reinforces the artistic appeal of Kun Opera and brings tourists a multi-faceted aesthetic experience.

### **3. Market orientation**

Performing art products for tourism are a kind of combined service & product sold to tourists on tourism market, so they are market-oriented in at least three aspects.

#### **(1) Investors.**

All performing art products for tourism in Table 1 are invested by enterprises without direct governmental investment. The Peony Pavilion at Kezhi Garden is totally invested by a private professional Kun Opera troupe - Shanghai Zhangjun Kun Opera Art Center, which is a commercialized product completely relying on performance incomes.

#### **(2) Product design centering on tourist experience.**

Seeking new things, knowledge and fun is a key characteristic of tourist experience, around which the design of performing art products for tourism revolves. For example, tourism performances focus on local culture, ethnic culture and historical culture to satisfy tourists' psychological needs for new things such as knowledge; festive music, dance and scenes are offered in connection with love and marriage to satisfy tourists' needs for a cheerful atmosphere; the latest technology is integrated to exhibit cultural diversity, like many performing art products in Table I which are presented to tourists via 3D imaging and virtual scenarios to impress the audience and enhance their experience; the core product of performing and related derivatives make up combined services & products to meet tourists' different needs. The selection of important chapters of *The Peony Pavilion* in unabridged edition for The Peony Pavilion at Kezhi Garden, relating music and dance design and relating product design are all tourist-centric.

#### **(3) Emphasis on marketing.**

First, a marketing department is established to promote performing art products for tourism; second, the marketing approach of celebrity charm is preferred, for instance, Zhang Yimou, Mei Shuaiyuan, Yang Liping and other renowned figures are engaged in the production of many performing art products for tourism in Table I, and The Peony Pavilion at Kezhi Garden takes advantage of the reputation of "Kun Opera Prince" Zhang Jun, musician Tan Dun and dancer Huang Doudou to create market influence; lastly, new media is also used in the marketing: before The Peony Pavilion at Kezhi Garden starts, a promotional activity of "scan QR code and get free bottled water" is launched to draw tourists' attention on wechat public account of Zhangjun Kun Opera Art Center which achieved precise marketing.

It can be drawn that The Peony Pavilion at Kezhi Garden shares the same characteristics as the performing art products for tourism in Table I, and it gets involved in tourism market competition.

### **III. Analysis on Problem and Development Trend of Performing Art Product for Tourism of the Peony Pavilion at Kezhi Garden**

#### **1. Problem analysis**

##### **(1) Small scale.**

The Peony Pavilion at Kezhi Garden was staged for over 200 times between 2009 and 2015. The result looks good according to traditional Kun Opera performing standards, as The Peony Pavilion in youth edition has been staged for over 300 times since launched 12 years ago. As a performing art product for tourism, the product

lacks scale effect with a small number of audience and a total number of showings. As shown in Fig.1, the number of seats for The Peony Pavilion at Kezhi Garden reaches 150 (additional seating ticket is available on the spot), and it is priced at RMB 80 to 680 and RMB 250/person on average. An income of RMB 37,500 is earned for each performance. This performance is given at weekends of April, May, September and October for a total of 30 times (the performance will be postponed in case of heavy rain and strong wind outdoors). It receives 4,500 audience each year and earns an income of around RMB 1.1 million. The profit margin is meager when venue rental, operation cost and salaries of over 10 performers are subtracted. The number of audience received at each performing art product for tourism in Table I exceeds 1,000 and it is staged for 200 times on average each year. In particular, the well-known performing art product for tourism *Ancient Songcheng* is staged for 1,300 times annually and 9 times each day in busy season. So it has been staged for more than 18,000 times and received 54 million audiences on a cumulative basis for more than a decade. By comparison, The Peony Pavilion at Kezhi Garden has smaller market size.

## **(2) Lack of derivative products.**

Performing art for tourism is the combined outcome of tourism and performing art. The integrated industrial chain keeps expanding and involving performance and creation, performers' education and training, lighting equipment manufacturing, audio equipment manufacturing, stage equipment manufacturing, prop manufacturing, cosmetics production, costume processing and manufacturing, media advertisement, sales agency and tourism, consulting, security, cleaning, transportation, catering, accommodation, finance, law, etc.<sup>[8]</sup>The famous masterpiece *Impression Sanjie Liu* promotes the emergence of surrounding commercial street-Yangshuo East Street. Shanghai's renowned performing art product *Intersection of Time* gets the sales of surrounding products to hit several million yuan each year. According to the author's research, there are few tourist commodities related to Kun Opera and The Peony Pavilion at Kezhi Garden sold on the market besides a series of discs and books, which is difficult to maximize benefits of performing art products and obtain tourists' positive feedbacks about long-term possession of souvenirs as well as shopping experience.

## **(3) Undiversified marketing approaches.**

There are no other marketing approaches but ticket sales by ticket booking company and WeChat public account marketing. The ticket booking website will not show The Peony Pavilion at Kezhi Garden if tourists don't search Kun Opera by themselves. Marketing ads of The Peony Pavilion at Kezhi Garden are seldom seen in traditional or new media. In fact, only those who follow WeChat public account "Kunchong" (a nickname for Kun Opera buffs) of Shanghai Zhangjun Kun Opera Research Center can receive messages of performances. That marketing approach for keeping regular customers and bringing in new customers through regular ones can save marketing cost, but it doesn't prove the abundant outcomes in the number of showings and audience.

## **(4) Poor product innovation.**

Many innovations have been done to The Peony Pavilion at Kezhi Garden: Tan Dun composed music, Huang Doudou designed dances, the venue was moved to a real Ming garden from the stage along with the ensemble of Chinese zither and bamboo flute on the pleasure boat and teleprompter erected on the boat and pavilion, etc. However, no tremendous breakthroughs have been made in traditional Kun Opera performing framework, screenplay, dance, lyrics, costume, performing, music. Even well-educated tourists fail to understand elegant lyrics of The Peony Pavilion without the presence of teleprompter, delivering an unsatisfying tourist experience.

**(5) Lack of interaction.** The biggest shortcoming of this performing art product is no interactive design, which means the audience are only passive receivers. The on-site research conducted by the author reveals most audience

are shocked and impressed by music for voices, acting, music, costume and settings, but they cannot figure out what exactly the beauty is. The lack of interaction and involvement makes it hard to deliver an in-depth experience to the audience unfamiliar with the art.

#### **(6) Other problems.**

Normally, the performance begins at 7:00 p.m. and ends at 8:30 p.m. when there are no longer any public transport to take at Zhujiajiao back to Shanghai downtown area. Thus some audience have to find alternatives. Furthermore, the outdoor performance will be canceled in case of weather not permitting. And there are only two showings each week, so individual customers may miss the show if they fail to buy tickets. In addition, no student and child concession is available on the ticket-booking website, which dampens a family's desire for buying tickets. All these problems exist to make The Peony Pavilion at Kezhi Garden hard to gain huge popularity in the market.

### **2. Development Trend of Performing Art Product for Tourism of The Peony Pavilion at Kezhi Garden**

#### **(1) Change ingrained notions.**

As Kun Opera is turned into a performing art product for tourism, the biggest problem for Kun Opera performers lies in changing their ingrained notions. Despite some changes in performing forms and content in The Peony Pavilion at Kezhi Garden, the management philosophy should be developed first. The wrong notion should be abandoned that Kun Opera would be unauthentic if much adaptation is done and many other artistic forms are introduced. According to the authenticity theory of constructivism, the authenticity of performing art products for tourism is co-established by performers and tourists. Bruner maintains it is hard to use the authenticity of traditional tourism experience to explain the phenomena of modern tourism experience, so tourism operators may design scenic areas and organize activities to achieve authentic effect according to tourists' expectation, imagination, preference, belief, etc. It may meet individual evaluation standards of "seeing is believing" to some extent. Such "authenticity" is "the one" he wants when his need is satisfied.<sup>[9]</sup> It requires broad knowledge about opera, literature, music and dance if tourists want to understand and appreciate the traditional Kun Opera, and such "artistic authenticity" based on tourists' knowledge is not the tourist-centric concept for creation. The management philosophy of performing art product for tourism must prioritize tourist experience. The innovative concept of performing art product for tourism should be guided by the authenticity theory of constructivism and based on tourists' expectation, imagination and preferences as well as artistic characteristics of performances.

#### **(2) Enhance involvement.**

Wang Ning maintains the existential authenticity has nothing to do with tourism objects, so tourists may find themselves in an existential state of "Being" when they seek authentic tourism experience in some activities, and they don't care about the authenticity of tourism object but want to find authentic ego via tourism activity or object.<sup>[10]</sup> Tourists mainly want to seek inner authenticity and interpersonal authenticity, that is, seeking involvement. According to anthropologist Goffman's "dramaturgical theory" and Hyde and Olesen's "performing tourism", tourism is not merely an experience of sightseeing and cognition, but a kind of combined performing art, that is, tourists are performers.

The performing art product for tourism underscoring performing art should get tourists involved and satisfy their performing desire and objective of seeking authentic ego. First of all, "copy" the example of Noh Theater setting up 3D experience hall in Ginza, Tokyo, introduce 10-30 minutes of free experience course in scenic areas and downtown area of Shanghai to demonstrate Kun Opera's beauty and vigor, eliminate most tourists' ignorance and misinterpretation of Kun Opera and get them closer to Kun Opera. Second, guide tourists to take part in 2-hour-long course or 1.5-hour-long Kun Opera performance according to tourists' further interests. Third, lead tourists

who have bought tickets to arrive at Kezhi Garden two hours in advance so that they may see how performers get prepared and talk with backstage staff. Lastly, organize face-to-face dialogue between performers and tourists from time to time after the end of performance; gather tourist feedbacks to enhance interaction and tourist involvement. Create chat community on WeChat platform to facilitate exchange between performers and tourists, tourists and tourists and get tourists involved in psychological experience of performance production, allowing performers and tourists to jointly achieve “performing tourism”.

### **(3) Conduct precise marketing.**

Big data about Kun Opera consumers may be created through above-mentioned involvement activity, especially chat community on Wechat platform. Precise marketing can be conducted among consumers according to data analysis. First, offer gifts to tourists who watch performances for the first time to attract their attention to Wechat public account of performances. Then, set up a community to encourage tourists to write reviews, initiate topics and nurture loyal “fans”. Second, after customer stickiness is created, send messages about performances and start topics and activities in relevant with hot news and festivals to keep “Kun Opera buffs” sticky. Set up “Wechat store” in this stage and sell meaningful performance-related items: autographed posters of Zhang Jun (or Zhang Jun, Tan Dun and Huang Doudou), autographed photos, CD, costumes, etc., authorize relating companies’ production and sales of stationery, costume, small souvenir to increase sales income of derivative products along with satisfying tourists’ shopping needs, boosting tourism experience and maintaining online user activity. As for seasoned “Kun Opera buffs”, the key of marketing is to let them feel respected: organize offline activities, invite them to have face-to-face talk with famous Kun Opera artists, guide them to study Kun Opera, let them perform together with famous artists on proper occasions and realize higher-level “performing tourism”.

### **(4) Use technology.**

This is the network age, and some scholars even have proposed the age of Internet of Things is coming soon. And any cultural form can inevitably be impacted by technology. What we have to do is to make use of technology to satisfy modern aesthetic needs and realize “living inheritance” of culture.

### **Product innovation.**

3D imaging technology can be used in stage design to quickly switch virtual scenes of mortal world and the hell for Du Liniang, which solves technical bottleneck of quick scene switch on the stage and brings fresh tourism experience and multi-faceted aesthetic experience. **Service innovation.** Thanks to latest technology of Internet of Things, Kun Opera venue is equipped with sensor so that tourists’ phone system can be connected, offering custom interpretation, shopping, tour guide, tourist evacuation and other services via mobile phone when tourists are nearby. When tourists are watching performances, their phones will be connected with the subtitles, interpretation shown on the phone screen. **Experience innovation.** Virtual imaging technology can be used to digitalize scenes of The Peony Pavilion at Kezhi Garden. Tourists can put on wearable glasses to experience Zhang Jun’s voices in the ear and feel the charm of Kun Opera. Tourists can even watch Kun Opera performances from different angles (in the sky, under the water, etc.) Virtual imaging technology may help Zhang Jun and master Cai Zhengren and Yu Zhenfei (late Kun Opera artist) to produce the scene of performing together on the same stage; meanwhile, the audience may take advantage of virtual technology to watch and participate in Kun Opera masters’ performance and experience what can not be felt in real performances. In this way, tourists take part in “living inheritance” of Kun Opera and achieve “performing tourism” with Kun Opera artists in real and virtual worlds.

To conclude, as a world-class intangible cultural heritage, Kun Opera gets new communication object through the performing art product for tourism--The Peony Pavilion at Kezhi Garden and Kun Opera performers

realize new inheritance of Kun Opera through tourism performing art stage. Major elements of Kun Opera inheritance overlap with those of performing art product for tourism, achieving tourism productivity inheritance of Kun Opera.<sup>[11]</sup>At the same time, as the agent of tourism productivity inheritance of Kun Opera, there still having to make some improvements for The Peony Pavilion at Kezhi Garden. What's more, further explorations are essential to meet the demands of tourists' aesthetic appreciation, Kun Opera inheritance and development in tourism.

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Scientific and innovative research project of Shanghai Municipal Education Commission “A Study on the Inheritance of Tourism Productivity of Intangible Cultural Heritage in Shanghai-Taking Kun Opera as an example” (Project No: 15ZS087)

**Track: Pedagogy**

## ***Bologna Process as one of the Tools of Innovation in Higher Education in the Post-Soviet Kyrgyzstan***

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### **Abstract**

*This paper seeks to determine opportunities of Kyrgyzstan's higher education institutions to transfer into the Bologna process. The author emphasizes that the Bologna process plays an important role, given that universities 'independence and autonomy ensure that higher education and research system continuously adapt to changing needs, society's demands and advances in scientific knowledge. In addition, this process undoubtedly will assist in development of competitive environment in Kyrgyzstani higher education institutions in the nearest future as one of the tools of innovation in Higher Education.*

### **Introduction**

At present, not only Kyrgyzstan, but also all European countries are facing necessity of reforms of the higher education, connected with processes of globalization. The western European answer to this necessity has been so called the Bologna process targeted on harmonization of the architecture of the higher education and creation of common educational space based on the Bologna declaration principles.

The Bologna declaration, adopted by education ministers of almost thirty European countries in June 1999, is aimed at formation of the all-European higher education space and securing leading position of the European higher school in the world. The present declaration runs as follows: "We should thoroughly control the rise of competitive capacity of the European higher education system in the world. Vitality and efficiency of any civilization are evaluated, in fact, by attractiveness of its cultural values, i.e. level of impact on other countries. We should be confident that the European higher education system possesses that level of attractiveness in the world that corresponds to the significance of our prominent cultural and scientific traditions"<sup>1</sup>. Therefore, the Bologna declaration proclaimed six main aims for creation of European higher education zone and promotion of the European higher education system all over the world, namely:

- Introduction of two-level education (bachelor- master);
- Introduction of credit hours to measure labour-intensiveness of educational programs for students;
- Introduction of all-European Appendix to diplomas in order to provide employment opportunities to European citizens and raise competitive capacity of the European higher education system;
- Education quality control;
- Expansion of students' mobility;
- Securing attractiveness of the European education system.

Introduction and application of the main aims of the Bologna process, both at the national and international levels, are essential condition and effective way to form an open all-European educational space. Today, 81 percent of European countries entered the Bologna.<sup>2</sup>

Mobility of students is the main component of the Bologna process, which creates a competitive environment for colleges. Higher education institutes cease to be a monopolist. In our opinion, the higher education

institutes of Kyrgyzstan need to adapt the principles of the Bologna declaration “step by step” with the least expenses, preserving the best achievements reached within the educational space of the CIS. It is most essential not to lose what has been created for decades. It is obvious that expansion of mobility of students and lecturers promotes development of exchange programs for students and lecturers between colleges of Kyrgyzstan and European countries and other countries of the world, which will increase international and cultural cooperation between these countries.

For many colleges of Kyrgyzstan, the transition to the Bologna process present a number of difficulties, connected with imperfect material-technical basis and equipment, lack of textbooks and teaching aids, and low salary of teaching staff. Condition of libraries does not correspond to the current standard requirements. University libraries do not have access to the global library informational network and other organized information sources. Academic dependence of colleges remains problematic. Such kinds of colleges do not provide quality of education, and graduates of these colleges are not in demand on the labor-market. However, those colleges of Kyrgyzstan, which have experience of introduction of foreign educational models, are able to gradually adapt the main tools of the Bologna process, for instance, introduction of the two-level education (bachelor-master), credit hours such as ECTS (European Credit Transfer System) and others.

Other colleges of Kyrgyzstan, in our opinion, should progressively transfer to the Bologna process via a pilot scheme as new conditions for educational process are created that correspond to the international education quality standards.

However, at present the majority of lecturers and members of Kyrgyz colleges are not aware of credit hours such as ECTS and principal directions of the Bologna process. The author considers that it would be advisable to hold series of seminars, round-tables and international conferences to instruct representatives of colleges in the principal directions of the Bologna process not just in Kyrgyzstan, but also in the whole Central Asian region.  
What is ECTS?

ECTS represents a numerical value that corresponds to units of discipline to characterize the student’s load to complete it. Credit reflects the scope of necessary work on each course relative to the total volume of work to finish a full academic year, i.e. lectures, seminars, practical work, independent work (at a laboratory, a library or at home), as well as exams or other forms of knowledge testing. ECTS credits are rather relative than absolute values of the student load. They show what part of the annual load the given course comprises on the college or faculty scale of credits.

What does ECTS give the student?

- Secures academic recognition abroad;
- Secures access to full-value educational courses at the academic life of another college;
- Secures a possibility to continue education abroad, i.e. free shift from one college to another.

What does ECTS give the college?

- Provides curriculum transparency with access to detailed information about the content of educational process in order to gain the desired degree;
- Renders assistance to solve issues of academic qualification recognition due to the preliminary agreement on the content of educational program between the student, his/her home college and the receiving university;
- Reflects more clearly the structure of curriculum courses, academic load of the student and results of education.

Universities secure autonomy and remain responsible for all decisions concerning the student’s load and results of education.

In 1999-2000, over 1,200 European universities used ECTS system on 6,000 curriculums within the framework of student exchanges. ECTS system is used most intensively in the five countries of Europe: France, Spain, Germany, Italy and Great Britain. Annually in each of these countries, over 12,000 student exchanges take place just within one country. Altogether 750,000 student exchanges took place in EU countries just in 2000. Most of all student exchanges take place on business, linguistics (philology), social, engineering and juridical sciences. What is the impact of the Bologna process on Kyrgyzstan universities?

The impact of the Bologna process on Kyrgyzstan universities will be very significant since it gives independence and confidence that the higher education and scientific researches systems will continuously adapt to changing needs and demands of the society and necessity to develop scientific knowledge. Joining to the Bologna process will also contribute to improvement of education quality and securing convertibility of Kyrgyz diplomas abroad. This, in its turn, will increase attractiveness of the Kyrgyz higher education for students of Europe and other countries of the world. This process will promote growth of international competitiveness of Kyrgyz universities in the world community as one of the tools of innovation in Higher Education in the Post-Soviet Kyrgyzstan.

Therefore, Kyrgyzstan universities need to create favorable conditions for transition into the European system of credit conversion, to perfect and to introduce contemporary models and methods of university management in the sphere of curriculum organization, human resources management, financial management, and college activities planning.

## **Conclusions**

The reform of higher education in Kyrgyzstan in the transition period will have direct impact on various aspects of internationalization, from the recognition of diplomas and degrees abroad through the improvement the quality of education to the better integration into the market economy in a new political and economic environment by learning from international experience. Institutions of higher education that actively strive for academic excellence in Kyrgyzstan will serve as the main promoters of access to European educational and research opportunities.

Thus, it is important for higher educational institutions to create favourable conditions for their transition to the European system of transfer of credits, to improve and introduce modern models and methods of university management in the area of the organization of educational processes, personnel administration, financial management and the planning of activities of educational institutions.

The implementation of the Bologna process will change the degree structure at Kyrgyzstani universities, but a much stronger political and effort is required to renew university education. Students should be trained to think critically, libraries should modernize and expanded and master programmes should build on undergraduate courses rather than repeat them again. Finally, a radical change is required in the doctoral training system with greater focus on methodological training and research ethics. These changes will raise the role of universities as the innovative engines and centres of knowledge and effect on internationalization of Higher Education in the Post-Soviet Kyrgyzstan.

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## End Notes

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<sup>2</sup> The Bologna process in documents and articles (Sorbonne-Bologna-Salamanca-Prague-Berlin) in “The Center of European Documentation” magazine №1, dated 2003, p.9

## ***Racing to the Top – A Case on Competition and Strategy in Crowd Equity Platforms***

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### **Abstract**

*This teaching case focuses on the competition and strategy in the nascent crowd equity industry, through the personal journey of serial entrepreneur Daryl Bryant and his most recent crowd equity venture StartupValley. Daryl had to think about what strategies he should deploy to make his crowd equity platform stand out among the many competitors emerging in this industry.*

*Daryl Bryant was sitting in his office, contemplating the future of his company Hudson Horizons and his newest venture - Startup Valley. Looking at the big and nice office space he has – complete with a kitchen, pool table, flat screen TVs, gaming system, bar, Razor scooters, and more, he was proud that Hudson Horizons had been able to survive and thrive for more than 10 years in the hypercompetitive environment of web agencies, where many others could not. Now he was taking a huge risk with this new initiative, Startup valley, intended to be an equity-based crowd funding platform. Daryl was convinced that it would be next big thing and a complete game changer. However right now he had a handful of challenges ahead. This was a completely new industry that he and his team had to learn a lot about. Regulation was just finalized after a three year wait and the competition was intense. He had worked very hard to bring his partner Matt Mayernik on board, who was suspicious in the beginning and called him nuts. Both he and his partner had to keep pouring considerable investments of time and money into the new business, which would impact their existing company and their lives. With a family with young kids, how could he make sure this company would go in the right direction? Daryl looked outside the window, lost in his own thoughts on where he came from and where the future would lead.*

### **Daryl's Personal Journey**

Growing up, Daryl had always had an entrepreneurial bug inside him. When he was in the fifth grade, he used his dad's printer to print NFL football helmets and sold them to his classmates for 10 cents each and made a couple of bucks every week. He sold Cutco knives when he was sixteen. However, even though his grandfather was a real estate entrepreneur, Daryl did not have much exposure to that aspect of his grandfather before he passed away.

In college, Daryl studied computer science and mathematics. While a student at Montclair State University, Daryl discovered that many restaurants had to pay to unload their empty liquor bottles, which could be turned into trendy lamps. He started picking up these bottles, making them into liquor lamps and selling them to his fellow students and local restaurants. Using online and word-of-mouth marketing, he got some good traction and started up his own company called Liquor Lamps. Liquor Lamps became fairly successful, however it also got the attention of one of the major liquor suppliers, who sent a cease and desist letter. Figuring that he didn't have the money to fight with a major company, Daryl decided to close shop and turn his focus elsewhere. However, Daryl considered this experience valuable in having taught him how to run a business, how to focus on marketing and reach out for customers.

