

**16th SGBED**  
International Conference 2019  
São Paulo, Brazil

**Balancing Globalization & Local Priorities:**  
Challenges Facing Business in Developed and Emerging Markets

**CONFERENCE  
PROCEEDINGS**

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**#644 - Development of a coding scheme for classifying group interactions in  
International Business Negotiations**

*Cheryl Dowie (University of Aberdeen, UK)*  
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*Oscar De Bruijn (University of Manchester, UK)*

### **SGBED Best Paper Award**

**#735 - Influence of personal aspects in the country of origin effect**

*Sergio Garrido Moraes (ESPM, Brazil)*  
*Vivian Iara Strehlau (ESPM, Brazil)*

### **Ph.D. Dissertation Best Paper Award**

**#697 - Are we talking about country profile or distance?**

*Henrique Correa da Cunha (Universidade Regional de Blumenau - FURB, Brazil)*  
*Svante Andersson (CIEL Halmstad University, Sweden)*  
*Mohamed Amal (Universidade Regional de Blumenau - FURB, Brazil)*  
*Dinorá Floriani (Universidade do Vale do Itajaí - Univali, Brazil)*  
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### **Master's Dissertation Best Paper Award**

**#547 - The impact of brand trust and technology readiness on the  
willingness to use autonomous cars in Brazil**

*José Carlos Rodrigues (ESPM, Brazil)*  
*Mateus Canniatti Ponchio (ESPM, Brazil)*

## **2019 SGBED CONFERENCE AWARDS (cont.)**



### **Best Dissertation Proposal at Doctoral Consortium**

**#598 - The impact of incentives on inward foreign direct investments:**

**Good institutions pay off**

*Bernardo Frossard Silva-Rêgo (Universidade Federal do Rio de Janeiro - UFRJ, Brazil)*

### **Best Poster Award**

**#600 - Value distribution to stakeholders:**

**Exploratory study in IPOs of Brazil and the United States**

*Aline Gorzoni Rodrigues Alves (Centro Universitário FECAP, Brazil)*

*Fabricao Stocker (University of São Paulo - USP, Brazil)*

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## **PREFACE**

The theme of the 16<sup>th</sup> SGBED International Conference Proceedings is **“Balancing Globalization & Local Priorities: Challenges facing business in developed and emerging markets.”** This theme is particularly appropriate to our current situation in the global context. We are living a period of constant changes where leaders in developed countries and emerging markets are different perceptions of globalization and local priorities. In this way, domestic and multinational enterprises are facing many challenges to compete and survive in this complex and dynamic business environment.

Accordingly, the accepted papers of the Proceedings discuss a diverse range of topics and investigate how business and people engage with or adapt to the different context in which they operate. Such issues include firm internationalization, regulatory matters, marketing, education, agribusiness, creative economy, private and public partnership, entrepreneurship, diversity, stakeholders, network, sustainability, business ethics, finance, local and global innovation, digital transformation, culture, and consumer behavior.

The selected papers passed through a rigorous process of a double-blind review made by 132 reviewers. We organized the Proceedings in 22 tracks, which includes a total of 148 selected papers (full papers, extended abstracts, and research abstracts) represented by 231 authors over 106 institutions located in 21 countries.

Contributions from authors around the world helped make this volume an integrated, cohesive inquiry into the significant challenges and drivers of global business today and the required directions for sustainable growth in business activities in the future balancing the globalization and local priorities. 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 continuously changing environment.

Enjoy our Proceedings!

***Editors***

**Disclaimer:**

All papers and abstracts included in this volume have been formatted to ensure uniformity in the style of representation. Uniform formatting could modify some of the figures appearing in the papers. Because of the variations in writing styles and language proficiency of the authors, proofreading of these papers were 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 1**

# ***Looking Southwards: Multilateralism***

*Track 01 Looking Southwards: Multilateralism*

**ID #628**

**Dutch Disease, economic growth, exports of commodities and  
exchange rate: The Brazilian case**

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**Abstract**

*The Dutch Disease is studied as a "damn of natural resources" when the natural resources are, plentiful and become important in Export, attracting foreign currency, taunting impact on the exchange rate and economic growth of a country. This study aimed to analyze whether commodity-exporting countries, in the case of Brazil, suffer from Dutch Disease. The analyses were based on the econometric model (multiple regression). As a result, economic growth and inflation are negatively affected by commodities exports, signaling for a Dutch Disease.*

**Keywords:.**

## INTRODUCTION

Discussions about Dutch Disease are usually concentrated in emerging markets, such as Brazil. The term Dutch Disease can be understood as the loss of industry participation in the economy of a country, especially due to the exportation of products coming from natural resources. Because of the increase of these exports, the country attracts foreign currencies and harms exports from the industrial sector and the country's growth (Corden & Neary, 1982; Bresser-Pereira, 2010).