Daryl graduated from Montclair State University in 2000 and took a job as a software developer in New York City. Due to his abilities, Daryl was quickly promoted twice and became the right hand person to the CEO,

even though he was pretty fresh from college. In 2002, the company imploded during the Internet Bubble, and Daryl lost his job. He began to wait tables at a local restaurant. For the first time in his life, he did a lot of reflection on what he really wanted to do in his life as opposed to what his parents tried to shape him into. Realizing that he had always been an entrepreneur at heart, he decided to take the plunge and start his own business.

At that time Daryl found another Montclair State University alumni, Matt Mayernik, who was an accounting major but self-taught programmer, also waiting tables at a different restaurant. The two had very similar ideas to start a business, and they decided to merge and start the business together. They waited tables at night, and worked on their business plan during the day. They decided to start a web development agency called Hudson Horizons, using the Web development skills they had.

Daryl got his first customer from the CPA who incorporated his business, who introduced his brother-in-law as his first customer. Daryl's girlfriend at that time was the designer and designed the website for him. After that, they just focused on the day to day operations, to grow their business and acquire new clients. Daryl and Matt worked well together, each focusing on what he did best. They both had a good understanding of not only the technical aspects and also financial aspects of the business and were able to communicate well to each other and to clients.

During the 10+ years that followed, Hudson Horizons grew steadily and more than tripled in size. The company was now specializing in website design, custom website development, Search Engine Optimization (SEO), paid search management, and Social Media Marketing (SMM) services for small, mid-sized, and Fortune 500 companies. Bryant always put a big emphasis on maintaining his position on the forefront of the most cutting-edge technological innovations, and Hudson Horizons started setting up Facebook pages and doing SEO for clients from a very early stage, even before they really took off.

With that growth also came challenges. Recently Daryl found that he had to slow down and make some tough decisions. He found he needed to do some rebranding after 10 years in the business and think about questions of who they really were and what they were trying to do. The industry had become fiercely competitive and many competitors were able to beat their cost by outsourcing programming operations overseas. In order to survive the competition, Hudson Horizons now became an integrated agency focusing more on marketing instead of just web development.

Hudson Horizons also had to scale back from their 25 employees and be more careful in hiring employees. Over the years the company had hired a lot of people but also let a lot of people go. Daryl decided to hire more slowly, really developing the core values of the company, and designing questions around these core values to assess a candidate's fit for the company culture.

## **The Birth of StartupValley**

One day in 2012 while reading Crain's NY new feeds, as one of Daryl's usual routines to keep a close tab on the technology world, Daryl came upon an article about the passing of the JOBS (Jumpstart Our Business Startups) Act. Part of the JOBS Act would make it easier to launch and back startups through the use of equity based crowdfunding. Instantly seeing the potential of this in democratizing the access to capital, Daryl got chills all over. As a business owner Daryl remembered how hard an experience it always was to go through raising capital, talking to the banks, etc. Now imagine that entrepreneurs would have the ability to post their business idea to a Web portal and receive funding from anyone!

The JOBS Act contains two major provisions that are important for startups that want to raise capital. The first provision – Title II – enables startups to publically solicit for funding. However, under Title II startups may

only accept funds from accredited investors (generally those individuals with a net worth of at least \$1 million or earned at least \$300K for the last 3 years). Thus Title II, while a help to startups, leaves out smaller investors. This is where Title III of the JOBS Act comes in. It would allow non-accredited individuals to invest small amounts in startup companies. Title III would limit the amount an individual can invest. Individuals with an income below \$100K could invest a maximum of \$2,000 or 5% of income or net worth. For individuals with incomes above \$100K the maximum investment would be 10% of income or net worth.

As Daryl read further, he found one of the key investor protections of Title III, was the requirement that equity crowdfunding transactions take place through an SEC-registered intermediary - either a broker-dealer or an approved funding portal. With 10-years of experience running a multi-million dollar web agency, Daryl knew how to build online portals and had been developing them for his clients. He had been waiting for the next big thing and now here it was. How exciting it would be to help companies raising capital, while tapping into the resources and capabilities he had already built over the years. Daryl had an “aha” moment and the idea for StartupValley as an equity crowdfunding portal to allow startups to raise seed and startup capital was born.

After much persuasion, Daryl got his partner Matt onboard with the idea of StartupValley. He started educating himself by reading the JOBS Act, all the rules and proposals, and the financial aspects of the platform. There were many complexities involved in running a crowdfunding platform, including conducting due diligence, background checks, making sure companies raising capital were legitimate instead of frauds. Daryl had a lot of work to do such as building a team with the relevant expertise, mastering the financial operations, bringing in legal counsel, leveraging 3<sup>rd</sup> party broker-dealers and building partnerships. He also strategically put himself in the right places such as helping co-found CFPA (Crowdfunding Professional Association) and sitting on the board of CFIRA (Crowdfunding Intermediary Regulatory Advocates), and became a thought leader in the crowdfunding community. So much so that he was invited to the White House in 2014 along with other industry executives.

## **The Emerging Crowdfunding Industry**

Crowdfunding is a way for businesses or other organizations to raise money from multiple individuals. It began as an extension of traditional financing by friends and family and use communities (often via online) to pool money to fund members with business ideas<sup>1</sup>.

The history of crowdfunding could be traced back to much earlier. For example, during the eighteenth century when some writers and artists such as Mozart use a subscription model to raise funds for their planned publication or performances.<sup>2</sup> In 1885, renowned publisher Joseph Pulitzer launched a fundraising campaign in his newspaper The New York World to raise money from the public to build the pedestal for the statue of liberty that had just arrived from France. For \$1 a backer would get a six-inch statuette of Lady Liberty, and for \$5 a 12-inch one. In just months, more than 120,000 people from around the world pledged \$102,006 to the project, which enabled the pedestal to be built.<sup>3</sup>

As we see, the concept of crowdfunding is not new. For centuries, artists and patrons have used the crowdfunding model to fund projects. The biggest difference of crowdfunding now that with the Internet it makes the model exponentially more dynamic and accessible to all.

Generally, there are four types of crowdfunding currently observed in the industry:

1. Reward Based Crowdfunding: Investors receive a tangible item or service in return for their funds.
2. Donation Based Crowdfunding: Contributions go towards a charitable cause.
3. Lending Based Crowdfunding: Investors are repaid for their investment over a period of time.
4. Equity Based Crowdfunding: Investors receive a stake in the company.

StartupValley was focused on equity based crowdfunding, or crowd equity space. Traditionally, equity funding for startup companies have come from angel investor and venture capital industry, which is usually highly embedded in a dense social network of interconnected companies and players. Angel investors and venture capitalists primarily locate firms of interest through network connections and direct contacts with entrepreneurs. Crowd equity truly holds the promise to democratize the funding process and make it more accessible to a broader set of entrepreneurs. However, with the already hundreds of crowdfunding websites available, how can StartupValley stand out from its competitors?

## **Platform Strategy**

Crowd equity platforms are a special type of Internet platforms. In recent decades with the life changing power of the Internet, more and more companies started to adopt a kind of Internet thinking as opposed to traditional business models. The Internet age enabled many companies to succeed by building platforms instead of products as a business model, such as Amazon, eBay, Match.com, Uber, AirBnB. Chinese eCommerce giant Alibaba group was able to build the world's largest eCommerce portal by purely acting as a connection between buyers and sellers, and was much profitable than jd.com, China's second largest eCommerce portal, which mostly sold products of its own on the Internet.

These platforms usually serve two or more types of customers or markets (e.g. buyers and sellers on eCommerce platforms, drivers and passengers on Uber, etc.), which makes them distinct from traditional product or service providers. For a platform to succeed, there were at least three critical questions to think through:

First of all, a platform needed to figure out which side to subsidize and which side to charge. Many Internet platforms utilized the free strategy to attract critical mass of users on the one side, thus making them attractive to the other side e.g. advertisers. The best prominent example is Google, which provided its service freely to people who search on the Internet and charged advertisers for its revenue model. By providing its service for free to users and subsidizing this search service, it was able to attract a huge user base, which made it attractive to advertisers and thus they were willing to pay to get access to these users. For another example, the Chinese eCommerce giant Alibaba Group's C2C site Taobao.com outcompeted eBay in China despite being a second mover by making it free to list goods for sale on Taobao. Eventually Taobao drove out eBay from China and dominated the market and was able to earn much revenue through advertising and value added services. Other examples include bars offering free drinks to women in order to attract more men. Figuring out this question was critical to the future scale of the platform and whether it could reach a critical mass and how big it could grow to.

Second, for a digital platform to be successful, it needed to facilitate trust and reduce transaction cost between its different by utilizing various mechanisms and designs. This could include the rating, review and reputation system by almost all eCommerce websites, and other mechanisms such as the insurance mechanism on AirBnB, the background check on Uber. For example, one of the important factors that led to success of Chinese eCommerce giant Alibaba Group and their trumping of eBay in China was that they created their own escrow payment system, Alipay, whereby payment from buyers were held in Alipay and only released to sellers after buyers were satisfied.

Thirdly, a platform needed to provide the attractions and incentives for people to want to stay on it and use it. For example, facebook and Instagram provided many features to help people interact with their social networks so they would spend more time on these sites. Twitter provided a kind of access to celebrities that people normally didn't have access to.

Internet platforms were subject to a network effect, which was the key to the growth of the platform and success of the company. As a platform gained traction with one side, its value would grow with the other side, and this became a kind of mutually reinforcing effect. This network effect is the key to the growth of the platform and the success of the company. Therefore, gaining and sustaining an early advantage could be very critical to the success and demise of Internet platforms.

### **Competitors in Crowd Equity**

StartupValley had been in Beta testing before SEC finalized the rules regulating the crowdfunding industry effective May 2016. Before that, companies were only allowed to provide rewards or gifts in exchange for certain funding amounts. However, the 2012 passage of the Jumpstart Our Business Startups (JOBS) Act has opened new opportunities for a host of new crowdfunding platform players like StartupValley.

Title II and Title III of the JOBS Act are of particular importance to the private finance community. Title II, which was implemented in September 2013, eliminates the ban on the public advertising of private investment opportunities but limit to only accredited investors, those with an individual net worth of at least \$1 million and \$200,000 in income in each of the past 2 years (or \$300,000 with your spouse), registered investment companies, or businesses with \$5 million in assets may participate in these types of investments. With the passage of the JOBS Act, a much wider range of investors will be able to provide investments to businesses in exchange for an equity share in their company.

Crowdfunding platforms such as StartupValley facilitate a two-sided market, whereby investors and startups seeking capital may negotiate agreements that are mutually beneficial. As noted earlier, at least three critical issues must be considered for a platform to succeed:

1. It must decide which side of the market to subsidize and which side to charge
2. It must facilitate trust among users and reduce transaction costs
3. It must provide incentives to attract greater numbers of each customer type (i.e. investors and startups seeking capital)

Below we examine each of these issues and consider the actions being taken by StartValley's competitors, as they prepare for the SEC Title III rules regulating the crowdfunding industry to be finalized. Although the issues below are listed independently, they are in many cases interdependent, as decisions made on one issue may support or undermine another issue. For example, efforts to increase trust among users, may help to attract greater numbers of users from each customer segment. On the other hand, charging one customer segment, may act as a disincentive to increasing users among that segment.

### **Which Side to Subsidize and Which Side to Charge**

Platforms often succeed by charging one customer segment, which subsidizes another customer segment. StartupValley must therefore decide which customer segment to subsidize and which side to charge. One option is for StartupValley to consider is charging investors for access to companies listed on their platform. Some of StartupValley's competitors take up to 20% of the upside of an investment for themselves in the form of "carried interest". In addition, many also charge expense fees to facilitate the transaction.

Another option is to charge companies to list their firms on the StartupValley platform, which is the approach that has been taken by competitor SeedInvest, which does not charge investors fees or a percentage of their investments. SeedInvest investors receive the full amount of their investments in firm securities. Instead, firms wishing to list on the SeedInvest platform are charged a contingent placement fee on the value of the fundraising, upon the successful completion of their offering; a monthly listing fee, after the company has been reviewed and is

ready to launch on the platform; and companies pay for due diligence, escrow, marketing and legal expense reimbursements.

### **Facilitate Trust and Reduce Transaction Cost**

A digital platform must facilitate trust and reduce transaction costs. Reducing transaction costs can be accomplished by each of the digital equity crowdfunding platforms by streamlining the process by which investors conduct due diligence, as well as by how firms acquire capital. Nonetheless, facilitating trust among users remains problematic for new equity crowdfunding platforms such as StartupValley.

Once the SEC Title III rules are finalized, a wider range of investors will have access to investment opportunities through equity crowdfunding. Yet, investing in early-stage companies and small businesses is inherently risky. These risks include the illiquidity of investments, whereby investors' funds are held for long periods of time with limited ability to resell. The companies themselves that are listed on equity crowdfunding platforms are high risk, with a host of factors that may lead to their losing value or eventual demise. If a company goes out of business, investors' ownership interest could lose all value. Therefore, it is in a platform's best interest to facilitate trust among investors and startups seeking capital.

One way of facilitating investor trust is to scrutinize firms before investors provide investment funds. Highly-vetted companies are a platform differentiator, and may lead to better investment opportunities, and more importantly, can be a source of competitive advantage. StartupValley's competitors handle the vetting of firms differently.

Seedrs reviews all of the information that a startup provides, as well as evidence it submits to support factual statements, and only lists companies on their platform for investor consideration upon concluding that the information is "fair, clear and not misleading." Therefore, Seedrs does the minimal amount to vet startups wishing to raise capital on their platform.

Angel List enables the vetting of firms through the use of syndicates. Angel List allows investors to form syndicates, which enable investors to co-invest with other notable investors. Users who choose this approach, referred to as "backers", commit to invest in a notable investors' future deals in exchange for a fee. In return, backers get access to the notable investors' deals and benefit from their experience in choosing and managing investments. Therefore, Angel List enables platform users to vet the startups seeking capital themselves. EarlyShares takes a different approach, in that it leverages the expertise of an outside firm: GSV Capital. GSV Capital is an investor in EarlyShares whose strategy is to utilize the platform to acquire shares in companies. GSV Capital is a closed-end investment company that invests primarily in the equity securities of venture capital-backed, rapidly growing emerging private companies. EarlyShares has adapted GSV Capital's investment parameters into eligibility criteria for companies hoping to be listed on their platform. Consequently, EarlyShares leverages the deep industry expertise of an outside firm to scrutinize firms.

SeedInvest, another StartupValley competitor runs startups wishing to be listed on their platform through a gauntlet of scrutiny, thus allowing it to stake out a high-end position, catering to select investors. Rather than marketing themselves as merely a listing service, SeedInvest features only highly vetted investment opportunities that adhere to strict requirements. On SeedInvest, companies listed as "Vetted" have undergone a comprehensive due diligence process, including:

- An outside firm performs legal and confirmatory due diligence,
- An outside legal counsel reviews transaction documents,

- An independent broker-dealer registered with the SEC and a member of the Financial Industry Regulatory Authority (FINRA) and the Securities Investor Protection Corporation (SIPC) conducts research and due diligence on each company in order to determine its viability as an investment opportunity and the key risks associated with that opportunity,
- An investment committee comprised of senior executives of the independent broker-dealer then reviews the company before an offering can begin accepting investments online.

### **Attracting Greater Numbers of Each Type of Customer**

As an intermediary, StartupValley is valuable only if both groups of customers (i.e. investors and firms seeking capital) exist on its platform in significant numbers. Accordingly, StartupValley increases its value in direct proportion to its ability to attract greater numbers of each type of customer. One way of expanding the number of users utilizing the platform is to provide more access to the platform to a greater number of users. Another way of expanding the numbers of users utilizing the platform is to provide innovative products and services which offer users greater incentives for using the platform. StartupValley's competitors have implemented a variety of techniques for attracting more users.

1. Angel List provides developers with an Application Programming Interface (API) to access the Angel List database. The routines, protocols, and tools that make up the Angel List API have been the basis upon which a host of independent developers have built useful services.
- EquityNet has taken a much more ambitious approach to expanding their network. Launched in 2005, EquityNet has implemented a sophisticated licensing and affiliate program that enables investors, government entities, business incubators, and other members of the entrepreneurial community to plan, analyze, and capitalize privately-held businesses. EquityNet also licenses its data for benchmarking, analysis, and research purposes.
  - Crowdcube, an equity-based UK crowdfunding platform, offers a "mini-bond" product whereby investors do not own a stake in the business. Instead they receive regular interest payments from the company and then their initial investment back at the end of the mini-bonds term.
  - EarlyShares offers a convertible debt product, which is often used as bridge financing by firms. This product allows EarlyShares investors to provide a business with a loan, which can be turned into equity at some point in the future, or paid back to investors with interest. The loan accrues interest until the principal is converted or paid. Upon conversion, accrued but unpaid interest due to investors is also converted into shares.

Many equity crowdfunding platform players also allow users to invest in a variety of fund investments. Angel List allows users to invest in a fund, which is invested in a diverse portfolio of Angel List startups. Funds return capital to users when any of its investments has a liquidation event. EarlyShares works with prominent financial firms to host fund investments, thus allowing qualified investors access to a class of hedge fund and private equity investments typically restricted to institutions and extremely high-net-worth investors. Wefunder takes a different approach to fund investments. Most startups listed publicly on Wefunder raise funding with a WeFund, which pools investors' capital to invest in one specific startup. Users investing through a WeFund hold an interest in the fund instead of holding the company's securities directly. WeFunds are managed by their fully-owned affiliate investment advisor.

## StartupValley's Challenge

The success of an online platform, hung on whether it could attract enough quality people from both sides. On the one hand, investors would come if there were relevant and quality deal flows. On the other hand, quality startups would come if there were enough investors. Realizing that, Daryl worked hard building partnership with venture capitalists, incubators, and the startup community to give traction to his crowdfunding platform.

Daryl had not been focused on being first to market, but instead thought he would have more of an advantage being second to market. Daryl envisioned his StartupValley to be the only platform truly focused on the Title III investors -- the average smaller investors. StartupValley had been in pre-launch (beta) status while waiting for the Title III regulations to be finalized by the SEC & FINRA. Daryl thought while waiting, he could learn valuable lessons from his competitors about what worked and what didn't.

For more than three years after the JOBS Act, StartupValley waited for the finalization of the rules of Title III by SEC. Finally on October 30, 2015, SEC passed final rules to permit companies to offer and sell securities through crowdfunding under Title III of the JOBS Act. These rules became effective May 2016<sup>4</sup>. This set the stage for equity crowdfunding to continue its exponential growth over the next few years, on top of the existing market for accredited investors. Many expect equity based crowdfunding to surpass VC funding in the near future. Investing with the smaller investors under Title III did carry more transaction cost, lower limit on investment amount and stringent regulations than with the accredited investors under Title II<sup>5</sup>. Many competitors had launched their solutions with accredited investors under Title II, which enabled them to test their portals and work out any bugs before opening the system to the masses. The race for Title III equity crowdfunding had truly begun.

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"The biggest failure in life is not taking risk on something that you believe in. I don't want to say: What if..... I would rather take the opportunity and learn from it." Thinking to himself, Daryl decided to focus on the upside and turned his attention back on his next meeting with a venture capitalist about StartupValley.

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<sup>1</sup> Crowdfunding's Potential for the Developing World, World Bank Report, 2013

<sup>2</sup> Kickstarter Before Kickstarter, Justin Kazmark · July 18, 2013, <https://www.kickstarter.com/blog/kickstarter-before-kickstarter>

<sup>3</sup> "The Statue of Liberty and America's crowdfunding pioneer". BBC Online. April 24, 2013

<sup>4</sup> SEC Adopts Rules to Permit Crowdfunding, <https://www.sec.gov/news/pressrelease/2015-249.html>

<sup>5</sup> Two Years Later, JOBS Act Promises Fall Short, Though Not for Everyone. Retrieved December 22, 2014, from <http://www.inc.com/jeremy-quittner/equity-crowdfunding-platforms-soldier-on-without-title-three.html>

**Track: Sustainability and Environmental Issues**

# *The Drivers of Success in Developing Business Sustainability Standards: Evidence from the LEED Certification of the USGBC*

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## **Abstract**

*The past decade has witnessed an increased attention to the sources of sustainable business development both from scholars and practitioners. One challenge that policy makers and non-governmental institutions face is to create buy-in from various organizations and promote sustainability standards. This manuscript attempts to delineate the path to success in developing and promoting business sustainability certification systems using a case evidence from the real estate development industry. The discussion provides a groundwork for future research endeavors investigating the evolution and promotion of sustainability standards.*

## **1. Introduction**

There is a rising interest among researchers regarding the causes of successfully developing business sustainability standards (Nikolaeva and Bicho 2011; Manetti and Becatti 2009). When an organization aligns its strategy with the market-oriented products and social responsibility issues, it achieves market-based sustainability (Hult 2011; Pelozo and Shang 2011). However, firms are not sure about the value of sustainability practices and corporate social responsibility procedures considering the lofty costs of such initiatives (Nikolaeva and Bicho 2011). As a result, it remains to be a challenge to develop and promote sustainability standards (Luchs et al. 2010). One exception to this situation has come about in the real estate development industry; the eye-catching success of the LEED certification issued by the United States Green Building Council (USGBC) presents unique lessons to develop and promote successful sustainability standards.

Sustainable real estate development is an exciting way to make facilities healthy and efficient, with better indoor air quality, lighting, and temperature controls. A wide range of business and home properties can be built or repaired with green components (*Sustainable Development Information*, 2012). The United States Green Building

Council (USGBC) is a worldwide organization which attempts to reduce the impact of real estate development on natural resources. Third-party certification holds businesses accountable on what they claim and it signals to consumers that the product meets certain standards. There are various worldwide and nationwide certifications, such as BREEAM (the U.K.), Green Globes (Canada), Energy Star (the U.S.), and Green Star (Australia). The LEED certification of the USGBC is not the oldest green certification, but it is the most well-known certification system in the world.

It is conceivable to ask the question “*How has the United States Green Building Council become the most widely used green certification organization in the world?*” in order to find a path to success for non-profit organizations and public policy makers. Considering the success of the council as an example helps environmentalists understand the achievement of a non-profit organization in sustainability design. Every success story has difficulties and some of the people ignore and critic the success of the USGBC. Those who are against the LEED certification suggest that the certification system has very high costs to maintain. In addition to the cost, people are doubtful about the energy efficiency of the certification system. There are more suspicious questions about the LEED certification, such as “Is the LEED science-based or does it spread false information about materials?” and “Is it a tool to punish chemical companies and plastic industries?” (Melton, 2012). USGBC has to consider outside comments and should provide a complete green certification system that satisfies everyone’s needs in the market.