For Corden And Neary (1982), Dutch Disease is especially occasioned to increase in the exchange rate, which hinders the exportation of capital goods and can lead a country to deindustrialization.

Bresser-Pereira (2012) Says A distinction from the Dutch Disease and the Curse of natural resources. A First is regarded as a market failure and the second is seen as the consequence of corruption induced by the abundance of these resources and dynamized by the weakness that the state is easily captured by private interests.

From of Concept of Dutch Disease, it can be understood that some variables are fundamental to their occurrence. In some studies, Lins (2012) and Marconi and Rocha (2014) is found that among the main factors is the exchange rate, because its valuation interferes negatively in the export of industrial goods, contributing to the deindustrialization. However, this factor is key, but not enough. Another aspect is the added value, that is, the participation of the industry in the production of a country. In general, the declining trend of the added value of the transformation industry in GDP can signal Dutch Disease. Also, foreign trade variables are relevant to diagnose whether a country shows signs of Dutch Disease, for example, the balance of the trade balance (observing exports and imports of industrial goods and commodities) and sectors that are receiving investments from abroad.

Considering the definitions and the variables addressed, it is worth remembering that Brazil, since 2003, has been presenting a boom of exports of commodities, boosting the trade balance surplus. On the other hand, the industry has been losing share in GDP.

Given this, this Work Seeks to answer the following question: The exchange rate allied to exports of commodities May signal the Dutch Disease? As the main objective of this research is to check whether in exporting countries commodities, specifically Brazil, tend to Dutch Disease. For that, this work will analyze through econometrics (multiple regression), if exports of commodities and exchange rates interfere with economic growth.

## ANALYTICAL REFERENTIAL

The econometric model selected is built in multiple linear regression, based on the method of ordinary least squares. The mathematical representation of this model can be observed in Equations 1 and 2.

$$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + \dots + a_nX_n + \varepsilon \quad (1)$$

$$Y = Y^b + \varepsilon \quad (2)$$

Where:

Y = dependent variable;

Y<sup>b</sup> = Estimated dependent variable;

$\varepsilon$  = standard error;  
a = Coefficients of regression, or coefficients of elasticity; And  
X = Independent variables.

The adoption of the econometric model adopted assumes they are assumed as indicated by Gujarati (2006): (i) the standard error has a mean equal to zero; and (ii) constant variance, so homoscedastic enabling greater assertiveness in the estimates of the result; (iv) absence of autocorrelation; (v) default error and independent variables should be independent of each other; (vi) lack of multicollinearity; and (vii) assertive model specification.

In addition to observing the assumptions placed, statistical tests for validation of parameters and dependent variables as  $R^2$ , Normality heteroscedasticity, autocorrelation, and multicollinearity outperformed through the F-test, Kolmogorov-Smirnov, White, Durbin-Watson, and inflation factor, respectively. Through the results, Statistical tests, the appropriate corrections of the series data were made.

For being a traditional method, authors Gala (2007), Very true (2010), Lartey (2011), Legs *et al.* (2015) and Poncela (2016) have already approached those Dutch Disease theme. Therefore, the present work also contributes empirically with the studies made.

## PRELIMINARY RESULTS

The econometric model adopted this work will feature an independent variable represented by the gross domestic product, and four other explanatory variables selected based on the study of Corden And Neary (1982) And Shuffle (2007) What May explain the Dutch Disease. The econometric result, as well as the significance tests, are presented in table 1 and 2, respectively.

As a result of the model, Equation three is:

$$GDP_{br} = -0,057I_{br} + 0,243C_{br} + 5,880P_{soja} - 516,765 \quad (3)$$

By developing equation 3, you have to:

$$GDP_{br} + 0,057I_{br} = 0,243C_{br} + 5,880P_{soja} - 516,765 \quad (4)$$

From Equation 3 and 4, it is inferred that inflation is the variable used of effect Antagonistic to Effective exchange rate and the international price of soybeans with the GDP. If on the one hand, GDP growth is influenced by increased exports, represented by the effective exchange rate and price of the commodity, inflation is also influenced in a way that grows. Such fact corroborates the thesis of the Dutch Disease can be influenced by the exchange rate and commodities exports.

## FINAL REMARKS

This work sought to respond if the exchange rate allied with the exports of commodities, agricultural or minerals, may signal a Dutch Disease. In this way, an econometric model was structured to infer whether the growth of the countries studied, measured by the GDP, was affected by variables such as inflation, exchange rate and the international price of commodities.