## **2. Organization History**

The USGBC is a membership-based non-profit organization which is founded in 1993. The organization promotes sustainability in building design and neighborhood development. USGBC is best known for the Leadership in Energy and Environment Design (LEED) green building certification program used worldwide. The main mission of the USGBC is to improve the quality of life by transforming the design, composition and operation of the places (USGBC, 2012). USGBC announced the strategic goals of the council in their 2013-2015 strategic plan report. First of these goals is extending the green building marketplace and cultivating sustainable cities and communities. Impacting the green building policy at all levels of the government and upgrading the environmental benefits of green building are other intended goals of the plan. Moreover, reinforcing the connections between green building and human health and well-being, and accomplishing higher mission impact through organizational and community excellence are final strategic goals of the 2015 strategic plan (USGBC, 2012).

The LEED, created by the council in the 1998 to have a third-party seal of a building’s environmental soundness, certifies new and existing buildings (Navarro, 2009). The USGBC aims to provide green certification for the all places where people live, work, learn and worship (Long, 2015). Therefore, non-profit organizations, commercial companies, multi-purpose buildings and centers could apply and use LEED certification program and the council has a very wide clientele range with this perspective. The rating system of LEED certification has evolved since the establishment. There will be new model for the 2016 green certification projects and LEED v4 includes new market sector adaptations for data centers, warehouses and distribution centers, hospitality, existing schools, existing retail projects (USGBC, 2013). USGBC provides new models to ensure that the certification system fits the unique projects.

## **3. The LEED Certification**

A non-profit organization is an organization that uses its excess income over expenses to further accomplish its mission or purpose, as opposed to distributing its surplus revenue to the shareholders as a profit (Legal Information Institute, 2015). Non-profit organizations can be divided into categories by their sector, such as arts, culture and humanities, education and research, environment, health and human services, public and social benefit, and religion (Guidestar, 2015). Environmental non-profit organizations seek to protect and improve natural environment and to increase environmental awareness.

The development and advancement of society has a huge effect on our natural environment. Design and construction of the structures in which we live and work are in charge of the consumption of a large number of our resources. Therefore, non-profit organizations provide green certification systems to control the utilization of natural resources. Green certifications systems in the buildings, also help companies to manage consumption of energy. The United States Green Building Council developed the LEED certification system that aims to guide owners and operators for green buildings.

In its 20<sup>th</sup> anniversary, the USGBC published an inspirational video about the ingredients that helped make the council's success possible. David Gottfried, co-founder and the first president of USGBC, tells the story of the 20 years of the non-profit organization (U.S. Green Building Council, 2013). USGBC became the fastest growing green building group in the world. In the beginning, their goal was redefining buildings in the United States, however LEED certification system is in 130 countries by 2013. Gottfried states that they dreamed big and had big goals in the beginning. Their biggest goal was transforming the United States industry. In the beginning, they wanted to conquer all the country, therefore they used the United States in the name of the organization. The logo was designed like a certification seal, due to its use later on as a certification seal.

Gottfried continues that coming up with the right model is important in dreaming big. Organizational structure, raising money, having right programs and services and putting together all of them help organizations to achieve their goals. Besides, other models in the industry should be studied by organizations. USGBC is a non-profit organization from the beginning and open to collaborate. Another ingredient of their story is the right community, according to Gottfried. They gather stakeholders from different sectors and invite them to figure out how they can transform the market. Council has an equal voting system to improve innovations and to give its community the power to take charge.

Gottfried states that they ran the council like a start-up business from the beginning. They never forgot the ethics and developing their strategies. The board of the USGBC decided to be a separate organization from the government. They had meetings with the governmental organizations to be partners in research. After the council's first year, National Institute of Standards and Technology of the United States Department of Commerce arranged the council's first conference in Maryland which gave incredible credibility to the council.

Invention of the LEED certification is a crucial point of the USGBC's success story. USGBC became a worldwide certification organization with LEED certifications system. The certification has categories, such as purchasing, recycling, water efficiency, location and clean energy. Also, the council provides LEED educations and trainings for the professionals. Organizations and individuals gain environmental training to improve their environmental qualifications.

On the other hand, LEED certification system and the United States Green Building Council has problems and counter views for their green activity. People questioning whether the LEED certification system is energy saving. The New Buildings Institute published a study in 2008 and concluded that the LEED certification buildings has, on average, %25 energy savings. (Turner and Frankel, 2008) In the meantime, the New York City Energy Benchmark information demonstrates that LEED Gold structures have around %20 lower energy consumption and greenhouse gas emission than do other buildings.

Be that as it may, these savings are not seen for buildings at the Certified and Silver levels of LEED rating system. These buildings really expend more energy and have moderately higher greenhouse gas discharge than do other New York City office buildings (Scofield, 2013). LEED office buildings, at all levels of certification or at levels of Silver or better, are not fundamentally not quite the same as other huge New York City office buildings with regard to energy consumption and greenhouse gas emission. LEED buildings at all level are 3% more terrible and buildings at Silver or better they are 6% superior then conventional buildings (Scofield, 2013). In any case, neither of these differences are statistically significant for the New York City office buildings.

Constructors pine for LEED certification as an approach to pick up tax credits, attract lessees, charge premium leases and a venture of environmental liability (Navarro, 2009). The main goal of some builders and owners is getting the certificate or improving their rating, but not achieving a greener environment. Therefore, these people are trying to find an easy solution to get the certificate. For instance, putting up bike racks in front of the building and redevelopment of a brownfield with hazardous substance has equal points in the system (Koncelik, 2009). Builders choose the cheapest and the simplest way to get enough points for evaluation. Technically this is not cheating the system, however it is not helping in the improvement of environmental awareness.

Moreover, a part of the constructors believe that the LEED certification is not worth the investment. Registration and certification fees, which change by square foot, are visible part of the iceberg. There are also unforeseen expenses. First of all, companies mostly hire an outside consultant to deal with the LEED application process and it takes time to figure out the rating system for inside employees that are working on the project. For this reason, certification process has time and effort costs to the builders. Furthermore, organizations should consider the extra cost of research, design, commissioning and modeling. The biggest invisible cost of LEED rating system is the construction costs (*Building Green*, 2010). Usually green materials and products are in the high price range of the marketplaces.

The United States Green Building Council attempts to find solutions to these drawbacks. They do not believe the cost of the certification is too much and they believe green materials will be the future of the markets, therefore construction costs will decrease day after day. The council wants to be a part of the project in the beginning with owners, builders and designers in order to reduce the risk of costly changes and to provide better guidance for the installation and materials. Also, the council believes that the LEED certification has a high return on investment. The council states that estimated cost of the certification process of a 500,000 square foot hypothetical project is changing from %0.8 to %2.25 of its total cost. Besides, the project gets return in a few years with the energy and resources savings per year (Knowles, 2015).

The worldwide green building market developed in 2013 to \$260 billion, including a presumed 20% of all new U.S. commercial real estate buildings (*USGBC*, 2015). This trend is expected to escalate coming years, both in the US and internationally. Client demand and market demand are main reasons for building green. In a Nielsen global survey on corporate social responsibility, more than half said they are willing to pay extra for products and services produced by companies that are committed to positive social and environmental impact (*Nielsen*, 2014).

A 2014 CoStar report demonstrated that while non-LEED or non-Energy Star certified Los Angeles buildings command an average of \$2.16/ft<sup>2</sup>, hirers were willing to pay \$2.69/ft<sup>2</sup> for ENERGY STAR certified buildings and \$2.91/ft<sup>2</sup> for LEED certified spaces (*U.S. Department of Energy*, 2014). The expanded cost of rent seemed to have little impact on vacancy rates, which remained relatively constant with the general market over the 5-year period. Also, Los Angeles Energy Star and LEED certified buildings illustrated an advantage in terms of sell-price and asking price. In 2013, the asking price for non-green buildings in the Los Angeles area was \$220/ft<sup>2</sup> relative to an average market sales price \$244/ft<sup>2</sup>. On the other hand, LEED certified buildings in LA averaged \$140/ft<sup>2</sup> in asking price, but sold for an average cost of \$329/ft<sup>2</sup>. (*U.S. Department of Energy*, 2014) Besides, Lux Research's found that buildings with LEED Gold certification resulted in \$4.1 million in higher rental income to a model 80,000 square foot commercial building in Los Angeles (Hall, 2014).

Furthermore, the non-profit organization tries to evolve its LEED certification system to satisfy its customers. The board of council wants to upgrade its rating system and optimize it for all sectors. Additionally, they consider to increase LEED education and training programs in order to make it easy to learn and use the system. The latest version of the rating system, LEED v4, has reference guides for different projects. They want to clear the process for better customer experience. In order to make it, LEED v4 has four guides, as building design + construction, interior design + construction, building operations + maintenance and homes design + construction (*USGBC*, 2013).

#### 4. Conclusion

Non-profit green certification organizations acknowledge and appreciate that the LEED green building certification system of the United States Green Building Council is the most-well-known environmental certification in the world. There are LEED projects in more than 150 nations and regions, speaking to each mainland with the exception of Antarctica. LEED has been utilized in the industrialized countries and recently is in the developing ones; LEED is exhibiting a huge force and capability of the rising green economy (Gray, 2015).

Not only non-profit green certification organizations but also non-profit organizations in other sectors could imitate and gain new creative ideas from the LEED certification system. Indeed, management of the non-profit organizations are similar with for-profit organizations. The board of a non-profit organization should improve their system to earn money to achieve their specific goals. In order to have sustainable non-profit organizations, policy makers should increase the investments to help NPOs reach their mission.

Besides, non-profit organizations should have well-disciplined systems that build on their purpose. USGBC uses work ethic and moral in its development strategies and sustainable design. The board of the council heads the organization as a regular business and always seeks opportunities to grow the organization. Therefore, they wanted to be a part of the World Green Building Council in 2002 and this participation led them to achieve their globalization goals. Desire of being global and goal of expanding the organization day by day have moved organization forward.

In addition, USGBC investigates criticisms from outside opinions to be a successful organization. There are a lot of counter views for their LEED certification system and LEED certification has drawbacks like any other system. Organizations and companies should try to find out its disadvantages and unpractical parts. Usually, an outside view is better than inside criticism and being inside of the system blocks to realize deficiencies. Dissident voices argue that the entire concept of LEED is contradictory. Buildings can get the any level of certificate if they have enough points, no matter the un-sustainability of the context and its purpose (Alter, 2008).

Moreover, some of environmentalist claims that the LEED certification is focusing on design and it is not measuring the performance and there is no surety that LEED-certified buildings are following through on the energy-saving measures their design proposed (Quirk, 2012). When a building opens, it may consume more energy than was anticipated by the design. Marketplaces might attack non-profit green certification organization rationally or illogically. However, the USGBC is eager to change and attempts to correct its missing parts of the recertification system. For example, USGBC developed The LEED Dynamic Plaque which is a building performance monitoring and scoring program, giving yearly LEED recertification and worldwide benchmarking (USGBC, 2014). The Council aims to track LEED-certificate building more than past. Future managers could imitate USGBC's way that measures the outcomes and listen the feedbacks and opinions. Those reactions reduce the effects of offensive views and design a sustainable path to success.

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# ***The Role Of Regulation On Innovation And Productivity In The Infrastructure Industries: The Case Of Water And Sewerage Systems In Brazil***

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## **Introduction**

Infrastructure industries – such as transportation, telecommunication, energy and water supply, as well as sanitation – are vital for connectivity, competitiveness and welfare of any economy and society. In fact, their systems, assets and networks are so critical for the functioning of the human living, that governments, international organizations, business groups and local communities constantly join efforts to strengthen technological development and productivity in these areas in order to guarantee national sustainability and growth.

However, reaching high levels of innovativeness and efficiency in these industries is a challengeable task, since most part of them are considered ‘natural monopolies’, resulting from few number of large plants which produce at high economies of scale in relation to market size (Possas & Fagundes, 1998). The asymmetries between supply and demand leads to a variety of economic, technological and management inefficiencies, such as: high fixed costs and uncertainty regarding to returns from long-term investments on R&D activities, duplication of costly facilities, poor quality and major gaps between production, distribution and allocation of services.

Thus, regulation is a necessary and essential policy instrument, not only to promote innovation, productivity and competition in these segments, but also to mitigate performance problems and guarantee a better distribution and quality of these services to the whole population (Joskow, 2007; Turolla & Ohira, 2014).

## **Objective**

The aim of this study is to investigate the influence of regulatory mechanisms on innovation and productivity in the so called ‘natural monopolies’ of water and sewerage systems. Despite economic theories and policy makers emphasize the importance of government regulation on these segments – specially to reduce economic, social and environmental damages in less developed areas – there are little empirical evidences, which show this relationship. This study aims to contribute to fill this lacuna by analysing the impact of the quality of regulation on innovation and productivity in key segments considered ‘natural monopolies’ in Brazil: water and sewerage systems.

## **Hypothesis**

Thus, we argue that in the recent context of globalization, *regulatory forces* can stimulate these natural monopolies to increase dynamic efficiency and productivity levels through innovation. In other words:

*H1: innovativeness in natural monopolies depends on the quality of regulation*

To put in detail, because of the endogenous ‘market failures’ that characterize competitive pattern of natural monopolies, an effective governance structure with strong regulation system need to be established to improve dynamic efficiency, to protect social values, as well to reduce negative impact on environment.

Moreover, mutual coordination efforts and social responsibilities involving cooperation networks (at local, regional and global levels) among a diversity of economic, political and social actors are necessary for better allocation of the positive effects of innovation in these industries. Thus:

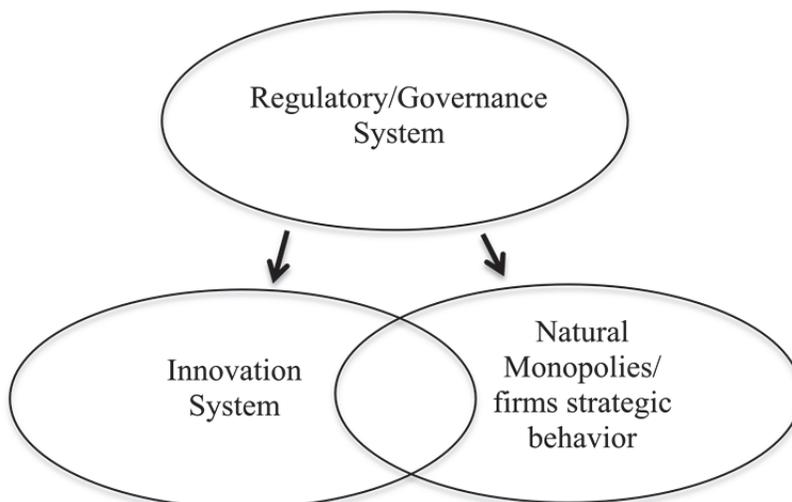
*H2: The structure of governance involving a variety of social and economic actors, at local and global levels, affects quality of regulation and innovativeness in natural monopolies*

### Theoretical Background

The influence of regulation on innovation and productivity in natural monopolies is examined based on the construction of an eclectic theoretical paradigm, which combines mainly three analytical approaches:

- 1) The *governance-based view*, which is central to understand the macro-governance structure of networks and markets and the new forms of regulation under which the monopoly industry are ruled (Stoker, 1998); (Bevir, 2011);
- 2) The *innovation system theory*, which focus on the role of institutions, regulations and policies specifically oriented to promote technology transfer, as well as knowledge absorption and creation across firms, industries and regions (Lundvall & others, 1988); (Smith, 1997); and
- 3) The *evolutionary economic approach*, which consider the dynamic interactions between firms' strategic behaviour and the external environment (economic structure and institutions) in shaping innovation; from this perspective, market power and regulation mechanisms can act together to promote innovation and increase competitiveness in natural monopolies by selecting best practices and developing better and more balanced levels of productive, distributive and allocative dynamic efficiency in these industries (Possas and Fagundes, 1988; apud Nelson & Winter, 1982).

**FIGURE 1: KEY-FACTORS INFLUENCING INNOVATIVENESS AND PRODUCTIVITY IN NATURAL MONOPOLY INDUSTRIES**



*Source: Elaborated by the authors*

## Methodology

The influence of regulation on innovation in natural monopolies is explored by examining recent information on patents, R&D investments and productivity from the Brazilian sanitation sector. Based on these data, we will build two sets of innovation indicators, one based on the patents' data from the National Institute of Industrial Property (INPI) and the other from the National Survey on water and sewerage services providers, the SNIS (from the acronym in Portuguese corresponding to National System on Sanitation Information).

## Preliminary Conclusions

So far, preliminary data analysis on SNIS have showed that larger firms are the ones, which present the highest propensity to be engaged on innovation activities. The result suggests that innovation and productivity in the Brazilian water and sewerage systems might be more associated with economic factors – in particular, with firm size and market power of monopolies – rather than with the local system of regulations and policies oriented to stimulate innovation and competitiveness in these industries.

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## Abstracts

## *Event Stream Analytics for Fault Prediction and Optimization*

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### **Abstract**

*This presentation will discuss how the upcoming growth in connected devices, otherwise known as the Internet of Things, or the Industrial Internet, is driving the need for low latency streaming analytics and decisioning. Event stream processing (aka, complex event processing) took hold about 15 years ago addressing financial/capital markets for applications including algorithmic trading, positioning, and real-time risk management. Today, event stream processing is being utilized in a broad spectrum of industry applications, mostly focused on monitoring a variety of entities (including people) for actionable intelligence. In these cases, data growth has gotten to an extreme, where it is no longer feasible to collect and then analyze it. Much of this data is operational and its relevance is lost if not analyzed in sub-second timeframes. Analyzing events in-stream can be done on-premises, in the cloud, and at the edge in IOT gateways or even in devices (e.g., in-vehicle). Event Stream processing can be used for a variety of applications including equipment fault predictions & optimizations, optimizing health care, personalized marketing via web click and social media analytics, and even warning nearby drivers of ice when a vehicle's tires slip in temperatures below freezing.*

## Engineering Systems for Big Data Processing

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### Abstract

*One of the biggest challenges facing production users of big data, as the volume and velocity of available data continues to increase in near exponential proportions, for example as IoT, SDN, and 5G mature, is the complexity of the systems environment in which these capabilities will be deployed. There has been significant progress in the core big data areas such as the data base/stream management, data analysis, and visualization over the past decade. However, most production big data capabilities will be deployed as pieces of much larger systems that include a complex data lifecycle, critical dependence on interfaces with other systems, often in real time, and the engineering of upstream and downstream systems. This involves not only the design and architecture of the overall systems, connections and API's, but the assurance of security, operations, administration, and maintenance of the entire system.*

*Some of the issues are those familiar in large, complex systems of systems, such as change management and the propagation of changes throughout downstream system, as well as insuring that, since responsibility for most of these systems will cross organizational, or even corporate, boundaries, that the necessary governance policies are in place. Others are more characteristic of very data dependent systems, such as ensuring that the data feeds, particularly in large data stream systems that will be characteristic of IoT, have integrity. For example, in a high velocity, distributed data stream there will be outages and interruptions. Automation must be in place to detect and repair such events. Finally, there are characteristics of the analytics itself, such as drift in the underlying data, which will need to be addressed.*

## *Key Account Management in SMEs: an Italian Case Study*

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### **Abstract**

*Studies on Key Account Management have increased over the last 10 years (Guesalaga and Johnston, 2010). This is mostly due to stimuli coming from different forces, such as the presence of increasingly large and demanding customers, which require higher service offerings (Tuli, Kohli, and Bharadwaj, 2007); difficulties in the implementation of KAM programs (Marcos-Cuevas, Nätti; Palo, and Ryals, 2014); and the emergence of new professional requirements for the Key Account Manager figure (Wilson and Millman, 2003).*

*Although the KAM theme has been studied for many years around the world, some areas still remain poorly explored. Most of the empirical studies show how the academic literature has prevalently focused its attention on large companies, where it is easier to find highly formalized KAM programs, and thus it is likely to analyze as many variables as possible. Nevertheless, today SMEs also have entered into global competitive markets and they are facing large and increasingly demanding customers too. This means that SMEs, as large corporations, need to implement customer-centric programs, and they are striving to adopt and implement the marketing concept and a customer orientation in their organizations (Manning, Reece, and Ahearne, 2010). In this respect, SMEs are very different from large companies, both in terms of financial resources, and in terms of internal structures and availability of human resources. From this point of view, future studies will be needed in order to investigate the implementation of KAM programs in the context of SMEs.*

*The purpose of this paper is to examine this gap. Ten years ago, Wengler, Ehret, and Saab (2006) already asked themselves this question: “Is key account management an attractive marketing management option for SMEs?”. However, even now, the number of papers on the subject is particularly limited. Therefore, the paper aims to understand the implementation of key account management in medium and small enterprises, also focusing in the analysis of the classical problems embedded in this kind of programs, and on the alignment issues due to the interaction between the KAM function and all the other business functions. In order to do that, an exploratory qualitative analysis has been conducted through a single case study regarding a small enterprise operating in the fashion industry and in global markets.*

*A single case design was chosen to provide “richness” of empirical illustrations and findings (Yin, 2009). According to Siggelkow (2007), conducting a single case study can be a valuable research approach in three distinct situations, namely for purposes of motivating, inspiring, and illustrating theoretical development. Ours is an “illustration of theoretical development” use of the single case.*

*Findings show a low level of formalization of the KAM program implemented by the company for its key accounts, and a nearly absent intra-organizational structure. The case study analysis suggests that SMEs adopting the KAM orientation (Gounaris and Tzempelikos, 2013) must deal with aspects related to organizational problems. In particular, despite the differences between the various business functions, their integration and coordination is needed for a better customer management. Moreover, the case study evidences the presence of different logics, opportunities, and critical issues underlying a KAM approach, especially in relation to the rethinking of short- and long-term strategies, whilst respecting the operating peculiarities and the typical features of a small enterprise.*

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## *Characteristics of U.S. Public Companies Adopting Pension Accounting Changes for Defined Benefit Plans*

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### **Abstract**

*Since 1987 the Financial Accounting Standards Board (FASB) has mandated accounting rules for pension plans by U.S. Public Companies. The accounting standard changed the method companies used to account for defined benefit plans. Until the standard was issued, companies treated payments to retirees as pension expense and did not recognize any liabilities for future retiree benefit payments. Under the standard, companies were required to estimate the future benefits payable to current employees and accrue pension assets or liabilities based on the amount funded in pension plan accounts. Pension expense was also determined on the basis of the future costs of the service currently provided by employees. Components of the pension expense also included adjustments based on returns on plan assets and actuarial changes in the estimates of future benefits. In order to minimize the volatility of these components the FASB required income smoothing techniques. For return on plan assets, expected return on plan assets were used as the component of pension expense rather than the actual return on plan assets. The difference was not immediately recognized in income but rather as a component of comprehensive income subject to amortization in the future. Similarly changes in actuarial estimates of future obligations were not recognized immediately in income and were accumulated in other comprehensive income. The amounts accumulated in other comprehensive income with both components were amortized if the accumulated amounts exceeded a "corridor" of 10% of the larger of the beginning balances of either plan assets or benefit obligations. The entire amount of the excess was not required to be written off immediately in income but was amortized over a certain number of years. This dual method of income smoothing was used to ensure that any volatility in the returns on plan assets and changes in discount rates used to estimate pension obligations would not impact current period income.*

*However in 2011 the FASB changed this requirement of amortization and started allowing companies to recognize all of the amounts in excess of the corridor amount in net income as long as companies also chose the fair value method for accounting for plan assets. While this choice has been in place since 2011 it is only in recent times that the use of this method has made news in the financial press when Ford Motor Inc. announced that it was changing its method of accounting for defined benefit plans resulting in an increase in current income of almost 10 billion dollars.*

*The purpose of this study is to examine the following issues:*

- 1. The characteristics of companies that have changed their method of accounting for defined benefit plans starting in 2011 to the current period.*
- 2. The impact of the choice on net income.*
- 3. The impact of volatility in the use of fair value method in accounting for pensions.*

*The results of this study will be useful for policy makers and standard-setters to examine if the change in the pension plan accounting has resulted in more volatility in earnings as they originally assessed in the 1980's and whether changes are necessary in accounting for these plans. The results will also be useful for decision makers like investors and financial analysts in making judgements about the quality of the earnings in companies choosing the fair value method.*

*Advanced Bioscience Sustainable Solutions Bio Sensing and Monitoring of Plants and Fish for all Ag Biotech Growing Environments*

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**Abstract**

*Advanced Bioscience Sustainable Solution's bio monitoring app for plants and fish enhances all Ag biotech growing environments, especially the aquaponics and hydroponics industry. The app will connect with a sensor or photo spectrometer to show nutrition and crop yield data. We are currently working with Vigeo Gardens in the Akron Ohio business incubator, Aquaplanitech at Choffin in Youngtown, and the Family Garden in Jamaica to monitor with the app and sensors and pilot the data collection to show crop and nutritional yield data to prove our concept. We will be connecting with many clients and end users in the ag biotech plant and fishing industry. The virtual simulations and icon will help to teach about the optimal plant and fish variables. The simulations will be developed with the help of Dr. Bonita Sheriff in CSI and our current programmers. The app and sensors can be bundled with other plant and fish growing products such as tanks and towers. In the future we will expand to the hobbyist market and be able to sell the podcasts and training modules for educational purposes. Our market entry will take place between 14-18 weeks. The mobile app will have a platform for iOS and / or Android for publishing in the app stores and a web app that can be downloaded from a website. A marketing campaign will help sell the service client by client. We are located in Northeastern Ohio. Many of the companies surveyed want to be able to show nutritional value for the plants and fish. There is not a device or technique to monitor that. The company advantage is to provide the monitoring of the plants and fish for crop yield and nutritional value. The ag biotech companies need to show nutritional value to stay competitive. The app will collect data and report data via cell phone and instantly through e-mail to the client end users. A student from YSU will help to collect data with each client or end user. We will be launching a crowd funding campaign with Indiegogo and the hobbyist market with a sustainable fish farming challenge. There will also be data provided about the AG biotech industry and most recent 2015 conference in this paper.*

## *Stock Market Financial Ratios: Case Studies of Two Major Australia, New Zealand Banks*

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### **Abstract**

*The main question that arises in the minds of academics, financial analysts, property market managers or brokers are 'how will a particular investment fund or a bank shares perform in the stock market in the Trans-Tasman region?' According to Peter and Peter (2006), Risk-Adjusted Performance (RAP) methodology is useful to investors and others who are trying to make sense of their varied options for several decades, and even today. In spite of the rapid growth of the real property market in Australia and New Zealand, and the universal growth of real estate property over the past 40 years, it is evident that the financial paper/stock risks are much higher compared to real property risk.*

*In order to analyse risk, we use the Risk-Adjusted Performance (RAP) methodology developed by Modigliani and Modigliani (1997). First, this paper explores the relationship between the Australian real estate and equity market risks. The results of this paper are consistent with the previous findings which stated that the Australian real estate sector consistently outperformed its counterparts in terms of risk adjusted returns. Second, the paper looks at the two main banks in Australia which are Australia and New Zealand Banking Group (ANZ) and Commonwealth Bank of Australia (CBA) share returns. With regard to financial institutions, ANZ and CBA are listed among the oldest nationalised banks in Australia. ANZ was founded in the 1830s and initially was opened as the Bank of Australasia. Its current CEO is Michael Smith and has its headquarters located in Melbourne (ANZ, 2014), whereas CBA was founded in 1911 under the Commonwealth Bank Act with its current CEO Ian Narev and its headquarters located in Sydney.*

*Monthly stock closing price data for the years 1st July 2007 to 30th June 2015 for the two major banks are used in this study. Simple and complex measures of risk/return such as Price Earnings Ratio (P/E Ratio), Capital Asset Pricing Model (CAPM), RAP measures are employed to analyse the performance of the banks. The results showed CBA held a good position among its competitors during the last decade in Australia. On an average, CBA investors received a stable return on their investment for the majority of the period in 2015. However, ANZ recorded significant fluctuations in its share price throughout the period analysed which led to very low or no returns to its investors. ANZ bank faces huge rivalry which has resulted in an adverse impact on its interest rate margin.*

*Finally, we observe that this is true with the RAP measure of property assets rising manifold during the eighties and nineties and the dramatic increase in the volatility that has occurred especially during the last 2 decades. Cointegration analysis is also used to measure the risk adjusted return from listed properties.*

**Key Words:** *ANZ Bank, CBA, CAPM analysis, Modigliani and Modigliani RAP, Risk Management, Cointegration analysis*

## *Strategy for Diffusion of Technological Innovations*

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### **Abstract**

*Based on a review of academic literature, major strategies of launching new products aimed at accelerating the rate of early adoption have been identified and discussed in this paper. Elements of the diffusion process with appropriate examples of Indian companies discussed in the paper are: targeting innovative adopters, positioning the innovation, networking for diffusion, educating potential users, inducing trial, and achieving leadership position.*

### **Technological Innovation**

Managing technology effectively has become crucial in today's competitive environment. An important issue in the management of technology is the development and marketing of technological innovations (Frambach 1993). Technologically opportunistic firms focus more on developing capabilities for managing their future than the present (Srinivasan, Lilien, and Rangaswamy 2002). In technology-driven industries, as core technologies mature and mainstream customers proliferate, the primary source of customer value inevitably shifts from product innovation to business innovation, which focuses on processes and marketing (Kampas 2003). Companies must create and commercialize a stream of new products and processes that shift the technology frontier, progressing as fast as their rivals catch up (Porter and Stern 2001).

An innovation can be defined as "an idea, practice, or object perceived as new by an individual". Rogers identifies five characteristics of an innovation in relation to the degree of adoption of that innovation in a social system, viz. relative advantage, compatibility, complexity, trialability, and observability (Frambach 1993). From a company's perspective, innovation can be a primary source of sustained competitive advantage as well as a significant source of risk, competitive disruption and failure (Hall and Vredenburg 2003). A major contributor to a company's competitive advantage is the speed at which it is able to bring the next technological generation to market (Beard and Easingwood 1996). Product-centric managers believe that cost, efficiency, quality and product variety are the primary sources of competitive advantage (Pralhad and Ramaswamy 2003). As new technologies emerge, fragment and divide again and again, a greater number and diversity of products results (Scott 2001). The addition of novel attributes is likely to improve product evaluation and sales (Mukherjee and Hoyer 2001). An innovation that creates new uses and new markets needs to be directed towards a specific application and need that it satisfies.

### **Diffusion strategy**

The cost of developing technologies is high and rising. Companies that incur these costs must spread them across as many product and geographic markets as possible (Nevens, Summe and Uttal 1990). Based on a review of academic literature, major strategies of launching new products aimed at accelerating the rate of early adoption have been identified and are discussed below.

### **Targeting Innovative Adopters**

Adoption of a new technology is likely to be faster if the marketing strategy is compatible with the segment targeted (Easingwood and Koustelos 2000). Targeting innovative adopters, viz. innovative companies and innovative individuals within those companies help companies in speedier diffusion of innovation. Significant, new, sustainable growth comes from creating new markets and ways of competing (Christensen, Johnson and Rigby

2002). Innovative adopters tend to adopt new technologies with a view to retain or improve their competitiveness. Innovative adopters value complementary assets and capabilities that help them actualize an opportunity.

### **Positioning the Innovation**

By focusing on quality, engineering, and adjustability, etc. a company can differentiate its products. Positioning can be based on tangible or intangible characteristics, with technologically intensive industrial markets favoring the former (Easingwood and Koustelos 2000). Marketing effort is concentrated on early adopters by emphasizing technological superiority and stressing technological features. Positioning the innovation can be based on tangible or intangible characteristics that offer clear differentiation from competitors.

### **Networking for Diffusion**

In terms of marketing, strategic alliances allow companies to easily and effectively expand a product line, move into a new product area, improve market penetration and provide better service in existing geographical areas, or market their products in a new geographic area (Davies and Brush 1997). Network also helps in reducing the time-to-market, and achieve managerial and marketing synergies.

### **Educating the Potential Users**

A special form of providing pre-release information is an education program which has to be managed and timed carefully (Easingwood and Koustelos 2000). Educating customers on the potential benefits of the technology and providing in-depth knowledge are the most important components of customer education activities. In addition, integrated marketing communication approaches such as conference, trade fairs, trade publications, etc are widely used by the companies.

### **Inducing Trial**

As technologies diffuse into intended environments, they may highlight anomalies arising from the particular situations and circumstances of sales, consumption, and use (Nicol 2000). The supplier of the innovation can use several approaches to reduce the risk of adoption (Frambach 1993). Such risk reduction can be achieved by offering the innovation on trial, lowering the switching costs, etc.

### **Achieving Leadership Position**

Serving the needs of a particular segment is all about focusing the company's resources on customizing the product to the needs of that segment (Easingwood and Koustelos 2000). To build customer loyalty, companies need to keep their customers engaged in a continuous dialogue and also maintain conversations with suppliers, distributors, and others in the marketplace (McKenna 1995). Product dominance is the key in achieving the leadership position and that can be achieved by the product benefits in the form of usage convenience, lower costs of purchase/usage/maintenance, etc.

### **Conclusion**

This paper focuses on key issues relating to diffusion of technological innovations and insights provided in this study have immense implications for marketers of technological innovations/new products in devising relevant strategies to market their products. In conclusion, it is essential for the firms to target both innovators and early adopters and encourage them to engage in a dialogue with the firm and with other potential adopters.

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*Motivation, Resistance To Stress, And Adaptation To Changes Among Employee Of Different Generations*

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**Abstract**

*Employees of different generations (age groups) tend to have specific forms of behavior in the workplace, and to respond differently to incentives and measures. Human resources management function has to take into account age structure and characteristics of employees to be able to develop policies and actions appropriate and effective for every specific group in a specific enterprise. That is why 'generational' approach is coming more and more in the focus of research interest of modern management and human resources management.*

*Trying to give a contribution to that field of research, this paper is drawing on a research performed on a random sample of employees working in a hospital in Bosnia and Herzegovina. The research was anonymous, carried on in June 2014, using a quite extensive questionnaire. The aim of the research was to explore differences among employees of different generations in their motivation, resistance to stress, and attitudes towards changes.*

*Preliminary results show statistically significant relationship between age and motivation: younger employees show stronger motivation for work. Correlation between age and resistance to stress could not be uniformly established, although some U-form graphical trend could be perceived. Initial hypothesis that younger people better accept/adapt to changes was clearly confirmed. These results, together with other data and indications from the research, confirmed that work attitudes and behavior of employees from different generations were different, indicating that organizational treatment of different generations should also be different.*

**Key Words:** generations, organizational behavior, motivation, stress, changes

**JEL CLASSIFICATION CODES:** J28, M54.

## *Critical Issues And Prospects For The Start-Up Companies*

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### **Abstract**

*The new generation of entrepreneurs is operating in contexts where technological progress requires constant attention to innovation. Often the concept of start-up is associated with the digital economy, but it has a wider application than that and including also the sectors of the green economy (Bellagamba, P.Palanga, L. Pizzichini, 2016).*

*The research aim is to provide a theoretical contribution to the study of start-ups, particularly to identify drivers of innovation and the elements differentiating the green economy that guide the creation of start-ups by young entrepreneurs, with a specific focus on the territory of the Marche Region.*

*A literature review and database analysis was performed to define innovative and green start-ups. These companies, born in the higher knowledge based sectors, have their own specific characteristics and problems. Therefore, it was considered appropriate to use a qualitative research, developed through three focus groups, in which were involved different individuals and economic operators, such as "innovative" start-up, "green " start-up, incubators, spin-offs, representatives of trade associations.*

*The purpose of this study is to identify the unique characteristics of innovative and green start-ups of the Marche Region; the main opportunities and barriers for these organizations; the difficulties in delivering services and products related to innovation; the reasons that pushed start-ups operating in the green sector and if this resulted in an advantage or a disadvantage for the development of business. Moreover, the research aims to investigate the role of territory in the growth of start-up, analyzing in particular limits and opportunities, the inclination to the internationalization and the possible measures of the institutions to support the growth of the "new" organizations.*

*The analysis shows that a major problem is the capacity to communicate "innovation" to the market, that is, to make understand the value proposition of the idea. This problem is most evident for intangible assets. A further obstacle to the development of start-up is the difficulty to protect know-how and, in general, the relationship capital. Territory is not a restriction, but an opportunity, because it provides innovative start-ups, particularly in the manufacturing sector, the possibility of finding a small and a medium-sized enterprises, highly flexible and specialized, for outsource processes. Furthermore, the characteristics of the territory reduce the costs of research and contact of potential clients and suppliers, thanks to the network of relationships building by traditional companies over the years.*

**Key Words:** *Innovative Start Up, Green Start Up, Innovation Drivers*

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*It Isn't What You Say, it's How You Say It: Language Abstraction and Enjoyment Orientation in Movie Reviews*

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## **Research Objectives**

This research combines theory on entertainment enjoyment (Oliver & Raney, 2011) with construal level theory (Trope & Liberman, 2010) to study how moviegoers respond to movie reviews. We seek to understand how the language used in a movie review (abstract, concrete) influences consumer interest in viewing movies that vary in their entertainment orientation (hedonic, eudaimonic).

## **Theoretical Framework and Hypotheses**

Media scholars agree that people consume entertainment for two main reasons: in pursuit of pleasure and amusement (hedonic motives) as well as a general need to search for and ponder life's meaning, truths, and purposes (eudaimonic motives; Oliver & Raney, 2011). Movies can be categorized along this dimension as more amusement oriented or through provoking, appealing to these different motives for movie enjoyment.

Increasingly, people seek out information describing movies via online platforms in which others share descriptions of and opinions about movies that they have seen. For example, an individual searching for a movie that aligns with eudaimonic motives may decide to watch *Hotel Rwanda* after reading a review that emphasizes how the movie causes one to reflect on human relationships.

There is substantial variation in the language used to describe movies, and these differences can influence how consumers respond to the review in question (Schindler & Bickart, 2012). One common way to characterize language is by level of construal (Trope & Liberman, 2010); language can be abstract and general (i.e., success) or specific and concrete (i.e. first-place medal). Past work in the area of construal level theory has demonstrated how construal can guide response to stimuli; for example, Hansen and Wanke (2010) demonstrated that concrete statements tend to seem more truthful (i.e., aligned with eudaimonic motives) than abstract statements, while other work indicates that a positive mood (i.e., aligned with hedonic motives) puts people in an abstract mindset, allowing them to step back and take in the "big picture" (Labroo & Patrick, 2009). Can construal level theory be combined with the theory of enjoyment/entertainment discussed by Oliver and Raney (2011) to better predict what movie-

related communications will be most effective? Could the abstractness or concreteness in the language of a movie review interact with the content of the review – that is, the movie type – to influence the how consumers respond to a review?

Hypotheses: Movie review language interacts with movie type such that (a) abstract language/hedonic movie and (b) concrete language/eudaimonic movie will have a more positive influence on attitude toward the review, attitude towards the movie, and intention to see the movie.

## Research Methodology

Participants ( $n = 122$ ,  $M_{age} = 32$ , 44% female) from Amazon's Mechanical Turk panel were assigned to a scenario in a 2 (movie type: hedonic, eudaimonic)  $\times$  2 (review language: abstract, concrete) design. Participants read a movie review that varied only in the abstractness/concreteness of the language, and whether the movie was described as deep and meaningful or lighthearted and fun. Following reading, participants responded to questions regarding attitude toward the movie (3 questions,  $\alpha = .92$ ), attitude toward the movie review (3 questions,  $\alpha = .94$ ), and behavioral intention of buying tickets (2 questions,  $\alpha = .99$ ), in addition to manipulation check questions regarding movie type and language type.

## Results

*Manipulation check.* Analyses indicated that the manipulations were successful; people in the abstract/concrete language condition perceived the language as more abstract ( $M = 3.68$ )/concrete ( $M = 3.15$ ;  $t(120) = 2.95$ ,  $p < .01$ ); similarly, participants in the movie type condition perceived the eudaimonic movie as more meaningful ( $M = 3.34$ ) and the hedonic movie as more pleasurable ( $M = 2.69$ ;  $t(120) = 3.52$ ,  $p < .01$ ).

*Hypothesis test.* To test the hypothesis, we conduct a 2-way ANOVA with movie type, review language and their interaction predicting each of the dependent variables (attitude toward the review, attitude toward the movie, and behavioral intention to view the movie). For each dependent variable, neither main effect was significant, but each interaction was significant (attitude toward review:  $F(1,118) = 11.55$ ,  $p < .01$ .; attitude toward movie:  $F(1,118) = 9.71$ ,  $p < .01$ .; behavioral intention:  $F(1,118) = 8.06$ ,  $p < .01$ .)

We decomposed the interaction across the movie type variable. There was no significant difference in language on the dependent variables for hedonic movies but the means were directionally consistent with hypotheses (Attitude toward review:  $M_{abstract} = 4.91$ ,  $M_{concrete} = 4.43$ ; attitude toward movie:  $M_{abstract} = 5.29$ ,  $M_{concrete} = 4.58$ ; behavioral intention  $M_{abstract} = 4.63$ ,  $M_{concrete} = 3.71$ ). In support of H1B, for eudaimonic movies, concrete language led to significantly higher attitude toward the review ( $M_{abstract} = 3.98$ ,  $M_{concrete} = 5.45$ ,  $F(1,59) = 6.62$ ,  $p < .05$ ), attitude toward the movie ( $M_{abstract} = 4.60$ ,  $M_{concrete} = 5.51$ ,  $F(1,59) = 6.62$ ,  $p < .01$ ) and behavioral intention ( $M_{abstract} = 3.77$ ,  $M_{concrete} = 4.92$ ,  $F(1,59) = 5.45$ ,  $p < .05$ )

## Discussion

The current work suggests that variation in the language used to describe a movie interacts with the type of movie being described to influence review effectiveness: concrete language leads to stronger attitude toward the review, movie, and behavioral intention for eudaimonic movies than abstract language. The reverse is true for hedonic movies, but the results were directional and not significant. It is possible that consumers reading a review for a eudaimonic movie or seeking a eudaimonic goal pay closer attention to the review, and are thus more affected by it. Future research should explore this question.

The research result can help to improve service marketing by predicting what movie-related

communications will be more effective for consumers. Movie publishers often cite reviews in their promotions, and knowing which language is more persuasive can guide material selection. Professional review writers can learn from the current results, altering their writing style to suit the preferences of consumers.

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*Multinational Corporations of Emerging Markets: Evidence from China*

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**Abstract**

*One of the changes we witness in a more globalised world these days is the growth of Multinational Corporations (MNC) with emerging economies as their host countries. China, which is the second largest economy of the world, after going global is becoming the house and originator of many MNCs. These MNCs play a vital role in the world both economically and politically. The research carried out in the paper is aimed at the challenges faced by Chinese MNCs in the international environment. This paper also focuses on the comparison of MNCs with China as their host country to MNCs originated from other countries. It also addresses the issue of whether China based MNCs has utilised its low cost skilled and unskilled labour effectively and efficiently? What technological, social and economical changes have these companies brought in China? Riskiness of these MNCs because of exchange rate changes over time has also been discussed in the paper.*

## *Ethical Implications of Sustainability Initiatives in Corporations*

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In recent years, a host of companies have made sustainability initiatives an integral part of their business policies. Although many companies state that they are going green primarily to protect the environment and to satisfy their shareholders, customers and other stakeholders, it has been well documented that companies that take steps toward sustainability increase their profits substantially. Previous analysis has found positive relationships exist between green practices and many of the variables used as proxies for company value (Jeffers & DeGaetano, 2011, 2013 & Lin, et. al, 2015). These results suggest that companies may indeed increase their value and bottom line by enacting sustainable (green) initiatives.

Public awareness of sustainability initiatives, social, economic, and government forces have also driven corporations to actively manage Corporate Social Responsibility (CSR) for both financial and ethical reasons. It has resulted in sustainability initiatives becoming a vital factor in the strategic decisions of corporations. As a result, many of the changes being made by corporations under the guise of achieving higher ethical standards are in reality being undertaken primarily for financial gain.

Undoubtedly, business principles should include acting with a social and environmental conscience. Therefore, it is apparent that implementing of sustainability initiatives may not only be the right thing to do, but it's also good business practice. Hence, many corporations have jumped on the sustainability bandwagon for a variety of reasons. Many contend that they are concerned with protection of the environment. However, the reasons behind their implementation of sustainable measures remain in question.

In this paper, we examine the ethical issues associated with the implementation of sustainable (green) practices in corporations. An examination is undertaken of how public awareness of sustainability and human rights issues has modified corporate behavior. We identify the impact that this changed behavior has had on the ethical nature of self-reporting of sustainability results and strategic practices of corporations.

### **Reporting of Sustainability Initiatives**

The increased need for green environmental initiatives by companies has in turn increased the demand for better identification, measurement and reporting of the costs and the associated variables. In a 2008 study that examined the variables required for the development of a framework to measure the financial implications of green accounting in U.S. corporations, Jeffers noted that it is imperative that all of the variables are captured in the green cost accounting model so as to accurately measure the costs and benefits of the environmental initiatives. The measurement should include additional economic, environmental, operating, regulatory and community costs as well as the reporting of these initiatives in the financial statements of companies. She noted that "going green" can generate additional benefits and revenues, cost savings, tax credits and other tax savings and incentives, regulatory costs avoided and grants/subsidies received. These associated costs and benefits of the relevant measures must then be netted against each other to determine the impact on the financial statements of corporations (Jeffers, 2008).

For decades, stakeholders have thirsted for information concerning social and environmental issues. Despite the efforts by practitioners, academics, and other interested groups, there are still no established frameworks for identification, measurement and reporting of sustainability initiatives. However, several established accounting

and consulting firms currently provide studies, surveys and other support related to sustainability. Bloomberg database publishes an Environmental Social Governance (ESG) rating for companies. The AICPA has set up a reporting and assurance webpage on sustainability. Additionally, research regarding environmental reporting is currently being undertaken by various CPA state societies. Furthermore, special watchdog groups currently exist that monitor and report corporate and industry behavior related to sustainability initiatives in corporations. Examples include the Global Reporting Initiative (GRI) which has a resources library and a disclosure database (GRI, 2013); the International Organization for Standardization (ISO) and the International Integrated Reporting Committee (IIRC) which is working on the development of a comprehensive set of reporting guidelines to promote consistent standards. Despite all of these initiatives, without proper mechanisms and regulations, these standards will not be effective.