The result of the model pointed Tendency to Dutch Disease that can be caused by the high volume exported due to the entry of foreign currencies in the country can be observed in the format of the econometric models. The negative influence of exports on the inflation rate is indicative of the occurrence of Dutch Disease.

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Framework 1. Summary of the Brazilian econometric model

R	R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
			R Square Change	F Change	df1	df2		To. F Change
,949	,901	14,899	,901	45,264	3	15	,000	,821

Note: dependent variable, GDP; Independent variables, Inflation, effective exchange rate and price of commodity Soy.

Framework 2. Coefficients of the Brazilian econometric model

Model	Unstandardized Coefficients		t	To.	95,0% Confidence Interval for B		Collinearity Statistics	
	B	Hours. Error			Lower Bound	Upper Bound	Tolerance	Brigh t
(Constant)	-516,765	63,346	-8,158	,000	-651,784	-381,746		
Inflation_br	-,057	,157	-,363	,721	-,392	,278	,654	1,530
Taxa_câmbio_efetiva_BR	,243	,284	,857	,405	-,362	,849	,326	3,067
Preço_soja_br	5,880	,860	6,838	,000	4,048	7,713	,431	2,321

## **Track 2**

# ***Social***

# ***Entrepreneurship &***

# ***Local Development***

**Track 02 Social Entrepreneurship & Local Development**

**ID #577**

**Interaction between universities and entrepreneurship**

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**Abstract**

*The objective of this study was to analyze the interaction between universities and entrepreneurship based on the relationship with industry and the knowledge developed, through scientific mapping. We collected secondary data because it was bibliometric research. The selection of the sample was performed using keywords described in the Scopus database, being "knowledg \*," "universit \*," "industr \*" and "entrepreneur \*," generating 249 articles from 2009 to 2017. We use bibliometrics techniques, specifically analysis of cocitation, coupling, and bibliographic co-occurrence. The main contributions of our study are related to the identification of what has already been addressed, and which are the growing fields for publications on the relationship between universities and entrepreneurship. We understand that the academic entrepreneurial process originates with the motivation of teachers, university, industry, and government, as well as the students' engagement of disseminating and commercializing the knowledge that originates within the university environment, through activities and tools that can not exist in isolation without being related to these instances.*

**Keywords:** Knowledge; University; Industries; Entrepreneurship.

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*Track 02 Social Entrepreneurship & Local Development*

**ID #662**

## **The Mediating Effect of the Strategic Consistency between Altruistic Orientation and SME Sustainability Image**

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### **Abstract**

*As a result of societal pressure, the SME sustainability strategies are at present becoming increasingly important. In this paper, we investigate the influence of altruistic orientation on SME sustainability image. We theorise the existence of a mediator – strategic consistency – in this relationship. Existing literature demonstrates the impact of personal characteristics of entrepreneurs on the SME performance. However, studies looking at the entrepreneur's altruism and its consequences for the SME performance, and, in particular, SME sustainability image are rare. Moreover, the mediating role of strategic consistency between the SME main business strategy and its sustainability strategy remains under-researched. In this conceptual research, we propose a model that brings together the above three main constructs. Propositions and potential implications for practitioners and public policymakers are also indicated.*

**Keywords:** SME Sustainability Image; Long-Term SME Sustainability; Strategic Consistency; Altruistic Orientation.

### **Acknowledgments**

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## INTRODUCTION

Sustainability strategies of SMEs are currently gaining surprising momentum. In this paper, we attempt to bring together characteristics of an entrepreneur (a variable at the individual level) and the outcome for the SME (a variable at the firm level). Individual characteristics of an entrepreneur have been indicated as having a meaningful effect on firm-level outcomes in the context of SMEs (De Mattos & Salciuviene, 2017; De Mattos, Burgess and Shaw, 2013).

## BACKGROUND

Entrepreneurial/managerial characteristics have been studied as impacting performance or success (e.g., Armstrong and Mahmud 2008; Garcia-Aracil and de Lucio 2008; He 2008; Hambrick and Mason, 1984), including internationalisation performance (Zucchella and Denicolai 2007; Rialp et al., 2009). For instance, the entrepreneur perception of the environment such as his/her perception of risk and some of his/her demographic characteristic influences the internationalisation process (Manolova et al., 2002; Cavusgil 1984). More specifically as a topic related to SME performance, a number of studies in the literature link entrepreneurial characteristics (e.g. individual and contextual) to performance (e.g., Begley and Booyd 1987; Chandler and Jenson 1992). Among these characteristics we can find founder-entrepreneur; the level of ownership; working experience that comprises two variables: the time the entrepreneur has been working with the firm and the time the entrepreneur has held their current position; international experience represented by time living abroad, time-traveling abroad and total number of countries visited; networking experience.

For instance, founders tend to keep the vision of business alive (Athanassiou et al., 2002) and they have to decide what strategy is best for the firm (Fernandez and Nieto, 2006) first and what is the effect on the sustainability dimension, with increased performance to be expected when these priorities overlap. In this way, they play an important role in challenging decisions affecting current and future performance. Another contextual characteristic of a senior manager/entrepreneur or director is the extent of ownership with the firm. Involvement and commitment with the firm are expected to increase when the ownership of the firm increases (Pendleton et al. 1998; Rhodes and Steer 1981; Bacon et al. 2008; Meyer 1993, 1994; Uhlaner et al. 2007). Ownership has also been associated with commitment and motivation in the context of employees (Pendleton, Wilson and Wright, 1998). It means that the more shares the manager/entrepreneur holds, the higher their commitment to the firm and the better their expected performance. These findings imply that the level of ownership for managers/entrepreneurs may generate similar effects. Commitment in our study refers to the manager's/entrepreneur's immersion in the firm's internal environment in terms of his/her participation in both the firm's capital and foundation of the firm. The latter links with the entrepreneur's reputation and might be called affective commitment (Meyer 1993; 1994). A third contextual characteristic is a time the entrepreneur has been *working with the firm*. Two variables that may represent the working experience: the time the entrepreneur has been working for the same company and the time the entrepreneur has held a specific position in the company.

Specific operational entrepreneurial/managerial experience or learning acquired through dealing with operations, such as experience with a certain entry mode or exporting, have been linked to higher firm performance (Gao et al. 2008). Absorbing the tacit knowledge of these experiences would require time. Some results indicate that tenure with the firm is positively associated with job performance (McEnrue 1988; Avolio et al 1990). A possible explanation

for those results refers to work experience as a key input on the management learning process (Cunningham and Dawes 1997). Previous studies suggest that international work experience is positively associated with firm performance (Axin 1998; Reuber and Fischer 1997) or manager performance (Jokinen et al. 2008; Vance 2005). In the latter case, it is reasonable to assume that a higher entrepreneurial/managerial performance will lead to higher firm performance. The acquisition of tacit knowledge is facilitated by the amount of work experience in a management position work experience, and it has a positive impact on job performance (Armstrong and Mahmud 2008). Moreover, the experience is related to task-based performance. Robinson and Sexton (1994) find that years of work experience after completing the formal education is positively related to individual (self-employment) performance.

However, tenure on a senior executive position has also been observed to negatively relate to the firm's market performance and performance growth (Cheng et al. 2010). Drawbacks of long tenures, such as complacency or low-risk behavior have also been identified in the literature (Geletkanycz and Hambrick 1997; Katz 1982; Smith-Ruig 2009). CEOs originating outside the company are more likely to consider organizational changes than internally originated CEOs (Wiersema 1992). Long tenured manager/entrepreneurs' experiential knowledge may not help deal with dynamic business situations (Henderson et al. 2006). Another drawback of long tenure refers to the potentially negative impact of advice from long-tenured senior manager/entrepreneurs to lower-level management in generating one-track mindset towards gaining market share regardless of the cost involved (Kalra and Soberman, 2008).

Furthermore, Tocher and Rutherford (2009) state that long-tenured manager/entrepreneurs are more likely to rank HRM problems as major ones within the firm, whereas in the same study manager/entrepreneurs from high performing firms did not follow the same pattern. Under certain conditions, shorter tenure is associated with higher performance (Sengupta et al. 2008) and higher performance growth (Cheng et al. 2010). For instance, in the context of new product development in the computer and telecommunication industry, lower tenured senior manager/entrepreneurs achieved higher performance. Srivastava and Lee's (2005) results suggest that shorter tenure is associated with the earlier launch of new products, which may impact the firm's innovation image and, thus, its perceived performance. Specific entrepreneurial/managerial experience or learning acquired through dealing with operations, such as experience with a certain entry mode or exporting, have been linked to higher firm performance (Gao et al. 2008). Another contextual characteristic used to capture senior manager/entrepreneur's or entrepreneur's working experience is the time the entrepreneur or a senior manager/entrepreneur worked in the current post (tenure in the current post). Studies investigating this construct produced mixed results. A positive correlation between tenure and performance were reported in the context of the computer industry (Geletkanycz and Hambrick 1997) and in hospitals (Haveman et al. 2001). In the context of family business, longer tenure should generate better investment decisions (James 1999). Executive compensation, and thus indirectly performance are also linked to tenure (Hill and Phan 1991).