Of particular significance in the development of a framework for the measurement and reporting of sustainability is the Sustainability Accounting Standards Board (SASB). The SASB is a private non-profit organization that states that its “mission is to develop and disseminate sustainability accounting standards that help public corporations disclose material, decision-useful information to investors.” Despite the strides made by the SASB, recent events have created a rift between the SASB and the SEC. In a statement made on March 27, 2014 by Daniel Gallagher regarding the SASB’s stated mission, the then Commissioner of the Securities & Exchange Commission (SEC) stated that “it is the Commission’s responsibility to set the parameters of required disclosure standards” (SEC.gov). Notwithstanding the rift between the SASB and the SEC, it is clear that there exists a mounting desire for reliable public sustainable information. However, to date, the SEC’s guidance concerning disclosure of sustainable and social issues has been limited. Notwithstanding this dearth of guidance, due to the intense private and public pressure, in April 2016, the SEC published a 340-page concept release as part of its broad disclosure effectiveness project. In it the SEC states that it is seeking input from the public about which sustainability metrics are important to investment decisions (Chasan, 4/28/2016). This is good news and may lead to standardized metrics and reporting regarding sustainability initiatives in corporations.

It is important to note that failure of companies to properly identify, measure, and report sustainability initiatives present an ethical dilemma for managers. Lack of a consistent sustainability identification, measurement and reporting framework also present a challenge to accountants and auditors particularly in the current litigious environment. Further, guidance is non-existent or vague. The gap in authoritative guidance could result in allegations of material omissions or misstatements in the financial statements of corporations. It is therefore imperative that a reliable conceptual framework be enacted to assess the financial impact of the environmental variables on the corporations’ bottom line.

### **Ethical Nature of Self-Reporting**

The changed behavior towards sustainability has impacted financial results as well as the reporting and strategic practices of corporations. Further, research has shown that sustainability practices are important factors in corporations and users of financial statements are demanding transparent reporting of the initiatives as well as their results. It is therefore clear that market forces have created a demand for sustainability reports. In response to these demands, almost all major corporations publish Corporate Social Responsibility (CSR) information reports. However, most of these are standalone reports and are independent of SEC filings. Hence, many corporations find that their reporting has been limited by the lack of tools to gather and measure relevant information. Further, this lack of standardization and guidance is presenting a significant challenge for practitioners and users of financial statements.

In addition, the perceived needs of users with respect to materiality must be considered by auditors. However, literature has shown that auditors feel deficient in the area of sustainability measurement and reporting, and hunger for more guidance, training and assistance from standard setters and other professionals. Furthermore, companies are permitted to self-report on their sustainability initiatives and these reports are not required to be

audited. Hence, corporations will tend to spin the measurements as they see fit and may only release information that shows them in a favorable light.

In a discussion regarding ‘Who Should be in Charge’ of setting sustainability reporting standards, Lin, et al. (2015) states that the lack of standards and regulation permits corporations to cherry pick “the nature”, “the extent” and “how” their information regarding sustainability is communicated to stakeholders. Hence, it is apparent that there is a pressing need for a framework to identify and measure the associated environmental variables. Such a framework will enhance planning, control and decision making as well as the assessment of the financial impact of the environmental variables on the corporation’s bottom line. This framework should not only include metrics used in traditional cost accounting literature but also include metrics and methods for measuring and reporting the impacts, financial and non-financial of sustainable initiatives.

## Conclusion

Our discussion and analysis in this paper raises the conversation regarding the ethical nature of self-reporting by corporations. It also examines the development of a framework for the enactment of sustainable initiatives in corporations. A dialogue of this nature can undoubtedly lead to a consistent and improved measurement and reporting of sustainability initiatives by corporations. This could be useful to accountants, auditors, government standard setters, policy makers, regulators and other gatekeepers. It could also lead to improved decision making internally by managers, corporate executives and compliance officers, as well as externally by environmental groups, consumers, investors, creditors, the general public and a host of other interested parties as they seek to make more informed decision making regarding sustainable initiatives.

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Daniel Gallagher’s Comments regarding the SASB.

*Innovativeness of Gay Consumers: An Investigation on Turkish Gay*

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**Abstract**

*Consumption patterns, like innovativeness are characterized by social, economic, cultural and socio-demographic factors like reference groups, class, lifestyle and sexual orientation respectively. These factors may lead consumers behave differently than others. As innovations are sometimes an antecedent of belonging to a particular social setting, some marginal consumer groups may use innovativeness as a tool. Hence, the main objective of the current study is to investigate whether homosexual (gay males) Turkish consumers are more innovative than Turkish non – gay consumers.*

*Consumers seek and maintenance identity through consumption which makes them culture producers (Tsai, 2006:43). The subculture created among gay people through social, economic and cultural contexts may result in different consumption behaviours than the consumers of mainstream culture. Moreover, Grewal et al. (2000) suggests that innovations are antecedents of belonging to a particular social setting. Thus, this differentiation trait causes gay people to behave differently than other people which may let them to be more innovative. Also, the rejection from the society may bring gay people independence which is another important dimension of innovativeness.*

To measure the innovativeness degree of gay consumers, comparative study was conducted. Primary data was collected from both gay and non-gay consumers throughout a survey. For this purpose Domain Specific Innovativeness Scale and Innate Innovativeness Scale were applied to gay consumers. As both scales were originally developed in English, they were translated into Turkish, and then back-translated into English to avoid translation errors (Ball, McCulloch, Frantz, Geringer and Minor, 2002) and to make sure that the intended meanings of the questions were maintained. 137 questionnaires were distributed, as 22 of the survey are incomplete, 115 survey were analysed. In order to accomplish the study objective, survey instrument also distributed to non –gay consumers by using quota sampling considering age, education and income. The Cronbach's Alphas for both samples were calculated to check the reliability. The Cronbach's Alpha is 0,811 for the gay sample while it is 0,785 for the non-gay sample. Results indicate the significant difference between the innovativeness degree of gay consumers and non-gays ( $p=0,0028<0,05$ ). According to the results;

a) Gay consumers are innovators in innovative behaviour regardless of their age, income and education. The results also indicate that as age and education levels of gay consumers increases, the innovative behaviour decreases, while increases in income levels increases the innovative behaviour.

b) Gay consumers are innovative in information search in terms of income. They search information about innovative/new products as their income level increases. The results also indicate the increases in age levels increases information search, while decreases in education levels increases information search.

c) Gay consumers are innovative in reference group effects in terms of age. They need and receive less advice as their age levels increase. The results also indicate that increases in income and education levels increases reference group effects.

d) Gay consumers are innovative in time component regardless of their age, income and education. They spend less time as their age, income and education levels increases.

Briefly the main purpose of this study was to test whether gay consumers are more innovative than non-gay consumers in their buying behaviour habits in order to provide some evidences that gays could be recognized as a market segment. The results indicate that gay consumers are more innovative than non-gay consumers in buying behaviour resulting in gay consumers should be recognized as a market segment. The results also show that there is a significant relationship between income levels of gay consumers and their innovativeness. So, specific marketing strategies can be developed for this segment considering income levels.

Accordingly the results do not say that innovator people are gay people, but say gay people are more innovative. Thus the results indicate that gay consumers are significantly innovator than non-gay consumers, still some research areas need to be explained. In this respect, this study makes a contribution to the literature about gay consumption behaviour where innovativeness is a step to start with and provides a fruitful field for further research.

**Key Words:** Innovativeness, Homosexuality, Domain Specific Innovativeness Scale, Innate Innovativeness Scale

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## *Sustainability Integration: A Model for Developing Corporate Responsibility Commitment Through Effective Sustainability Programs, Reporting, and Governance*

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### **Abstract**

*Despite the surge of publications on sustainability topics in recent years, business research has thus far lacked serious and substantive engagement with pressing concerns such as climate change, biodiversity loss, and global natural resource shortages. Firms have indeed widely undertaken sustainability or corporate social responsibility (CSR) reporting and developed environmental programs. Yet many have done this only while first considering issues close to home and near the bottom line, namely, corporate profitability, competitive threats, and their related business risks. The paper puts these issues in a new context.*

*It is clear that corporations certainly do pay attention to various stakeholders. The fact that approximately 81 percent of firms have adopted voluntary sustainability reporting guidelines such as the Global Reporting Initiative (GRI) is evidence of this. Sustainability programs and reporting have now become standard business practices among the 500 largest firms (KPMG 2015). The GRI framework certainly aids companies and provides an appropriate framework, requiring they measure the degree in which the company is managing basic outputs such as the intensity of use of energy and water, and the generation of waste and pollution, in their daily operations. These factors can thus be effectively tracked, managed, and steps take to reduce negative environmental factors.*

*While voluntary reporting has increased, it needs to be recognized that this is only an initial step at sustainability. Firms have much further to go in solving basic environmental and social problems that affect their communities. The evidence repeatedly indicates that serious treatment of sustainability is hardly comprehensive. Most of the report companies have been criticized in studies demonstrating the weak extent of the progress achieved through voluntary reporting (KPMG 2011, 2013, 2015). Even worse, there are several cases when a firm's CSR statements and reporting precede conflicting observed behavior, such as Merck and the once CSR model Johnson & Johnson. This is found to lead to much higher levels of "perceived hypocrisy" by the public. In a particularly damning study, Wagner, Lutz, and Weitz (2009) find that reports of firms' behaviors with regard to corporate social responsibility (CSR) are often contrary to their publically stated standards.*

*One problem is that companies view sustainability in a very isolated way, either as an extension of rather small or token efforts as a part of a charity, or similarly as part of a company CSR program that yields limited engagement among employees within the firm. Many executives framed the standard of comparison competitively, relative to those of competitors or within the industry. Under the pressure to make the "business case" for sustainability and CSR programs, many academics have categorized their programs as "strategic" efforts.*

*From these, often weakly argued perspectives, commitment is going to be necessarily weak. Sustainability efforts are piecemeal and lacking. It has been easy to find examples of firms behaving badly. Empirical work has identified a number of sectors as having particularly high environmental impacts. These include extractive industries such as mining, metals, paper and pulp, power generation, water, and chemicals sectors (Bowen, 2000; Clemens, 2001; Hoffman, 1999; Morris, 1997; Sharma, 1997). Only the worst of the extractive industries are receiving the primary blame or backlash from the press on their ethical culpability. In spite of the impending realities of climate change and its problems, firms appear more likely to confirm to ill-considered industry norms and practices.*

*Company-related environmental problems are often likewise characterized as a “tradeoff” between environmental sustainability and cost. This is similarly framed merely in “operational” terms, as opposed to strategic concepts. There are certainly many examples of companies financially benefitting from measures that reduce costs, so sustainability efforts may merely provide enhanced support to what are long-established and conventional standards. Too facile support of mere efficiency goal may problematically ingrain poor environmental habits and practices.*

*Some business leaders have very legitimately substantiated the claim that efforts to reduce energy costs and increase recycling yield substantial monetary gains and new opportunities (Willard 2012). Managers are slow to react to these finding, however. Thinking that that their companies have already finished cherry picking the easiest means to exercise cost saving and pursue revenue enhancing environmental measures, managers substantially lag those of innovative firms.*

*Businesses too often view sustainability and corporate social responsibility (CSR) as made possible by their profits, rather than part of value creation activities itself. One interesting counter example is the business model of Tom’s. Their promise is that for every purchase of a pair of shoes, the firm will provide one for a child in need. The social value creation process is fully defined as part of the business, fully integrated into the profit and responsibility model of the firm.*

*Clearly, many firms fail to make such strong social commitments, arguing that they construct business models in a “highly competitive” context. Managers may find Toms laudable, but their own firms are somehow more accountable to shareholders and executive decision-making. Under this premise, they lack any creative leeway to consider similar contributions or public commitments to social value.*

*Porter and Kramer (2011) claim to want to address the task of regaining public trust in business. Yet they failed to acknowledge any substantive impending ecological risks and carp on the goals of business to achieve economic success. These authors claim that the “big idea” for business lies in “shared value” and the current problems are really not about social responsibility, philanthropy, or even sustainability. Crane, Palazzo, Spence, and Matten (2014) aptly criticize this view that the role of business in addressing major problems should only be addressed through the lens of corporate self-interest.*

*There are powerful new efforts to communicate the detrimental effects of consumption practices that are detrimental to the environment. These include the United Nation’s Millennial Ecosystem Assessment project of 2005, and the related and multiple studies by the IPCC, the Intergovernmental Panel on Climate Change (the fifth report being issued in 2014). While few firms have assessed the real risks and future business needs in the light of the findings, these studies have substantially fueled new discourses of ecological responsibility and sustainability. These studies provide a much better framework of value by integrate the vital planetary measures of ecosystem services (Fisher, Costanza, Turner, and Morling 2007) to form the appropriate “value-related” basis for management decision-making.*

*This study develops a model as to how organizations have reacted to both internal and external pressures to define its specific degree and level of responsibility. A model of “sustainability integration” is proposed that merges strategy and industry perspectives, and sets the goal of coping with the necessities of the predicted emergent environmental and social problems of the twenty-first century. To practice “sustainability integration” means that companies are fully reactive to environmental and social responsibility needs. Finally, an exemplary or “ideal model” of the sustainability integrated firm is discussed to provide clarity and precision to the concepts discussed.*

*One example of a firm attempting to do this is the carpet company, Interface, whose chairman Ray Anderson coin the term “Mission Zero” to set the goal to have zero impact on the planet. This goal became the center point of both external brand messages, and internal engagement programs (Werbach 2009). This effort to*

moving beyond existing business models toward sustainability business process factors is both strategic and operational.

Given the changing nature of the environment, such goals need to be developed with creativity and flexibility. To accomplish this, firms need to develop long term planning methods, undertake regular lifecycle assessment practices, integrate sustainability into design, and react to all relevant social and local community factors affecting the business models. The companies who undertake these measures understand that the twenty-first century is nearing a crisis.

**Keywords:** Corporate Social Responsibility, Sustainability integration, Non-financial Reporting, Media, Climate change, Resource depletion

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*Accounting Standards Enforcement in an International Setting: Testing the Impact of Cultural, Religious, Political and Legal Environment on National Regulatory Efforts*

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**Abstract**

*Although in theory a global set of reporting standards creates a more harmonious financial reporting environment, this argument fails to take into account how underlying differences in national environments impact the enforcement of these standards. This study explores whether the accounting standards enforcement efforts vary as a result of national cultural elements, religious adherence choices and importance, legal code, market liquidity and political coherence. The results demonstrate the importance of political, religious, cultural and finance-related (market liquidity) factors in determining national accounting regulatory efforts. This study provides an important contribution to the literature seeking to understand whether the widespread adoption of any set of international standards can provide the link in comparability across nations that proponents are seeking, by focusing on determinants of international variation in enforcement efforts rather than on the standards themselves.*

## *Assessing the Impact of the Great Recession on Emerging Economies: Latest Evidence*

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### **Abstract**

*The 2007-2009 Great Recession of the US resulted in a major economic downturn, financial mayhem and the fall of Wall Street giants. It led to double-digit unemployment in the US and caused severe contagion in the Eurozone and emerging markets. In fact, many economies across the globe were severely affected in terms of loss of national output, loss of employment opportunities and significant reductions in their financial markets. This paper examines the extent to which the US Great Recession affected the economic growths of the BRIC (Brazil, Russia, India and China) and other emerging economies. For the purposes of this paper, we begin with a traditional aggregate production function, and then derive the growth model that we estimate. Following theoretical justifications in the literature, our growth model follows a Cobb-Douglas approach that includes government final consumption expenditure, along with labor and a proxy for capital. The study covers a total of 32 countries, and utilizes panel data covering the period 2002 to 2014. A number of key exogenous variables including both country-specific and external linkages from the US are used to investigate the impact on aggregate output growth of the 32 emerging economies.*

*The motivation and justification for this study lies in the fact that although the US has come a long way since the Great Recession, and is about to reach full employment, there are still emerging markets that are lagging in their economic recovery. Even those countries were experiencing better growth have recently had their growth forecasts revised downwards. Therefore, it continues to be an issue of interest, especially given the globalized inter-linked economies of today. Preliminary results suggest significant positive effects of the economic growth of the US on the emerging economies under investigation. The results remain robust under various specifications of the main regression relationship for comparison purposes. Obvious policy implications suggest the serious consideration of the effects of future recessions in advanced economies on emerging and developing economies. Furthermore, policy should recognize the channels of transmission through which the emerging economies can cement their further development.*

*JEL Classification: E00, E3, F6*

*A Conceptual Framework for Leveraging Standard and Big Data Resources to Achieve Sustainable Business Solutions*

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**Abstract**

*The introduction of new data resources that have been generated by innovative information technologies can provide organizations with opportunities to enhance process efficiencies and adjust strategic initiatives corresponding to information extracted from this data. However, Big Data also introduces complexities in storage, processing and analysis that can result in suboptimal outcomes and failed attempts to leverage the resource to achieve positive business initiatives. This paper will present a framework that addresses the management of big data in order for firms to more consistently generate actionable information regarding business processes and market trends and achieve more consistent, sustainable business solutions. Factors such as problem definition, data availability and sourcing, analytic application requirements and information deployment are addressed*

*One of the most important issues regarding a more optimal utilization of big data resources is the problem definition which in itself introduces major complexities that need to be addressed. Factors such as industry characteristics, detail of subject matter and eventual information deployment must fully be identified in a coherent model. This in turn helps direct technology adoption and implementation and data sourcing. Adherence to the framework not only promotes more consistent data utilization and strategizing but helps optimize technology adoption which can mitigate unnecessary costs.*

## *Identifying and Comparing Tourism Industrial Cluster of Yangtze River Delta in China*

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### **Extended Abstract**

#### **1 Introduction**

Following the introduction of the economic reform policy, which is known as the reform and opening up, growth of tourism in the economy has developed rapidly and gradually became a significant economic activity. Yangtze River Delta is the vanguard of the both of reform and opening up and tourism development. Forming the tourism industrial cluster is one extraordinarily efficient solution for Yangtze River Delta to ride the tourism into speedway and develop tourism into strategic pillar industry. The present domestic researches of industrial cluster focus on its functions, types, advantages, and its relationship with economic growth. The method of identifying the clusters still relies on the subjective judgment. Base on that only the obvious and large industrial cluster could be discriminated by the conception and characteristics of industrial cluster. In this research field, enormous research gap still exists<sup>[1]</sup>. Apparently, this is in urgent need to be supported by theory and practice. Therefore, it is necessarily to research on the existence and level of tourism industrial cluster in Yangtze River Delta.

In tourism industrial cluster identification and validation researches, lots of foreign scholars attempted to use the theoretical approaches of economic geography, as the methods including Herfindahl index, Gini coefficient, EG index, L function, D function, M function and location quotient etc. The Chinese scholars typically assessed industrial clusters with location quotient<sup>[2]</sup>, input-output analysis<sup>[3]</sup>, principal component analysis<sup>[4]</sup>, multivariate clustering analysis and graph theoretical analysis. Focusing on the research on the industrial clusters in Yangtze River Delta region including Shanghai, Jiangsu Province and Zhejiang Province, this study will identify the existence of the tourism industrial clusters in Yangtze River Delta, selects, identifies and validates the tourism industrial clusters in typical urban areas by presents a theoretical rationale for the use of contribution location quotients in estimating regional economic impacts. On this basis, we will measures the concentration level of the tourism industrial clusters in the Yangtze River Delta region, and propose some suggestions for management. The paper concludes, in part, the tourism industrial cluster of Yangtze River Delta has been formed with significant agglomeration<sup>[5]</sup>, and the unequilibrium of the clusters between provinces and cities is markedly.

The rest of the abstract is organized as follows: In Section 2, we briefly expounds the concept and application of the main methods in this paper. In Section 3, we briefly describe the identification and comparison of tourism industrial cluster of one city and two provinces in Yangtze River Delta and sixteen cities in Yangtze River Delta. In Section 4, we presents conclusions based on studies above and discusses future extensions of our work.

#### **2 Application of Decision Method**

In this paper, the main method to determine the tourism industry cluster is contribution location quotient. It is one of the main methods used to identify the existence of the industrial clusters in one region, and also a

quantitative tool for the analysis of the efficiency and effectiveness of the industry to measure the relative concentration level of the clusters in a particular industry in a specific area.

Location quotient is defined as the ratio of the proportion of total output of an industry (tourism industry) to GDP in a region against the same proportion nationwide. The specific formula is as follows:

$$LQ_{ij} = \frac{E_{ij} / E_i}{E_{kj} / E_k} \quad (1)$$

where,  $LQ_{ij}$  is the location quotient of industry  $j$  (tourism) in region  $i$  (one city and two provinces in Yangtze River Delta);  $E_{ij}$  is the total output of industry  $j$  (tourism revenue) in region  $i$ ,  $E_i$  is the total output (GDP) of region  $i$ ;  $E_{kj}$  is the total output of the industry  $j$  of the country,  $E_k$  is the GDP of the country.

When the location quotient is greater than 1, it means that this industry is a specialized sector in the region; the greater the location quotient is, the higher degree of specialization would be. When the location quotient is greater than 1.12 it means a high level of specialization, while if the location quotient is less than or equal to 1, it means this industry is a self-sufficient sector. In the identification of industry (tourism) cluster, if a regional location quotient is greater than 1, it can be said that industrial cluster has formed in this region.

### 3 Identification and Comparison of Tourism Industrial Cluster of Yangtze River Delta

#### 3.1 Identification and Comparison of Tourism Industrial Cluster of One City and Two Provinces in Yangtze River Delta

In 21st century, although suffered from the SARS in 2003 and the global financial crisis in 2008, the economy of Yangtze River Delta kept a rapid growth. Figure 1 graphically portrays the financial crisis, broke out in 2008, and caused the increase of the GDP been slow down. But there was an obviously rebounding in quick succession in year 2010.

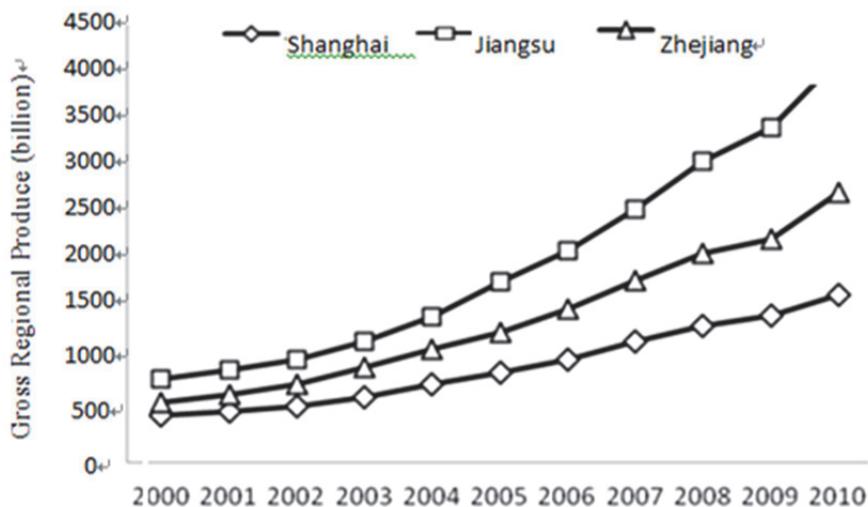


FIG. 1: GDP of Shanghai, Jiangsu and Zhejiang from Year 2000 to Year 2010

Source: China Statistical Yearbook 2011; China Statistical Abstract2011; China Yearbook of Commercial Statistics 2011; China Development Report2011.