International experience is another characteristic of an entrepreneur. Similar to the positive association and international work experience and firm performance (Axin 1998; Reuber and Fischer 1997) or manager/entrepreneur performance (Jokinen et al. 2008; Vance 2005), similar to this it seems reasonable to assume that time living abroad will enhance the entrepreneur's ability to operate internationally and should impact positively on the firm performance. Long-time living abroad provides manager/entrepreneurs with a more thorough understanding of specific cultural aspects of specific cultures supporting their performance and therefore their firm's performance (Carpenter et al. 2001; Ibeh 2005; Kim and Slocum 2008; Patzelt et al. 2009; Sousa and Bradley 2008). This experience is expected to develop an

entrepreneurial/managerial ability to deal with the global environment (Brownell 2006). For instance, manager/entrepreneurs with broader international work experience will attempt to supplement their knowledge by identifying opportunities in university science parks (Wright et al. 2008). Also, the immersion in a foreign culture provided by residing for a long time will affect the level of the manager/entrepreneur's cooperative or competitive behavior (Akkermans and Harzing 2010).

Moreover, studying abroad and, therefore, living in another country, is seen as the most popular strategy for supporting a self-development path regarding international work experience (Vance 2005), alongside it strengthens personal motivation (Suutari and Brewster 2000). Some studies in the literature used contextual characteristics such as the number of foreign countries the manager/entrepreneur lived in (Akkermans et al. 2010) with a similar objective of capturing the level of cross-cultural exposure of the entrepreneur or senior manager/entrepreneur. Long-time living and working abroad provides manager/entrepreneurs with valuable hands-on international practice, enhancing their firm's performance (Carpenter et al. 2001; Ibeh 2005; Kim and Slocum 2008; Patzelt et al. 2009; Sousa and Bradley 2008).

One entrepreneurial/managerial characteristic in this context is the cross-cultural effectiveness of manager/entrepreneurs, that is, the ability to adapt to a different cultural context (Brownell, 2006). When a manager/entrepreneur is exposed to different cultures, he/she should be able to understand cross-cultural differences. Thus, he/she should meet the expectations regarding specific communication and socializing procedures in that culture (Griffith and Meyers, 2005), and, hence, to improve over performance. This diversity of cultural experiences should support the development of a global mindset. A manager/entrepreneur's global mindset may be interpreted as the ability of the manager/entrepreneur to deal effectively with cultural differences, which would be expected to have a positive influence on the overall performance of the business. This ability should allow the global manager/entrepreneur to create a cooperative atmosphere regarding the procurement to the technology and other resources as well as exploration of different international markets (Vandermerwe, 1997). Global manager/entrepreneurs should focus on cultural similarities rather than on cultural differences. Some factors influencing the development of global mindset are such as in-depth personal cross-cultural experience (Townsend and Cairns 2003), entrepreneurial/managerial cultural awareness regarding the employees of a multicultural organization (Hofstede 1998) as well as the ability to identify and apply the appropriate management style required in a particular national culture (Vance et al. 1992). Other constructs are associated with superficial exposure to different cultures. For instance, (1) time traveling abroad; the average time spent abroad while traveling to international assignments; (2) total number of countries visited. The learning opportunity presented by international assignments plays an important role in gaining international confidence and experience (see Jokinen et al. 2008). Moreover, the total number of countries the manager/entrepreneur has visited has an impact on performance (e.g., Derr 1993).

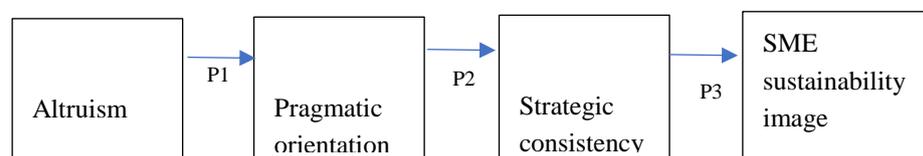
Our next characteristic refers to networking experience. For instance, contact with research or educational centers and contact with governmental agencies are characteristics refer to the effectiveness of the manager/entrepreneurs regarding their business networking activities and the positive impact on performance. Firms, embedded within an effective network structure, are more likely to benefit from the business network (Ahuja et al. 2009). A network of personal contacts is important to ensure effective communication, and, thus, an enhanced performance (Corolleur et al. 2004). Networks facilitate the acquisition of knowledge regarding foreign market opportunities as well as the build-up of trust with prospective partners (Zhou et al. 2003). Networking capability should facilitate the identification and selection of providers of

specialist knowledge that would be expected to add to the firms' overall performance through new opportunities. Capelleras's et al. (2010) findings reveal that networking with bankers and executives from large firms leads to venture growth. It is also important to refer to networking activities carried out by the manager/entrepreneur regarding research or educational centers, governmental agencies, professional and trade associations.

Personal social networks are important in increasing the performance of businesses (Buckley et al. 2006; Lau and Bruton, 2010). In particular, this would be the case with large emerging economies, such as Brazil. Membership of trade associations may also impact performance positively (Cavusgil et al. 1995). To attain a positive influence regarding their firms, manager/entrepreneurs need to expand their external network to include political connections. Manager/entrepreneurs can act proactively using their competences to influence the social-political environment in which their firms operate (Hadjikhani et al. 2008). In this regard, Buckley et al. (2006) suggest that connections in local institutions and government are important. In the context of high technology entrepreneurial/managerial ventures in Russia and China, Lau and Bruton (2010) demonstrate that social contacts with government officials and trade organizations positively affect firm performance.

## CONCEPTUAL FRAMEWORK

Existing models fail to address the entrepreneur's mindset in designing and implementing sustainable business strategies. It is the gap that we are trying to close with our research. The model that we introduce in this research is about how the manager-entrepreneur thinks. In this research, we look at the impact of the level of altruism on the SME sustainability image. We propose two in tandem mediating constructs between the entrepreneurs' 'altruism' and the SME sustainability image: The first one represents the entrepreneurs' 'pragmatic orientation' (e.g., high and low pragmatic orientation). High pragmatic orientation distance itself from the philosophical-ethical standing of the entrepreneur towards the environmental concerns (Hansmann et al., 2012; Huang & Rust, 2011; Hult, 2011; Sheth et al., 2011). It represents a more rational approach to the implementation of a sustainable practice among SMEs. A few sub-dimensions would be connected to social, economic (Huang & Rust, 2011, Hult, 2011; Sheth et al., 2011; WCED, 1978) and legal (WCED, 1978) concerns. Our second mediating construct represents the level of consistency between the long-term sustainable business strategy and the SME general business strategy that will impact the SME sustainability image (see Figure 1). Shields & Shelleman (2015) suggest that sustainability requires to be considered as a strategic element for a successful SME performance.



**Figure 1: Theoretical model**

An entrepreneur will possess a certain level of altruistic beliefs and values (Mickiewicz, Sauka & Stephan, 2016) and personal motivation to act altruistically (Klyver et al., 2017). As an outcome of their production process, drawing on the manager-entrepreneur's altruistic spirit (Rangan et al., 2012), SMEs should prioritize producing environmentally friendly products and aim for a less polluted environment (Huang & Rust, 2011). For this research, we define altruism as a characteristic guided by an idealistic attitude of a manager-entrepreneur as a world benefactor. That is, attempting to bring benefits to the world without aiming/requesting

anything back (Bekkers and Wiepking, 2011; Huang & Rust, 2011; Pilivan & Charng, 1990). It can take the form, for instance, of monetary and non-monetary gifts to charitable social events or disaster reliefs (Shaw et al., 2013; Lourenco et al., 2012; Wang and Qian, 2011; Husted & Salazar, 2006; Acs & Dana, 2001). The literature suggests that engagement in investment activities, as well as involvement into charitable actions, yields better financial results (Wang and Qian, 2011; Lee, 2008; Kaplan & Stromberg, 2004; Cassar, 2004; Orlitzky et al., 2003), but such actions might also cause damaging consequences (Weitzel et al., 2010). Successful entrepreneurs are more likely to be associated with ‘international giving’ (Casale & Bauman, 2015; Minniti et al., 2005; Bekkers and Wiepking, 2007; Rajan et al., 2009).

## **PROPOSITIONS**

In this research, we define a high pragmatic orientation as encapsulating concerns with the real world and the strategic reality of business. In contrast, an entrepreneur’s low pragmatic orientation is associated with theoretical and abstract ideas. The high pragmatic orientation comprises three dimensions: ‘social fairness’ represents an ethical standpoint where a fair approach is designed towards any person regardless of their social status, religion, race, physical condition (i.e., attempting to treat all human beings equally). Social fairness includes regulations and laws protecting the multiple aspects of human behavior. Another ‘economic dimension’ emphasises sustainability and the long-term existence of a business venture. It is based on sound business practices that consider SMEs’ internal and external environment, which would be an outcome of long-term sustainable strategies. Intrinsically, long-term sustainable strategies will have a positive effect on SME overall performance. Altruism and social responsibility are linked when making investment decisions (Cumming & Johan, 2007). The low pragmatic orientation comprises two dimensions: ‘concern for nature’, which represents that nature preservation is tantamount to ensuring the survival of future generations; and ‘ethical responsibility’, which refers to a hypothetical ethical judgment on current actions by future generations (WCED, 1987). Following Mickiewicz, Sauka & Stephan (2014), stating the link between more entrepreneurially oriented SMEs and their likelihood of engagement in altruistic behaviour, similarly, we suggest that higher levels of altruism tend to be founded on an idealised vision of the world and therefore, we posit the following:

***Proposition 1: Higher level of altruism is associated with an entrepreneur’s low pragmatic orientation.***

In this study, strategic consistency is defined as the consistency of the link between SME sustainable strategy and its general strategy. It means bringing strategic aspects of sustainability into the general SMEs’ strategy. Secchi (2009) suggests a close link between an individual and a corporate social responsibility strategy. Based on Klonoski’s (1991) conceptual framework, which contains amoral, personal and social “camps” (p.9), Secchi (2009) introduces social and ethical “classes” (p.566) to study individual social responsibility. It is reasonable to assume that a higher level of pragmatic orientation will be associated with higher awareness regarding practical actions leading to a more effective and efficient business model. On the other hand, abstract and theoretical views are, by definition, detached from every day running of a business. Therefore, we suggest that the latter pragmatic orientation may easily miss out on tactics necessary for business survival. Considering the above, we posit the following:

***Proposition 2: Low pragmatic orientation will lead to low strategic consistency.***

In this research, we understand the SME sustainability image as the image that stakeholders perceive regarding the SME sustainable practices based on the Brundtland report model (1987). Ketchern et al. (2007) suggest that sustainability strategy can act as a competitive advantage

and lead the firm to better performance. It is important for a firm to have a sustainability strategy, which could become a part of the firm general strategy (Bonn & Fisher, 2011). For sustainability to be effective within a firm, both internal (e.g., employees) and external (e.g., members of local communities) stakeholders need to be involved (Fallender, 2012). Stakeholder theory suggests that managers have to pay attention to stakeholders and get to know them because “stakeholder analysis enables identification of those societal interest groups to whom the business might be considered accountable, and therefore to whom an adequate account of its activities would be deemed necessary” (Woodward and Woodward, 2001, p.1). For example, SMEs could use local councils to engage communities in a variety of education events about SMEs sustainability image, and by supporting young community members, SMEs would increase their success of sustainability image and sustainability-related activities proposed by SMEs. Stakeholders will define how the SME will be perceived or not as a sustainable firm. Therefore, an SME needs to sort out its internal strategic consistency to match external pressures from stakeholders. We posit the following:

***Proposition 3:** Lower strategic consistency will lead to a less positive SME sustainability image.*

## **CONCLUSION AND FUTURE RESEARCH DIRECTIONS**

The proposed links could be further understood and refined in this vein, we propose a qualitative study to gain deeper insights into the entrepreneur’s pragmatic orientation with regards to the implementation and design of sustainable strategies. There is a potential for extending theoretical knowledge with regard to the pragmatic orientation: What are the relevant dimensions underlining or supporting this construct? Also, we intend to test any refined model that arises from the qualitative study.

Second, the link between SME sustainable strategy and its general strategy could also be better understood. SMEs in different sectors may also operate under different constraints and therefore, the proposed theoretical links might have different intensities.

Third, more research will also be necessary to develop consistent/reliable measures of SME readiness for a long-term sustainable business strategy. This dependent variable in our model is not well understood due to the lack of tested procedures that could be applied across sectors.

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*Track 02 Social Entrepreneurship & Local Development*

**ID #681**

**A Development Bank and a Central Bank: A note on BNDES as a  
monetary policy dealer in Brazil**

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**Abstract**

*This paper discusses the topic issue of the relationship between one of the largest development banks in the world, namely the Brazilian BNDES and the monetary policy institutions in Brazil. The relationship is threefold and is to be understood within the contexts of how open market institutions are organized in Brazil, with well-defined criteria for selection of dealer institutions; the gradual evolution of the public securities market institutions in which only by the 2000s it was possible to form a yield curve for terms above 5 years with the introduction of inflation-linked securities; and the recent creation of TLP, a market-set interest rate replacing the formerly TJLP which was defined under the federal government discretion. It is emphasized the information advantages regarding the conduction of monetary policy made by BNDES and its ability to influence the long term yield curve.*

**Keywords:** Monetary Policy; Development Banks; Long Term Financing.

## **INTRODUCTION**

In this paper we present an analysis on the recent announcement of the BNDES admission as an authorized dealer in Brazil's open market system, and we discuss some preliminary implications for infrastructure financing conditions.