From year 2000 to year 2010, Yangtze River Delta, comprised by two provinces and one city (Shanghai, Jiangsu and Zhejiang), held out a cheerful prospect on tourism development. Judging by Figure 2, the total output generated by tourism industry, cover the both incomes of inbound and domestic visitor, in Shanghai, Jiangsu and Zhejiang kept in swift growth. Shanghai and the other two provinces in Yangtze River Delta ranked in the top four provinces whose tourism revenue totaled over RMB 100 billion in China.

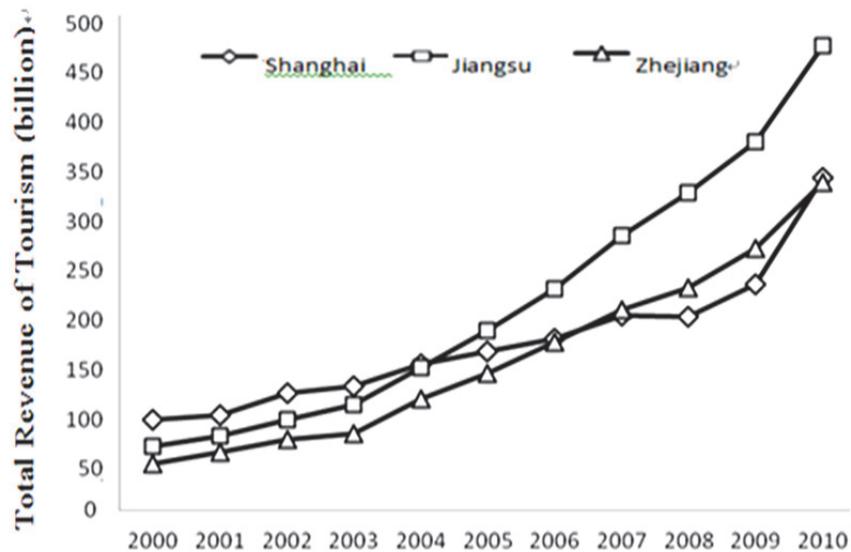


FIG. 2: Total Revenue of Tourism in Shanghai, Jiangsu and Zhejiang from Year 2000 to Year 2010

Source: China Statistical Yearbook 2011; China Statistical Abstract2011; China Statistical Yearbook of Tourism 2010; China Development Report2011.

Based on the GDP and tourism total revenue we concluded the contribution location quotient of Yangtze River Delta as table 1 shows.

Table 1: Location Quotient of Tourism in Shanghai, Jiangsu and Zhejiang from 2000 to 2010

Year	Location Quotient of Yangtze River Delta	Location Quotient of Shanghai	Location Quotient of Jiangsu	Location Quotient of Zhejiang
2000	2.2882	4.1809	1.6619	1.6900
2001	2.3280	4.0270	1.7270	1.8687
2002	2.4949	4.4524	1.8692	1.9200
2003	2.9769	5.1942	2.3894	2.2008
2004	2.7084	4.2492	2.2366	2.2484
2005	2.7925	4.1613	2.3426	2.4726
2006	2.8505	3.9641	2.4878	2.6031
2007	2.8655	3.8178	2.5847	2.6207
2008	3.0197	3.7708	2.8020	2.8416
2009	3.1527	4.0012	2.8573	3.0403
2010	3.3664	5.0068	2.8935	3.0572

Provincial tourism industrial clusters in Shanghai, Zhejiang, Jiangsu in Yangtze River Delta have been formed, cluster significance of which has reached a higher level compared to tourism industry nationwide. Meanwhile, the development of provincial tourism industrial clusters in Yangtze River Delta is not in equilibrium. Among the three provinces, tourism industrial cluster significance in Shanghai is the most distinctive. However, compared to Shanghai, tourism industrial cluster level in Jiangsu and Zhejiang is relatively lower with little deviation between each other. Led by the development of tourism industry in Shanghai, tourism industrial cluster level in the region of Yangtze River Delta is relatively higher with contribution location quotients values stably in the area between 2 and 3 every year from year 2000 to year 2010.

**a. Identification and Comparison of Tourism Industrial cluster of sixteen Cities in Yangtze River Delta**

According to contribution location quotients formula, based on the related statistic information and data of the sixteen cities in Yangtze River Delta, tourism industry contribution location quotients of each city relative to nationwide can be calculated therefore the characteristic of tourism industrial cluster in such cities can be identified, analyzed and compared with each other. Study result shows that tourism industry contribution location quotients of sixteen cities in year 2010 exceeded 1.12, which means that specialization level of tourism industry in these cities is relatively higher therefore tourism industrial cluster has been formed in all cities in Yangtze River Delta. Comparison of contribution location quotients between the cities shows that tourism industrial clusters of the sixteen cities in Yangtze River Delta are not in equilibrium obviously as Figure 3 shows.

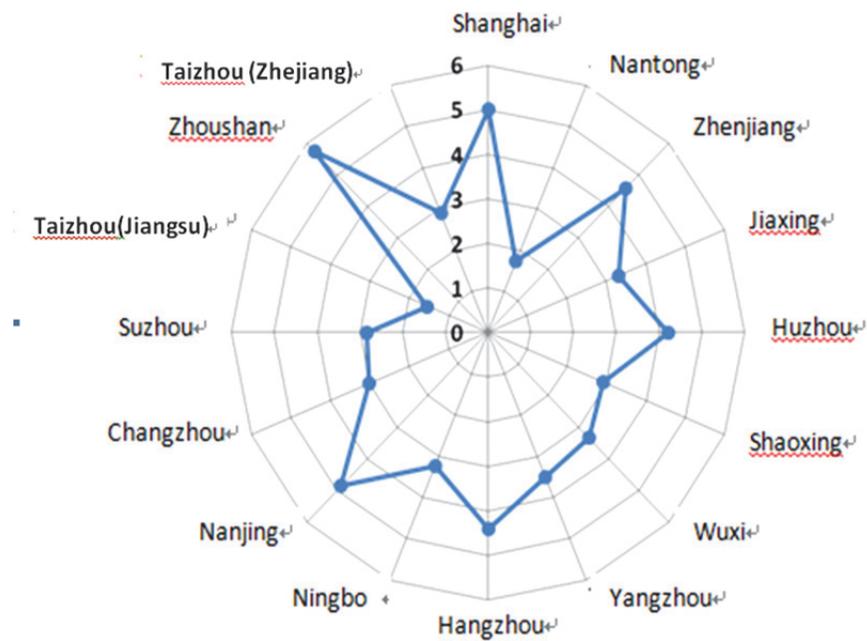


FIG. 3 Comparison of Tourism Industry Contribution Location Quotient between Sixteen Cities in Yangtze River Delta

The final ranking of tourism industrial cluster significance of the sixteen cities in Yangtze River Delta would be Zhoushan, Shanghai, Nanjing, Zhenjiang, Hangzhou, Huzhou, Yangzhou, Wuxi, Jiaxing, Ningbo, Changzhou, Shaoxing, Taizhou (Zhejiang), Suzhou, Nantong and Taizhou (Jiangsu), as shown in table 2.

Table 2 GDP, Gross Income of Tourism Industry and Contribution Location Quotients of the Sixteen Cities in Yangtze River Delta in Year 2010

County/ City	GDP (0.1 billion)	Gross Income of Tourism Industry (0.1 billion)	Location Quotients	Ranking of Location Quotients
Zhoushan	633.45	142.04	5.737044	1
Shanghai	17165.98	3359.281	5.006884	2
Nanjing	5010.36	951.61	4.85937	3
Zhenjiang	1956.64	349.7823	4.573796	4
Hangzhou	5945.82	1025.7	4.413656	5
Huzhou	1301.56	214.16	4.209825	6
Yangzhou	2207.99	303.1	3.512196	7
Wuxi	5758	748.73	3.326928	8
Jiaxing	2296	296.01	3.29856	9
Ningbo	5125.82	650.8	3.248434	10
Changzhou	2976.7	349.7	3.005733	11
Shaoxing	2782.74	318.4	2.927456	12
Taizhou (Zhejiang)	2415.12	273.23	2.89454	13
Suzhou	9168.9	1020	2.846249	14
Nantong	3417.88	230.19	1.723136	15
Taizhou (Suzhou)	2002.58	120.61	1.540931	16

Source: Statistic public release of each county and city in Yangtze River Delta

#### 4 Conclusion

Based on the statistic data from year 2000 to year 2010, the study identifies and analyzes tourism industrial cluster in the region of Yangtze River Delta with location quotients. The study shows that location quotients values of tourism industry in Yangtze River Delta are all beyond 1.12 every year during year 2000 and year 2010, which verifies that tourism industrial cluster has been formed in the region with distinctive cluster significance. From the view point of the analysis on tourism industry in the two provinces and one city, tourism industrial cluster significance is the most distinctive in Shanghai. Cluster significance of tourism industry in Jiangsu and Zhejiang is very similar with each other while the dynamic trend is quite different with that in Shanghai. The continuously increasing trend of location quotients values of tourism industry in the two provinces shows that the specialization level of tourism industry in the two provinces increased continuously, which means cluster significance level increased continuously. From the view point of location quotients value of the sixteen cities in Yangtze River Delta, cluster characteristics of tourism industry appear in each county and city but the development in each county and city is not in equilibrium obviously.

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## *Sustainability and Company's Value – A Follow-Up Study of S&P 500 U.S. Companies*

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### **Abstract**

*Social responsibility and sustainability has become a major issue in today's society. From the demand point of view, the behavior of consumers is affected by the corporations' sustainable practices (Mohr et al., 2001; Sen and Bhattacharya, 2001; Sen et al., 2006). As awareness and demand grows, companies feel the need to adjust their strategies and create the positive image of being environmentally friendly and socially responsible. Furthermore, different levels of regulation are requiring companies in some industries to comply with sustainable legislation. As a consequence, many corporations have made sustainability initiatives an essential part of their strategic decision-making process. However, adopting sustainability practices generally requires capital and infrastructure for new processes and training. The need to increase the levels of investment raises the question of whether investment in sustainability initiatives adds value to corporations and their stakeholders. In addition, we are interested in finding whether sustainability practices associated with firm-specific or industry-specific factors.*

*Lin et al. (2015) conduct a comparative study using a sample of S&P 500 firms to examine the characteristics of "best green" versus 'worst green' companies following the Newsweek's green rankings in 2012. They find that not surprisingly, top green companies are heavily concentrated in certain industries such as technology and services sectors. However, there is an increased presence in the top green rankings from industries that are polluting in nature, such as Industrial Goods, Transportation & Logistics, Hotels & Restaurants and Vehicles & Components. More importantly, when they examine the component rankings, they find that some polluting industries are making efforts to implement policies, programs and initiatives to reduce their negative environmental impact. They further find that there was a significant increase of non-Green firms that were leading in the Disclosure score. Another important finding of this study is that they find sustainability is associated with increased firm value.*

*This paper is a follow up study to examine the changes of 'Green Rankings' of companies over time. We will use Newsweek's Green Rankings released in 2014 to perform the comparative study. We are interested in finding out if there is a significant change in sustainability rankings from 2012 to 2014. For example, do top green firms maintain their leading status? How many new firms break into the top ranking status? Is there a change in industry composition among the top green firms versus firms at the bottom? Is the change in green rankings associated with the change in firms' performance? What is the impact of ranking changes on firm value?*

*To conduct our analysis, we will obtain the sample firms from the 2014's and 2012's Newsweek Green Rankings of largest companies in the U.S. First, we will reexamine the correlation between firm- and industry-specific characteristics and green rankings. We will also reexamine if shareholders' value is positively associated with the ranking. These rankings will be compared with their company's value as depicted in various financial and market metrics for 2014. Next, we will merge the two lists to create a constant sample. We will examine the change of rankings over time. We are interested in finding out if there is an industry shakeup among the green rankings. In addition, is the change in green rankings associated with change in firm value? The results of this paper contribute to the sustainability literature and undoubtedly will lead to more informed and improved decision-making by managers, shareholders as well as other stakeholders regarding the enactment of sustainable initiatives in corporations.*

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## *Sport Events Travel Behavior: The Moderating Role Of Training In Triathlon*

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### **Introduction**

Since 1977, after the first Ironman competition in Hawaii, triathlon has experienced a considerable growth, gaining in 2000 the status of Olympic sport, despite its unique characteristics (simultaneously involving swimming, cycling, and running) that generally make it a sport discipline requiring tough skills. The importance of understanding the sport event travelers' behavior have been recognized by Getz (2012), and management and marketing research begun to investigate triathlon in the last years (Baumann, 2009; Smith, 2010; Wicker, Hallmann, Breuer & Feiler, 2012).

This paper contributes to this new field by analyzing the relationships between self-congruity, functional congruity, satisfaction, sport event involvement and behavioral intentions of triathlon travelers. Moreover, the moderating effect of different training experiences is assessed in allowing the relations among these variables to vary according to the level of training.

In order to empirically investigate these issues, data from 885 questionnaires were collected among triathletes who participated to four main triathlon competitions in Italy and Austria (Revine, Rimini, Bardolino and Klagenfurt) between April and September 2015.

### **Hypotheses Development and Conceptual Model**

The present study models the effects of self-congruity and functional congruity on behavioral intentions of triathlon sport event travelers, with satisfaction and involvement acting as mediators and the moderating effect of training experience.

In their model of customer involvement, Kressmann, Sirgy, Herrmann, Huber, Huber and Lee (2006) showed a strong relationship between self-congruity, high involvement and brand loyalty, and a significant relationship between self-congruity and customer involvement has been also suggested by other studies (Sirgy and Su, 2000; Xue, 2008; Bosnjak & Rudolph, 2008). Sirgy and Su (2000) theoretically explained how functional congruity is related to tourists' behavior. Ahn, Ekinci, and Li (2013) suggested how utilitarian attributes of a destination satisfy tourists' fundamental travel needs (e.g., convenience, safety, and comfort). The considerations above lead to the following hypotheses:

***H1:** Self Congruity has a positive, direct effect on Satisfaction*

***H2:** Self Congruity has a positive, direct effect on Sport Event Involvement*

***H3:** Functional Congruity has a positive, direct effect on Satisfaction*

***H4: Functional Congruity has a positive, direct effect on Sport Event Involvement***

Emotions have been found to affect consumers' information processing (Bagozzi, Gopinath & Nyer, 1999). Satisfaction has been defined as an emotional response based on a holistic view of a phenomenon (Cronin, Brady, and Hult, 2000). According to the view that affective reactions influence attitudes (Weiss & Cropanzano, 1996), some studies support the hypothesis that satisfaction is an antecedent of attitudinal brand loyalty (Bennett, 2001; Bolton, 1998; Jones & Suh, 2000; Ringham, Johnson & Morton, 1994). Brand attitude has an important role in determining service repurchase; it is strongly influenced by the post-purchase and consumption evaluation of a service (Zeithaml, 1981).

In the context of recreational settings, individuals showing a higher degree of involvement in an activity are more likely to be loyal (e.g., Havitz & Dimanche, 1997; Iwasaki & Havitz, 2004). Higher involvement has been showed to be an important predictor of higher participation to events and of higher spending on event related products, in the case of running events (McGehee, Yoon & Cárdenas, 2003), and also of greater frequency, depth, and breadth of running-related behaviors (Beaton, Funk, Ridinger & Jordan, 2011). Martensen et al. (2007) highlighted the predictive value of emotional responses for event attitude. Brown, Smith and Assaker (2016) pointed out the positive, direct impact of tourists' degree of sport involvement. Finally, the relationship between satisfaction and behavioral intention is a cornerstone in consumer behavior literature (e.g., Zeithaml, 1981). Several studies established that satisfied tourists tend to recommend a destination to other people (Bigné, Sanchez & Sanchez, 2001; Hui, Wan & Ho, 2007; Kozak and Rimmington, 2000; Yoon and Uysal, 2005). All together these results take to the following relations:

***H5: Satisfaction has a positive, direct effect on Sport Event Involvement***

***H6: Sport Event Involvement has a positive, direct effect on Behavioral Intention***

***H7: Satisfaction has a positive, direct effect on Behavioral Intention***

Finally, the search for moderator effects avoids the need that the results pertain to the whole of population of interest, when in fact they should be differently applied to separate parts of the sample (Bryman and Cramer, 1999). In examining training experience, sport management literature has found that the aforementioned relationships between key constructs develop over time and are affected by customers' experience (Avourdiadou and Theodorakis, 2014; Dagger and O'Brien, 2010; Jiang and Rosenbloom, 2005). Thus the following hypothesis is proposed:

***H8: Training experience moderates the effects H1-H7 in the theoretical model.***

## **Methods and Results**

The theoretical model described so far is a recursive model with two main exogenous constructs (Self and Functional Congruity), two endogenous mediators (Satisfaction and Sport Event Involvement) and one endogenous outcome variable (Behavioral Intentions). In order to test our hypotheses, we specify a Structural Equation Model (SEM) with latent variables, and estimate it empirically on a sample of 885 questionnaires filled by triathlon events participants.

As regards the measurement part of the model, two factors emerge from exploratory factor analysis (EFA) for Self-Congruity, respectively related to the real (5 items) and ideal (4 items) self-perception; confirmatory factor analysis (CFA) shows that we can use them as latent indicators of an overall second-level factor for Self-Congruity, including both real and ideal items. On the contrary, for the Functional Congruity construct both EFA and CFA show the presence of 3 distinct factors (Natural Resources, Leisure and Facilities), each measured by 3 items. Thus

there are 4 different exogenous antecedents of the endogenous variables of interest: Satisfaction (4 items), Sport Event Involvement (4 items) and Behavioral Intentions (3 items).

As the overall model shows an acceptable level of all typical fit measures (e.g. RMSEA<.08; CFI and TLI>.90;  $\chi^2/\text{dof}$ <3; see Kline, 2016), we can use its structural estimates to test hypotheses H1-H7. All hypotheses are confirmed by the data, with the only exception of H3 and H4, which are only valid for a specific aspect of Functional Congruity: while Natural Resources have a significant effect both on Satisfaction and Sport Event Involvement, the effects of Leisure and Facilities are never significant. Moreover, the specification search shows that some originally neglected direct effects of Functional Congruity on Behavioral Intentions (Natural Resources and Facilities) are indeed significant. Thus, the mediating role of Satisfaction and Involvement in the relation between Functional Congruity and Behavioral Intentions is only partially verified.

Finally, as regards the moderation hypothesis H8 we estimated a multi-group SEM allowing all structural parameters of interest to vary between two groups of triathletes characterized by different overall training intensity (fit measures are still acceptable and measurement invariance is assessed). There are two significant differences between structural parameters in the two groups, both regarding the direct effects on Behavioral Intentions: the effect of Satisfaction is only significant for High Intensity Training triathletes, while the effect of Facilities is only present for Low Intensity Training ones. This evidence might potentially lead to define differential marketing strategies for different groups of active sport events tourists with respect to their different training levels.

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## *Towards A Perspective Focusing On The Factors And Practices To Fight The Entrepreneurial Burnout*

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### **Abstract**

*Nascent entrepreneurs are frequently subject to a great number of professional stressors caused by their work activities and making them potential candidates for burnout. This phenomenon may threaten their health as well as that of their new ventures. Indeed, it has some detrimental effects due to the fact that those new business owners have mostly few resources, energy, and skills, enabling them to deal with the psychosocial risks derived from the entrepreneurial burnout.*

*The objective of this study is, then, to shed some light on the concept of entrepreneurial burnout and its potential contributors. In order to reach this purpose, a review of the existing literature is used as the basis for the development of a model which could form a fundamental tool to facilitate future research. By exploring the causes as well as the consequences of the entrepreneurial burnout, an overview of the essential factors and methods that could help to mitigate its main impacts would be proposed.*

**Keywords:** *Professional stress, entrepreneurial burnout, sources and consequences of the burnout, methods and practices to fight the burnout.*

## *Mining Methods for Information Extraction from Structured and Unstructured Data*

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### **Abstract**

*In today's business landscape, new technologies such as Hadoop, promise to unlock business value by leveraging advanced analytics on Terabytes and Petabytes of data. Companies are setting up Hadoop clusters in the hope to harness clusters of computers and disparate data sources to unlock crucial ROI hidden in their data. Companies often fail to understand that time tested analytic means and methods used on smaller data sets, still apply to the "big data" sets. Analytics we refer to include, descriptive, diagnostic, predictive, and prescriptive approaches.*

*The problem has always been scalability, application, and operationalizing of insight from those big data sets. This presentation discusses the common pitfalls and successes in scalability, application, and operationalizing of advanced analytic business processes to Big Data and discusses key points to best leveraging advanced analytic mining methods to achieve more sustainable improvements for decision support for process improvements.*

*The era of Big Data and predictive analytics is transforming not only the business landscape but every aspect of our lives today. Using simple algorithms such as linear regression to more advanced ones such as Support Vector Machines and Deep Learning, companies are in large waves adopting these methods and means more than ever on larger and larger data sets. These approaches enable prescriptive analytics which can enhance a fuller operationalization of decision support information into business processes and infrastructure. This presentation will focus on value levels of predictive and prescriptive analytics and how they are being applied to the Big Data space.*

## *Re-defining Customer Equity with Superimposing Customer Loyalty as an Individual Component*

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### **Abstract**

*Business life has been going through a big change in recent years. Firms are currently faced with a trend towards individualization and customization in all areas of business as “millennials” start to constitute a larger market everyday. Consequently, “marketing concept”, which focuses on a target segment of consumer needs and wants, has evolved to “customer concept”, in which the needs and wants of individual customer is emphasized (Hoekstra, et.al., 1999). With the increased importance of individual customer, his/her individual value to the firm has become a significant research topic (Bayon, et.al, 2002; Hansotia, 2004; Kumar et.al., 2006; Rust, et.al, 2004). Yet, researchers are unanimous that more research should be carried out about the value of the customer to the firm (Thomas, et.at. 2004, Dorch et.al. 2001, Peppers and Rogers, 2005; Villanueva and Hanssens, 2007). In an attempt to contribute to the current research in the literature, in this study, the customer equity concept, which is a revolutionary paradigm that makes companies focus on individuals rather than on groups or masses, is studied. In customer equity approach, the company considers the customers as “the most important asset” (Kumar and Shah, 2004). According to Rust, Lemon, and Narayandas’ (2004) study, customer equity is defined as “the total of the discounted lifetime values summed over all of the firm’s current and potential customers”.*

*In relation with the literature, customer equity has three components- called as value equity, brand equity and relationship equity. However, it is seen that in discussing customer loyalty, mainly behavioral dimension is included within the dimensions and attitudinal dimension, which is as much important as the behavioral dimension, is under-represented in discussions. Therefore, the purpose of this study is to test an alternative customer equity model in which attitudinal and behavioral customer loyalty are treated as two additional individual components of customer equity. In addition to this, the study also aims using primary data in examining the total effects of price, place and promotion efforts of the firm on customer equity. The hypothesis tested are as follows:*

*H<sub>1</sub>: Customer equity has five distinct components named as value equity, brand equity, relationship equity, attitudinal loyalty and behavioral loyalty.*

*H<sub>2</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and customer equity of the firm.*

*H<sub>2a</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and value equity of the firm.*

*H<sub>2b</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and brand equity of the firm.*

*H<sub>2c</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and relationship equity of the firm.*

*H<sub>2d</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and behavioral loyalty of the customers.*

*H<sub>2e</sub>: There is a positive correlation between perceptions of selected marketing mix elements by the customers and attitudinal loyalty of the customers.*

*In gathering required data, a survey, which is based on two smart phone manufacturers, is conducted with 377 respondents. In order to test the proposed model (H<sub>1</sub>) LISREL package program is used and structural equation modelling (SEM) is applied. Results indicate that the proposed model is significant at 95% confidence level, has a high goodness of fit (GFI = .93) and has an acceptable level of root mean square error (RMSEA= .07). However, in the output of the analysis, it is shown that there exist a correlation between value equity and brand equity terms. This formation can be tested with a different product and if possible with a random sample of respondents in future studies.*

*In hypothesis 2, only price, distribution and promotion elements of the marketing mix are tested and “product” element is omitted due to the fact that it is accepted to be one of the most important and obvious drivers of the value equity. In order to test all the sub-hypothesis that customer’s positive perception of selected marketing mix elements has a positive effect on components of customer equity, regression analysis is used.*

*According to the results of regression analysis between value equity and perception of selected marketing mix elements (H<sub>2a</sub>), it is seen that only distribution element has a significant effect on value equity ( $\beta = .19$ ,  $p = .00$ ). In testing the relationship between perception of marketing mix elements on brand equity, it is seen that perception of distribution is significant at 95% confidence level ( $\beta = .15$ ,  $p = .00$ ) and perception of promotion is found to have a significant effect on brand equity at 90% confidence level ( $\beta = .096$ ,  $p = .07$ ).*

*The regression analysis results show that relationship equity is significantly affected by perception of marketing mix elements. The multiple regression model in which perception of price, product and distribution are independent variables and customer equity is dependent variable is found to be statistically significant ( $R^2 = .08$ ,  $F(3,373) = 11.03$ ,  $p = .00$ ). The results of simple regression analysis for each of the marketing mix elements are also found to be significant ( $\beta = .16$ ,  $p = .00$  (for price),  $\beta = .12$ ,  $p = .02$  (for distribution),  $\beta = .16$ ,  $p = .00$  (for promotion)). In testing the relationship between perception of marketing mix elements and behavioral loyalty (H<sub>2d</sub>), the regression model is found to be non-significant, therefore the hypothesis (H<sub>2d</sub>) is rejected. The results of multiple regression analysis between marketing mix elements and attitudinal loyalty is found out to be significant, however in separate analysis, only perception price is found to have a significant relation with attitudinal loyalty ( $\beta = -.17$ ,  $p = .00$ ).*

*According to the results of analysis, it can be said that the customer equity model can be re-defined where attitudinal and behavioral loyalty are treated as two individual components of customer equity and there exists a correlation between value equity and brand equity. In addition to that, based on the analysis in this study, it can be said that distribution is the most important factor in increasing the customer equity since it is significantly related with value, brand and relationship components of customer equity.*

*As in any study, this study has also some limitations. Selection of sample, applying only survey as data gathering method and not being able to ask detailed questions in the questionnaire are the most important limitations. In future studies, the same study can be applied with combining survey method with in-depth interviews or using a more homogeneous product than smart phones.*

**Keywords :** Customer Equity, Customer Loyalty, Marketing Mix

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## *The Sustainability of the U.S. Corporate Income Tax System*

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### **Abstract**

*This paper surveys the empirical literature on the impact of corporate income taxes on the location of capital. We identify the main issues which arise in such empirical work, and link different studies in a general framework. We concentrate specifically on issues which arise in the formulation of economic policy.*

*Based on the size of the U.S. escalating national debt (highest in the world), low GDP growth rate and the growing number of inversions, it is time for U.S. to consider corporate tax system reform. In order to become more sustainable in the future, this reform should involve reduction of federal/state corporate tax rates and changes in repatriation of foreign earnings policies. The federal government currently receives about 11% of its revenue from corporate profits taxation compared to 33% in 1950. The reason for the sharp decline is due in part to the rise in tax havens. As of 2015, the Dow 30 had an estimated \$966 billion in U.S. corporate earnings permanently outside the reach of U.S. tax authorities. Avoidance of U.S. tax can be accomplished through a tax inversion. Since 1982, 51 U.S. Corporations have adopted the tax inversion strategy. These corporations are using tax inversions to escape tax in the U.S. on foreign source income. Inversions involve corporations in one country merging with foreign corporations to shift reported profits and assets to a foreign jurisdiction with a lower tax rate thereby, reducing expenses and enhancing long-term sustainability in a competitive global market. On April 4, 2016 the Treasury Departments issued new rules to curb the use of tax inversions.*

*The Theoretical Rationale for our paper is the Laffer Curve Effect synonymous with the entire pro-growth world view of supply-side economics. According to Arthur Laffer, former OMB chief economist, zero and 100% tax rates lead to zero revenue. The Laffer Curve Effect shows what happens when economic and math axioms collide. It explains why a tax increase may reduce tax revenue just as a tax cut may raise more revenue than otherwise predicted. The argument for limiting U.S. tax to domestic income creates a more competitive business environment with foreign rivals. Due to high U.S. corporate tax rates, many companies book significant profits overseas and defer taxes indefinitely since the profits remain invested overseas. Pfizer's footnotes disclose that it has \$74 billion declared permanently reinvested overseas.*

Our research hypothesis is that the Laffer Curve Effect is working against the best interests of the US in the area of corporate taxation due to its prohibitively high corporate tax rate of nearly 50 percent (40% fed + 10% State) that is forcing U.S. companies such as Pfizer, Apple, Burger King and others to seek inversions in foreign countries with lower corporate tax rates leading to lower tax revenues paid to the U.S. Laffer recently stated the following: "I think today everyone agrees with the premise that when you tax something you get less of it, and when you tax something less, you get more of it." Our research will address to what degree the U.S. high corporate tax rates impact inversion activity and sustainable GDP growth. Our research methodology involves a historical review and analysis of SEC 10-K filings of the Dow 30 noting foreign mergers/acquisitions and related inversion activity changes in investments in foreign operations. This analysis leads us to conclude corporate tax reform is needed to provide for the sustainable of the United States corporate income tax system.

**Keywords:** Inversion, Sustainable, Tax Haven, Tax Reform, US Corporate Tax,

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## *The Impact of the New Revenue Standard on Real Estate Sales*

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### **Abstract**

*The Financial Accounting Standards Board and the International Accounting Standards Board in May 2014 jointly issued significantly revised standard on revenue recognition after 12 years of joint discussions, meetings, public comments, and several proposals. The new standard becomes effective for annual reporting periods beginning after December 15, 2017, including interim reporting periods within that reporting period with a one-year deferral for nonpublic entities.*

*The core principle of the new standard is that “an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services” (ASC 606-10-05-3). To recognize revenue in accordance that core principle, the standard indicates that an entity should apply the following five-step process:*

*Step 1: Identify the contract with a customer.*

*Step 2: Identify the performance obligations in the contract.*

*Step 3: Determine the transaction price.*

*Step 4: Allocate the transaction price to the performance obligations in the contract.*

*Step 5: Recognize revenue when or as the entity satisfies a performance obligation.*

*The new standard provides a single comprehensive principle-based revenue recognition model to be applied across industries and jurisdictions. It replaces the detailed and often disparate industry-specific and transaction-specific guidance currently existed under U.S. accounting standards.*

*The focus of this paper is to examine the impact of the new revenue standard on the accounting for real estate sales transactions of U.S. companies. Issues related to buyer’s initial and continuing investments, seller’s participation in future profit without risk of loss, repurchase agreements, and condominium sales are examined. Examples are used to illustrate the impact of the new standard on financial statements.*

*To recognize full profit on a real estate sale under current U.S. standard, the buyer must satisfy specified initial and continuing investment requirements. These adequacy requirements are intended to demonstrate the buyer’s commitment to pay for the purchase. If the investment is not adequate, the sale is recorded under the reduced profit method, installment method, cost recovery method, or deposit method (no sale recognized) depending on the facts and circumstances. There are no explicit initial or continuing investment requirements for the buyer under the new standard. Instead, the seller is required to evaluate whether it is probable that it will collect the consideration to which it will be entitled in exchange for property transferred to the buyer. Assessing collectibility involves considering various factors such as the payment terms, the importance of the property to the buyer’s operations, prior experience with the buyer (if any), and whether the seller’s receivable is subject to future subordination. These factors are to be evaluated collectively and no single factor is determinative as to whether collectibility is probable. If collectibility is not probable, a sale contract does not exist, the seller will account for any consideration received as a deposit (similar to the deposit method under the current standard). If collectibility is probable and other requirements are met, revenue and profit are recognized when or as the control of the property transfers to the buyer. The new standard does not permit the use of the reduced profit method, installment method, or cost recovery method.*

*If the seller will participate in future profit from the property without risk of loss, the contingent future profits are recognized only when they are realized under the current standard. In contrast, the new standard accounts for future profit participation as variable consideration and requires an upfront estimate (and subsequent periodic update) in the determination of transaction price (the amount of consideration to which the seller expects to be entitled). A seller will include in the transaction price its estimate of its share of future profits to the extent that it is probable a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty is resolved.*

*In some sales transactions, the seller has an obligation or option to repurchase the property back or the buyer has option to force the seller to repurchase the property. In these cases, the transaction is accounted for as a financing, a lease, or a profit-sharing arrangement rather than a sale under the current standard. However, under the new standard, a sale transaction with a repurchase agreement is accounted for differently depending on whether the buyer has the option to force the seller to repurchase the property. If the buyer has such an option and the seller assesses that the buyer does not have a significant economic incentive to exercise the option, the transaction is accounted for as a sale with a right of return. Otherwise, a sale transaction with a repurchase agreement is accounted for as a financing or a lease arrangement. Profit-sharing accounting is not allowed under the new standard.*

*Under the current standard, if individual units in a condominium project are being sold separately and certain other conditions are met, profit is recognized using the percentage-of-completion method on the sale of individual units. When the revenue is recognized over time under the new standard, the patterns of revenue recognized by the seller/developer of condominium units could be similar to those using the percentage-of-completion method. However, condominium sales contracts generally are not structured to satisfy the criteria for revenue recognition over time.*

## *Sustainable Rankings – Are They Consistent Across Rating Agencies?*

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### **Abstract**

*Corporate Social Responsibility (CSR) has gained great attention and interest as the public became more aware of the environmental, social and governance roles that corporations should play. More and more companies have increased their capital investment in sustainability initiatives and programs, and published CSR reports in addition to annual financial reports. Also observed is the emergence of various rating agencies which provide ratings and rankings of corporate CSR activities proprietarily or publicly. Many studies have examined the impact of CSR activities on a company's value using either the CSR/sustainability ratings or companies' CSR reports. The findings of these studies have been mixed.*

*This paper investigates the current situation in the sustainability ratings industry. We examine systematically three of the leading public available sustainability rating providers, their rating methodologies and coverage.*

*Our analysis of the current state of publicly available sustainability ratings/rankings clearly indicates that there are significant inconsistencies across the three major public rating agencies examined.*

*For global markets to work effectively, the information provided by the rating/ranking agencies must be transparent and consistent. Hence, inconsistency in ratings/rankings and lack of transparency in how the ratings are determined are impediments to efficient global capital markets.*

*The inconsistency in ratings/rankings of companies among rating agencies suggests that market efficiency and the use of capital markets to address global sustainable issues will not be achieved until reliable, useful CSR information is available on a frequent and regular basis.*

*Findings of our research will have implications for sustainability standard setting, sustainability reporting and auditing, as well as for researchers who use sustainability ratings in their studies.*

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## *Sustainability Practices in European Versus U.S. Corporations - Is the Divide Getting Closer?*

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### **Abstract**

*Europe has been at the top of sustainability reporting during the last decade. The European Union (EU) proposed what is known as the “Europe 2020 Strategy” (European Commission, 2005, 2010), a new model of business based on sustainable growth (Martinuzzi, Gisch-Boie and Wiman, 2010), which elevated Europe to the highest levels of reporting according to the Global Reporting Initiative (GRI) standards. In the U.S., sustainability-reporting practices developed later. According to Kaye (2011), “while companies around the globe have embraced CSR reports as a way to demonstrate transparency and articulate their effects on environmental, social, and governance issues, American companies generally lag behind. GRI estimates that 45% of the companies that use its reporting framework are from Europe.” With the purpose of increasing the participation of U.S. companies from 12%, the GRI opened an office in Lower Manhattan in January 2012.*

*Romero et al. (2014) study the differences between corporations in Europe and the U.S.A. with respect to sustainability initiatives and company value. Their study is based on data from the annual environmental ranking of the 500 largest publicly traded companies in the world (Newsweek, October 22, 2012). They find that companies in the European Union are ranked higher than the rest of the world in sustainability reporting in areas related to regulation, and have a weaker relationship between sustainable initiatives and profitability. Companies in the U.S., on the other hand, have a stronger relationship between sustainable initiatives and profitability than the rest of the world, and are ranked higher in areas related to disclosure of carbon emissions and footprint.*

*This paper looks at the differences between Europe and the U.S. in 2015, to see if the latter have reached a similar level of commitment to Corporate Social Responsibility (CSR) than the former.*

### **Design/methodology:**

We collect data from the annual environmental ranking of the 500 largest publicly traded companies in the world as listed by Newsweek (2015) and Compustat. We compare the changes in rankings of European and U.S. companies from 2012 to 2015, to test if U.S. companies have increased their commitment to CSR. If they did, they should have improved their position in the rankings. Besides this analysis, we test the relationship between profitability and changes in rankings at the general and regional levels. Finally, to analyze if there is a change in the composition of European and U. S. companies, we compare the development of companies at the top and at the bottom of the rankings.

### **Contributions**

The results of this research could be useful to U.S. standard-setters, corporate managers as well as investors, creditors, environmentalists and other financial statement users.

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*The Practice of Job Satisfaction as a Meaningful Tool in Organizational Productivity: A Developing World Perspective*

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**Abstract**

*This paper aims to examine the very role of intrinsic factor such as job satisfaction on employee turnover to make organizational survival meaningful. It attempted to investigate any relationship among Job stress, Job satisfaction and employee turnover among the teachers of Public Sector Medical colleges in Lahore, Pakistan. Job satisfaction has been postulated as a mediating variable between job stress and employees' turnover. The design of study is essentially cross sectional. The data were gathered through survey questionnaire method by contending a quantitative approach. A sample of 250 employees' was selected through probability sampling technique. A sample of 194 employees from the medical colleges of Pakistan was used for this analysis. Different statistical test including regression have been used to find out the postulated relationship and to answer the research questions. The study revealed a negative association between job stress and job satisfaction and a negative association between job satisfaction and employee turnover. However, interestingly a positive association is found between job stress and employee turnover. Furthermore impact of demographics on employee turnover has also been studied in this research. This research is very useful for hospital administrators to identify the ways to reduce stress while maximizing job satisfaction to have low turnover. The research findings are more meaningful in developing countries like Pakistan.*

**Key words** *Job stress, Job satisfaction, employees' turnover, public sector colleges, Pakistan*

*Economic Value Added and Ecology Value Added as a measure for disaster preparedness linked to Corporate Social Responsibility: Japan as a test-bed bridging Asia and North America*

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**Abstract**

*This paper applies Economic Value Added (EVA) and Ecology Value Added (EcoVA) as a measure for disaster preparedness to embed as an essential metric into the domain of Corporate Social Responsibility (CSR). Scope of this work positions Japan as an appropriate pivotal bridge for the disaster preparedness linked CSR metric. This paper builds on the opportunity to address the research gap on why resilience to disaster risks should be a priority focus area for corporate social responsibility practitioners. Inbuilt in the research is the potential for developing an appropriate measure on disaster preparedness linked CSR for Japan with possible standardization to incorporate Asia and North America drawn from the lessons from Japan. Literature and professional practice provides the evolving theory and perspectives that configures the research propositions: (a) can the linkage of EVA and Eco-VA may be embedded into organizations CSR agenda to create competitiveness through savings through disaster preparedness with focus on Japan? (b) could the disaster preparedness linked CSR measure be unified for Asia and North America through a comprehensible visual metric (dash-board) evolved with Japan? The ordinal regression analysis with significance of 0.012 on the key sustainability attributes of EcoVA, water, energy, waste, along with economic value added (EVA), cost of capital, return on assets, operating assets done with dependent variables of CSR and disaster preparedness, done on an exploratory basis justifies the research propositions. The initial results encourage future research that would be beneficial to investors, policy-makers, community along with businesses to objectively assess the deterministic role of CSR linked-disaster preparedness that can impact competitiveness.*

**Key words** *Economic Value Added, ecology value added, CSR-linked disaster preparedness, scope Japan-North America-Asia, ordinal regression*

## Does Islamic Finance Prevent Financial Crises: A Global Perspective

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### **Abstract**

*Financial crises become a key obstacle towards the sustainable development of countries. Based on standard finance, many researchers investigated the financial crises in different countries in order to find the underlying reason for preventing future crises. It discusses the measures taken by different nations in response to financial crises; however it lacks. In this essence Islamic finance may be helpful in prevention of future financial crises. In this paper, we explore the how Islamic practices may be helpful in preventing the severe economic outcomes that hit the economies. At the end policy recommendation has been presented for both developed and developing countries*

**Keywords** *Financial crises, Islamic Finance, Developed Economies and Emerging Economies*

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## *What future development is coming for the brand Made in Italy? A critical analysis*

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### **Abstract**

*This work aims to propose a critical analysis about the “Made in Italy” value appropriation and the future development of this brand.*

*The brand “Made in Italy” still definitely enjoys a high degree of awareness in international markets; however, the impact on perceptions, image and customer loyalty, caused especially by the actions that tend to create confusion and mislead customers, are to be feared. In particular, the following problem aspects can be pointed out.*

*Made in Italy and its most representative brands are among the most affected by counterfeiting activities. Also, one must emphasize the phenomenon known as “Italian sounding,” which refers to the sales of products that sound like they are Italian, but that in fact are not. The intent is to evoke Italian country and style to take advantage of the greater appeal that they exert on consumers, in particular foreign ones, who can be more easily misled. This technique can be defined as a form of “identity theft”, which, unfortunately, is legalized.*

*There are cases of productions made in Italy with the only aim of capturing a mere regulatory advantage or the ability to use the Made in Italy brand without sharing and helping to develop the values inherent to the brand itself. The most emblematic case, in this sense, is given by the Chinese companies in the textile-clothing district in Prato.*

*Regarding the Made in Italy value appropriation, it seems appropriate to consider also the acquisition by international groups of companies with Italian brand that, in some cases, turn out to be also quite well-known and prestigious; the phenomenon has seen a growing trend in recent years and has involved various production sectors. Loss of command on brand ambassadors of Made in Italy is at the center of a growing debate focused on opportunities and threats that would follow.*

*Another interesting topic is the relationship between the corporate brand and the “Made in Italy” label. It is clear that the relationship is often of mutual exploitation, in the sense that many companies achieve important results at international level also by being able to boast the Made in Italy brand, contributing at the same time to increase its value and prestige on markets. However, the ongoing globalization process has favored in many cases a weakening of this bond, so much that actually some companies “paladins of the Made in Italy” – driven by increasing price competition – realize production in countries with lower labor costs, but affixing various “Made in” and commercializing products using its corporate brand that continues to maintain the Italian spirit. This also happens through communications intended to stimulate associations with the Italian country and to emphasize the characteristics, style and attention to quality that notoriously connote Italy.*

*The cases previously mentioned produce an obvious impact on the nature and meaning of Made in Italy, and lead us to reflect on the possible impact on its “real value,” especially from a future perspective.*

*It should be noted that the brand essentially embodies and communicates a promise (Knapp, 2000; Dunn and Davis, 2004; Kotler and Pfoertsch, 2007) and that developing the buyer confidence is a priority in order to simplify purchasing decisions and increase his/her loyalty (Delgado and Munuera, 2001), thus increasing the value of the brand itself (Ambler, 1997; Delgado-Munuera, 2005). The promise inherent in the Made in Italy brand is the superior quality of products, and the brand has become a guarantee to that effect. Its positive image, however, is*

likely to be affected because of the different misused experienced, which can encourage consumer experiences that do not meet customer expectations, thus undermining their confidence. The perception as well as the reputation of the brand by customers "betrayed" may then mutate in a negative way.

To preserve and increase in the future the Made in Italy value is important, therefore, to develop the relationship between the brand and the customer, acting positively on trust, satisfaction and fidelity (Esch et al., 2006). It is therefore necessary to limit the inappropriate and opportunistic behaviors, and support at the same time companies who actually "realize" Made in Italy. This could happen, for example, by acting either directly through financial incentives and tax breaks to companies, both in making the overall production system more competitive, also impacting on services. Companies could thus benefit from a recovery of competitiveness useful to meet the challenge of the global market and to deal in part with competition from those who use the "Made in Italy" label unfairly.

This could also facilitate the return of production from abroad (reshoring) and then the return to invest in Italian skills; this would avoid the gap between the Italian character (meaning above all style) and the Italian territory as a location for production, that can still be perceived as a sign of weakness that affects the Made in Italy image.

Additional considerations must be made, lastly, for the internationalization of Italian SMEs, as an increasingly forced path for the survival and development of the same.

**Keywords:** *Made in Italy, Brand image, Counterfeiting, Consumer deception, Consumers' trust*

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*Board Characteristics and Voluntary Corporate Social Responsibility Disclosure –Evidences from Listed Companies in Singapore (2011-2014)*

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**Abstract**

**[Research Question / Main Objective / Theory / Hypothesis]**

*This study examines both internal and external determinants of a firm's decision-making concerning corporate social responsibility disclosure (CSR) from the theoretical perspectives of institutional analysis and development (IAD) framework. The main objective is to examine whether and to what extent internal corporate governance attributes (e.g., board size, level of board independence, effectiveness of leadership and functions of board committees) and external contextual influences (e.g., stakeholder activism, market competition, policy diffusion and regulatory enforcement) can determine a company's choices of CSR reporting. In particular, this project applies the IAD theoretical framework to examine how the dynamics of collective interactions between corporations and stakeholders may moderate, reinforce or hinder a firm's willingness to voluntarily comply with environmental self-reporting. It hypothesizes that level of a firm's voluntary CSR compliance rises with the increases of its board independence, professional diversity of directors and supportive functions of committees. However, the influence of board characteristics on CSR compliance is also hypothesized to be moderated by external determinants. Specifically, this study tests several interaction hypotheses that level of CSR compliance will be reinforced by stakeholder involvements and regulatory enforcement while inversely affected by short-term market competitions and the firm's financial conditions.*

**[Data and Methods]**

A stratified random sample of 215 listed companies from the Singapore Exchange (SGX), which is about 40% of the study population and includes listed companies from all major industries, is used for testing the hypotheses. The study constructs a new composite measure of CSR self-compliance at individual firm's level by drawing disclosure reports from the SGX database for sustainability reporting (2011-2014). The measure was constructed by computer-aided content analysis with supplementary manual coding to ensure adequate reliability and validity of measurement. Three econometric models of ordered probit panel regression controlling for fixed effects and sample self-selections were estimated to examine the hypotheses.

**[Preliminary Findings]**

This paper found a positive association between the level of voluntary CSR compliance and several aspects related to good practices of corporate governance, such as board independence, professional competencies, and establishment of relevant board committees after controlling other firm-specific factors such as size, business history and financial performance. Other aspects of corporate governance, such as board size, gender diversity and

characteristics of external auditors; however, have only marginal or insignificant influences on CSR self-reporting. External determinants that are found to be significant include size of the industry, market competition and sectorial differences while regulatory enforcement is not statistically associated with the firm's level of CPRD efforts. All interaction variables are statistically significant with expected directions of impact, suggesting a strong moderation effect of contextual and institutional factors.

### [Contributions to the Literature]

This paper contributes to the understanding of the relationship between corporate governance, sustainability and environmental compliance of business in emerging economies by using evidences from Singapore-listed companies. The investigations of individual firm's CPRD decision-making particularly provide a new research approach to the existing empirical literature of CPRD research as the latter often only focuses on aggregate or sector-level comparisons. The proposed new measure of CPRD efforts of firms and innovative econometric models will also be useful for future research.

**Keywords** *corporate governance, corporate social responsibility, CSR disclosure (CSR), sustainability reporting, voluntary compliance, institutional theory*

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## *When (and Where) It Is Cool To Lose Your Cool: The Role of Culture In the Relationship Between Online Review Valence and Reader Feedback*

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### **Abstract**

*Along with the rise of social media in Web 2.0 has come the proliferation and increased popularity of online reviews and other forms of electronic word-of-mouth (eWOM). Platforms such as Yelp provide an opportunity for anyone from around the world to review services they have experienced, such as restaurants or hotels, which can then be read by others around the world. In addition to the reviews themselves, part of the social nature of such platforms is that readers of reviews also have the opportunity to provide some form of feedback (i.e., a “review of the review”). In the case of Yelp, for instance, readers can indicate that they found a review “useful,” “funny,” and/or “cool,” with the total number of votes for each category publically displayed next to the review.*

*Such feedback may provide consumers with a “reward” for writing reviews, as well as provide information to other consumers perusing reviews for, say, a particular restaurant, as to whether any particular review would be particularly worthwhile to pay attention to. Thus, reviews and associated “reviews of reviews” can be important to not only reviewers, but also new potential readers of reviews, and, of course, the businesses that are being reviewed. What effect could the valence (positivity or negativity) of a review have on whether readers of a review find the review “useful,” “funny,” or “cool”? This research in progress aims to explore this potential relationship and its implications for consumers (both reviewers and readers of reviews) and businesses (the entity being reviewed) through a research methodology based on potential cross-cultural differences.*

*A growing body of research is exploring how the valence of reviews may affect perceptions of its usefulness/helpfulness. However, the extant literature on this topic has led to contrasting results, and so general conclusions about such relationships remains at least somewhat unclear. Some research has found a positive relationship between review valence and perceived helpfulness (e.g., Bakhshi, Kanuparth, and Shamma, 2015; Liu and Park, 2015; Pentina, Bailey, and Zhang, 2015), while some research has found a negative relationship (e.g., Wei, Miao, and Huang, 2013), while other research has found that extreme ratings (either positive or negative rather than moderate) is perceived as most useful (e.g., Forman, Ghose, and Weisenfeld, 2008; Park and Nicolau, 2015).*

*However, one possible explanation for the contrasting results could be that in general, such studies have focused on various geographic locations, as well as reviews for a variety of different businesses (many of which may be frequented by tourists or those otherwise just “passing through” the geographic location), and so cultural influences on the perception of usefulness may play a role in the contrasting relationships found. For instance, as just one example, the extent to which a culture is high in “uncertainty avoidance” (e.g., Hofstede, 1984) could arguably play a role in whether positive or negative (or extreme) reviews would be perceived to be more useful (or funny or cool).*

*Thus, I propose a research methodology that could potentially help to reduce the ambiguity of the relationship between review valence and perceptions from readers of reviews - one that focuses on controlling for the possible role of culture. Such research could focus on online reviews in one geographic area (e.g., one particular city), and specifically on a service like hair salons, as they should have a much smaller chance than many other businesses, such as restaurants or most retail environments, of consumers from outside the geographic area (e.g., tourists or those otherwise just “passing through”) visiting such businesses (which could lead to online*

reviews), and, similarly, a much smaller chance of consumers from outside the geographic area reading the reviews of such businesses (which could lead to “reviews of the reviews”).

An initial study in this research project was run using this general methodology, focusing on hair salons in New York City, arguably a city high in an appreciation for negativity (and/or lack of positivity). For instance, sociolinguist Tannen (2005) has stated: “No New Yorker would start talking to a stranger about the weather - unless it was really bad. We find it most appropriate to make comments to strangers when there’s something to complain about...Complaining gives us a sense of togetherness in adversity.” Thus, for New York City, review valence is hypothesized to have a negative correlation with perceptions of usefulness, funniness, and coolness. Yelp reviews for a local hair salon chain (with three locations in total) were used, and included all 98 reviews that appeared on Yelp at the time the data (each reviewer’s rating for the hair salon, as well as the number of votes for each review’s usefulness, funniness, and coolness) was recorded. Results support the hypothesis, with review valence having a statistically significant negative correlation with the number of votes for usefulness ( $r = -.43$ ,  $p < .001$ ), a marginally statistically significant correlation with the number of votes for funniness ( $r = -.18$ ,  $p = .08$ ), and a statistically significant correlation with the number of votes for coolness ( $r = -.22$ ,  $p = .03$ ). (Similar results, all of which were statistically significant (all  $p < .05$ ), were found when comparing the group of “negative” reviews (reviews with a rating of 1 or 2) with the group of “positive” reviews (reviews with a rating of 4 or 5) on perceived usefulness, funniness, and coolness).

Future studies could employ this methodology for exploring the relationship between review valence and “reviews of reviews” in other cities or countries based on their own respective general cultural values, with results supplemented by a controlled experiment to determine direct causality with a group that views a “positive” review (e.g., rating of 4/5, with corresponding written review) and another group that views a “negative” review (e.g., rating of 2/5, with the same corresponding written review, but with all “positive” adjectives changed to their “negative” counterparts), with ratings of usefulness, funniness, and coolness of the review taken after viewing the review.

This research can contribute to the aforementioned growing body of research exploring the effects of online reviews on perceptions of those reviews by providing a methodology with which to potentially reduce the ambiguity of contrasting results found within the literature, as well as providing a methodology with which future studies can explore cross-cultural differences on this important topic.

With a better understanding of the role that culture may play in the perceptions of positive and negative online reviews, reviewers may become better equipped to learn how to resist the urge to write reviews with one valence or another based on their anticipated positive feedback by readers of their reviews (or at least to put any feedback they do or do not receive into cultural perspective), readers of reviews may become better equipped to put the feedback reviews have received into cultural perspective, and businesses may become better equipped at knowing when it is in their best interest to respond to online reviews (and how best to do so). Thus, a greater understanding could lead to even more fair and objective reviews, usefulness of reviews for readers, and better relationships between businesses and consumers.

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## *Social Norms (and Market Norms) in Social Media: The Relationship Between Ad Placement on User-Generated Content and Viewers' Attitudes Towards the Content*

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### **Abstract**

*Before the creation of social media platforms, individual consumers around the world would generally only be able to experience entertainment content (e.g., radio programs, television shows, films) that was created, at least in part, for commercial purposes. If consumers were to experience content that was not created for commercial purposes, it would generally be content created by a peer (e.g., a peer's "home video"). Even with the early rise of the Internet, the line between content created for commercial purposes (e.g., by a film production company) and content not created for such purposes (e.g., by a friend) was relatively well-defined for the content consumer.*

*However, along with the meteoric rise of social media in Web 2.0, and the ability for users to connect with "peers" from around the world, has come the ability for user-generated content (UGC) to be viewed by others around the world. And along with the creation of UGC on social media has also come the potential for the creators of such content to potentially commercialize their content by the placement of advertisements (e.g., the decision for creators to place ads on their videos on YouTube). As a result, "home videos," such as of someone's cat doing something cute, now have the potential to generate revenue - and consumers have had a short amount of time to try to process this transition. What effect could the perception from viewers that "peers" are trying to generate revenue from the content they share have on the viewer's attitude? This research in progress aims to explore this potential relationship and its implications for consumers, UGC creators, and social media platforms through a theoretical framework based on social norms and market norms (Heyman and Ariely, 2004; Ariely, 2008).*

*The extant literature on advertising has shown that consumers can have either negative or positive attitudes towards ads, and the "advertising value" (Ducoffe, 1996) can be based on a number of factors. For instance, consumers' attitudes towards ads can be affected by whether or not they find an ad irritating, offensive, or otherwise uncomfortable (e.g., Sipior and Ward, 1995; Ducoffe, 1996; Ha, 1996; Teeter and Loving, 2001; Li, Edwards, and Li, 2002) and/or enjoyable, entertaining, informative, or otherwise likeable (e.g., Bauer and Greysler, 1968; Ducoffe, 1996; Shavitt, Lowrey, and Haefner, 1998; Tsang, Ho, and Liang, 2004; Gao and Koufaris, 2006; Phau and Teah, 2009). In other words, by no means does the presence of an ad have to be poorly received by consumers, and can be welcomed in certain instances.*

*However, the extant literature on advertising generally focuses on cases in which the advertising would be associated with a business, which, naturally, is understood by consumers to be motivated to make a profit (whether the business would be perceived to be the content itself, e.g., a television show, and/or the platform on which the content appears, e.g., the television network). In such cases, market norms (Heyman and Ariely, 2004; Ariely, 2008), in which prices or profits come along with work (e.g., ads included so that content creators or suppliers can make a profit for the content), should generally be expected and accepted. However, the relatively new case of UGC appearing on social media, in which the content creator decides whether or not to include an ad for his/her own benefits, may not be perceived by other consumers the same way. In such cases, UGC creators on social media may be perceived as "peers" by others on social media. If this is the case, then social norms (Heyman and Ariely, 2004; Ariely, 2008), in which friendly help is provided without any expectation for a financial return, may be expected by the viewer of such content. Thus, I hypothesize that based on such expectations for social norms among "peers" on social media, the presence of ads placed by UGC creators will be associated with increased negativity from viewers of the content.*

An initial study in this research project was conducted to test this hypothesis. The popularity of cat videos on YouTube has been well documented, and across cultures (e.g., Wagstaff, 2012; Dredge, 2015), so this study used the first 100 videos that appeared when searching for “my cute cat” (exact phrase) on YouTube. For each video, the number of “likes” and “dislikes” given by viewers was recorded, as well as was the time length of the video to control for variations in the length of each video. Results of a MANCOVA controlling for time length indicate no statistically significant difference between the number of “likes” for videos in which an ad was placed ( $M = 43.66$ ) and for those in which ad was not placed ( $M = 33.94$ ),  $F(1, 97) = 0.25$ ,  $p = .62$ . However, controlling for time length, the number of “dislikes” for videos in which an ad was placed ( $M = 1.55$ ) was statistically significantly greater than for those in which an ad was not placed ( $M = 0.45$ ),  $F(1, 97) = 4.38$ ,  $p = .04$ . Thus, videos in which an ad was placed were publically disliked more than those in which no ad was placed, supporting the hypothesis.

Future studies can include a controlled experiment to determine direct causality, with a control group that views a video on social media with no ad placed by the UGC creator and an experimental group that views the same video with an ad placed by the UGC creator, with attitudes taken after viewing the video. Participants could also be asked about their expectations for the content creator’s UGC to follow social norms (vs. market norms) to directly determine mediation. Relatedly, future studies could explore whether the effect is stronger for consumers from collectivist cultures than individualistic cultures since the former generally places a greater emphasis on protecting the interests of group members (e.g., Hofstede, 1984).

This research can contribute to the growing body of research specifically exploring the effects of ads in social media (e.g., Zeng, Huang, and Dou, 2009; Luna-Nevarez and Torres, 2015) by developing a theoretical framework based on social norms and market norms in which consumers may (mis)perceive content they view created by “peers” on social media as following social norms rather than the market norms which would typically be perceived to exist for traditional non-“peer” business entities that help create or distribute content (e.g., film directors, film distributors).

One managerial implication is, assuming social media platforms themselves are perceived by consumers in a similar fashion to traditional content distributors (and so are perceived to follow market norms), perhaps such platforms should be exclusively responsible for ad placement for any and all content on the platform (and develop a model of allocating profits to all content creators, such as based on the number of views each UGC receives). This way, content creators will continue to earn money (and be motivated to continue to create content), consumers will have more positive experiences with “peer’s” UGC with social norms (as they may perceive it) no longer being violated, and social media platforms will, as a result, continue to grow. If such a system could be successfully implemented, all three entities (consumers, UGC creators, and social media platforms) may benefit from the change in who is perceived by consumers to place advertisements on UGC on social media.

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## *Comparative Research of Medical Tourism between China and America*

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### **Background**

*There is a very popular funny story; it is said like that many Chinese girls coming back from South Korea always suffer an embarrassing situation at the border checkpoint due the fact that their passport photos look different from their faces, because they have just had cosmetic surgery. Although the authenticity of this story is hard to prove, during the last few years, there are more and more Chinese women going to South Korea for all kinds of cosmetic surgeries. Data indicated that in 2012, China became the biggest exporting country for medical tourism to South Korea.*

*Medical Tourism is recognized as a new, high yield, niche specific market. Medical tourists are more willing to stay at the destination for a longer time than general travelers. This means they will bring more benefits for the destination. Many countries and regions have become the main destination; these include Brazil, Costa Rica, and India. Data reveals that Medical Tourism market has a prosperous future. Asia is the center of the international medical tourism industry; therefore, how China, the largest country in Asia, transform from an exporting country to an importing country is a big challenge facing the Chinese government. Not only is the dilemma how to grasp the economic benefit from whole international industry but also how to arrange this limited, high-qualified medical resource for their own citizens. The policymakers have shown that this is a complicated issue that has unclear advantages, which is a concern to marketers. This article analyzes the Medical Tourism situation in China and America to get a general understanding of the status of Medical Tourism, compare the similarities and differences between China and America, and find the connection between the two countries.*

**Key words** *Medical Tourism, comparative research, present situation, China, America.*

### **(1) Medical Tourism development worldwide**

Medical Tourism is a relative new industry. This industry emerged within the past 10-20 years. As an emerging sunrise industry, many Asian countries even raise Medical Tourism to the height of national strategy. Medical tourists may be citizens of developed or developing countries, although affluent individuals from the United States, Canada, and the United Kingdom account for a large proportion of the consumer base. Popular destinations for medical tourism include Brazil, Costa Rica, India, Mexico, Panama, Singapore, South Africa, and Thailand, and those countries have formed their unique dominant project or condition of Medical Tourism. Nonprofit organizations that provide information on medical tourism include HealthCare Tourism International and the Medical Tourism Association (Global Healthcare Association).

### **(2) Medical tourism development in China.**

**1. China has become one of the biggest exporting countries of international Medical Tourism. However, just recently, China has made progress in becoming an importing country.**

Take the plastic Medical Tourism to South Korea as an example. In the past few years, more and more women go to South Korea for all kinds of plastic surgery. It is said that there are 100,000 Chinese people accepted for plastic or cosmetic surgery to Seoul every year.

**2. Considering the benefit of citizens, the Chinese government shows moderate support and attempts to develop to this new industry. Meanwhile, different municipal governments have begun to implement an appropriate developing plan; two of the main examples include the cities of Shanghai and Hainan-Boao.**

“Medical tourism could polarize national health care policy, creating or furthering disparities in health care services made available to citizens versus foreigners. Because the latter brings money into countries and hence bolster national economies, they often enjoy greater access to doctors and medical resources than do the actual citizens of the country.” written by Tyler Grant in his article.

Although China is at the beginning of Medical Tourism as an importing country, the government is still willing to moderately support the new industry. Shanghai and Hainan-Boao are the right cities for “hatching” the new industry. Shanghai is a world famous international metropolis. As the biggest city in China, it is strong in economic and medical resources, and contains a large amount of excellent professional doctors. Those conditions formed its advantage for hatching the heavy Medical Tourism “baby”. Besides that, Shanghai is rich in natural tourism resources and multicultural tourism resources. Its antique Jiangnan scenery and modern urban landscape will take your breath away.

Everything is difficult at the beginning, and the same goes for Shanghai’s Medical Tourism. Shanghai Medical Tourism Product & Promotion Platform is the official medical tourism portal site. It was built as a special commercial platform for the industry companies. The platform acts as the Third Party Administration (TPA). While the TPA should not be involved in specific services, travel agencies and hospitals should be involved in these specific services. But, “when the patients arrive to China, our staff works to pick them up from the airport, arrange accommodations, doctor’s appointments, help them travel, gain medical insurance, settle into rehabilitation, track services after treatment, and so many more trivial works. If there are some patients that have religious beliefs, we have to find a church to send them to and take them back.” the chairmen of SHMTPPP Yangjian said in 2013.

Hainan Province has the freshest air, water, sunshine and the most beautiful native natural resources in China, and its climate and weather is especially suitable for the elderly groups and semi-health groups to improve their quality of life with the help of the Health care Treatment (light Medical Tourism). Boao is the Medical Tourism center of the Hainan province. It receives a series of national policy support, and there are 20 Medical Tourism projects started construction in the Boao Hainan Music City International Medical Tourism Area in March, 2016. The total investment amount exceeded 30 hundred million dollars. World Medical Tourism Congress (WMTC) has been successfully held for 8 sessions every September in America. Under the instruction and assistance of municipal government, the first World Medical Tourism Congress – Boao (WMTC-Boao, China, 2015) and the World Medical Tourism Congress and Exhibition (WMTC&E, Shanghai, 2015) have been successfully held in Hainan-Boao and Shanghai. So, generally speaking, the Chinese government encourages the development of the Medical Tourism, meanwhile, different cities according to the specific orientation have done tremendous amounts of work to attract the current and potential customers in home and abroad.

**(3) Medical Tourism development in America**

**1. America is a big exporting country in the Medical Tourism industry, but as an importing country, America still has a strong advantage in the field of advanced medical technology (for example diagnosis of difficult illness, optimize the plan of diagnosis and treatment) and born tourism etc.**

American medical health insurance caused President of the United States, Barack Obama, and many low-income people to feel a heavy burden. There are more than 50,000 thousand people without basic health insurance. Patients, business insurance companies, and the companies which must afford the health insurance of their staffs, are more likely to seek cheaper medical care places for the projects which were not included in the basic insurance. In 2010, nearly 1.5 million Americans traveled outside of their country for medical care—nearly twice the number from just three years earlier. The lower price, higher service, good quality, availability and the tourism of the destination countries all become the important competitive elements versus the American insurance system. “America is the greatest country in the world, with one of the health insurance schemes in the world”. This sentiment, articulated by Andrew Lin, a Taiwanese American currently residing in Taiwan, is echoed by many Taiwanese nationals.

## **2. What is main purpose of Chinese people moving to America in Medical Tourism?**

First of all, a part of higher income Chinese people go abroad for medical tourism. Their main concerned is new technology, new drugs, and more humane service. Seeking the advanced medical technology is the first factor for the patient with a serious disease, therefore, many of them choose to travel to developed countries to seek the better treatment methods used in America. It is said through the consultation by the doctors coming from the Harvard University Medical School, 90% diagnosis plans and treatments have been optimized.

Secondly, Birth Tourism is the another main purpose. Those tourists are mostly coming from relatively affluent Chinese families. American nationality policy and the social security system, especially the high quality education for the citizens attract the different countries’ pregnant women to go to the USA to give birth. Although opposing voices from the American citizens are becoming more and more strong, born tourism is still legal in America.

“That all persons of African descent born in the United States are hereby declared to be citizens of the United States and there shall be no discrimination in civil rights or immunities among the inhabitants of any State or Territory of the United States on account of race, color, or previous condition of slavery”. With the Fourteenth Amendment to the U.S. Constitution providing citizenship to those born in the United States, thousands of pregnant women legally travel to the United States every year to give birth. This birth tourism ensures those children access to public education and healthcare in the United States. Additionally, U.S. citizens with dual citizenship in countries with affordable national health care, like Taiwan, travel overseas for medical treatment with minimal costs for reentry into those foreign health care systems.

However, this phenomenon begins to change in recent years due to the overall development of China, the “cooling phenomenon” trend of born tourism from China to other developed countries and the influence of regions on the Born Tourism of Chinese to America. Many youth ABC (American Born Chinese) do not think their life in America as better than in China, and some of them prefer to go back to China when they grow up. International medical and birth tourism are two ways to secure more economical medical treatment and comprehensive healthcare, as well as greater educational and healthcare opportunities for their offspring, but the Chinese government never admitted dual nationality, so people will consider the balance of different stakeholders.

## *Exploring Research on the Management Situation of College: Basketball Coach in the United States*

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### **Abstract**

*Every March, American basketball tide sweep all over the country from the NBA to the NCAA, be famous with the "crazy March" about the University Basketball League, which means the NCAA game is also more popular than the NBA. The success of the NCAA cannot be separated with the effort of each excellent coach team; every coach played an essential role when fostering a player to be an excellent one except their talent. In order to study the management system of the coaches in NCAA university team, the research analyzes the current management situation of NCAA basketball coach team through several ways of literatures, survey, mathematical statistics and other methods. The aim is to provide the theoretical system and reference for the management and development of Basketball coaches in China.*

*Through the research, we have had the following conclusions:*

- 1) Strict selection criteria of coaches. When the university selecting the coaches, their work experience, higher education background, teaching and training background, training theory and skills are all the University's favorite,*
- 2) The coach team should be perfect. Under the leadership and co-ordination arrangements of the main coach, the other coaches" labor division should be very clear and detailed, not isolated. Everyone should trust each other, exchanges and cooperation. They should not only have division but also have cooperation;*
- 3) NCAA teams choose coaches adopt the mode of employing expert coach or using the school PE teachers. This position is a full-time work, basically they do not undertake the ordinary teaching task. Their wage and salary incentive mechanism, depends on the team achievement evaluated by the standard training implementation;*
- 4) Perfect training ability fostering system. Perfect fostering system for coaches can make coaches are not satisfied with the status quo, also can stimulate their enthusiasm to have the initiative to participate into professional training.*
- 5) Detailed responsibilities and obligations of the coaches. The coaches will be employed after signed the employment labor contract with the school. The contract will clearly put forward detailed objectives and tasks, if coaches in violation of the contract or not to meet the contract requirements of the school will result the school terminate the contract; 6) Scientific, objective and reasonable evaluation system of coaches. Mainly stander is basic on the team athletic performance, through the game winning vs losing number, meanwhile, also according to their contribution quantity and quality to school athletic sports development.*

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