The move by the BNDES becoming a Central Bank dealer is only part of a bigger picture, in which important ongoing transformations are being gradually depicted. It is, however, a good opportunity for us to try to anticipate some tones that will make up the new painting that is being painted.

The move is to be understood within the more specific contexts of how open market institutions are organized in Brazil, the evolution of the public securities market forming a long-term yield curve and the recent creation of TLP.

## **OPEN MARKET INSTITUTIONS IN BRAZIL**

According to Pellegrini (2017), there are three ways for central banks to conduct monetary policy in a economy. The first one consists of making direct interventions, such as raising/downsizing the interest rate and credit control, which are not used in Brazil and are in disuse in the world. The second instrument is based on the regulatory power of central banks, notably the so-called compulsory deposits of financial institutions in the monetary authorities, remunerated or not, calculated as the basis for the application of aliquots on the deposits received by them, a process that may be less flexible than other instruments, as compulsory consists basically on general rules for the economy which may have higher operational costs and a more intense and lasting changes developments for an economy. The third way for conducting monetary policy is the open market operations, which acts on the supply and demand for liquidity. Concerning these kinds of operations, there are two sub-group of operations that can make definitive transactions with public securities, without repurchase or resale, and the case of "operações compromissadas", the repo agreements, which has a repurchase or resale clause and in a pragmatic sense does not have the need for effectively making the real transaction of securities (only the payment of interests).

Recovering the main concept, open market operations may be made with public securities issued by national treasuries or by the central banks. Concerning about liquidity, if there is an intention to reduce the liquidity of the economy, the central bank must sell its securities (not those of the national treasury) to the market, and on the contrary, if it intends to raise liquidity, it must buy its securities from the market. There is also another option that is the voluntary, remunerated deposits of the financial institutions, in the central banks. The increase in these deposits reduces liquidity, while redemptions raise it (PELLEGRINI, 2017).

Recently, there Brazilian Central Bank appears to be trying to shrink the amount of the repo agreements in its indebtedness, as seen by the enhancements in the compulsory rule (BCB, 2018) and by trying to implement a more accurate rule for voluntary deposits (BCB, 2017), as showed one year before with the research of Mendes (2016).

The reason for this concern, the increase of open market operations, it's not new. The selection of open market dealers is a competitive process established many years ago by the Central Bank. In 2010, the Central Bank and National Treasury unified its selection process. In 2015, the selection process was separated again.

In the recent list of dealers, BNDES was appointed as a dealer for Central Bank, but not for the National Treasury. It looks coherent, since the weight of the so called “operações compromissadas” (repo agreements) in BNDES’ securities portfolio has increased substantially in the past 3 years – in August 2017, the total outstanding repo agreements reached R\$ 1.1 trillion, or 17.9% of the GDP and 24.3% of total government indebtedness (PELLEGRINI, 2017). Besides, BNDES represents around 7% of a whole outstanding amount of “operações compromissadas” done by Central Bank – and it would be even higher if BNDES had not returned BRL 100 billion to National Treasury in December 2016.

Another important point for repo agreements is the maturity for this kind of portfolio, almost integrally supported for very short-run cases. As noted by Pellegrini (2017, p. 4):

*The duration for these operations is surprising since 94% of the existing outstanding was contracted with a term up to three months. The remaining operations duration was up to nineteen business days, considering the 12-month moving average. Despite their relevance, the repo agreements are not included in the management of the federal public debt, of competence of the National Treasury (PELLEGRINI, 2017).*

Thus, in these examples, it looks likely BNDES is more relevant for monetary policy than for supporting yield curve. Besides, in recent years, public bonds held by BNDES for liquidity purpose surged vis-a-vis bonds held for more than a year (see figure 1). It is also noteworthy that former Central Bank director Carlos Thadeu de Freitas who was also head of the central bank open market desk in the past just took office as the CFO with BNDES.

## **TLP: WHAT A DIFFERENCE A J MAKES!**

Created in 1994 amidst the many changes brought about by price stabilization and the Real Plan the TJLP was named Long Term Interest Rate in a time when markets could provide little indication of what such a long-term interest rate could be. It is set on a quarterly basis currently based on a composition between the inflation target and a risk premium (BRASIL, 1994).

TJLP is the interest rate set to charge funding of BNDES – i.e. – it is the rate for BNDES lenders (PROCHNIK e PEREIRA, 2008): FAT (Fundo de Amparo ao Trabalhador, a fund made up by corporate taxes), FMM (a fund earmarked to shipbuilding made up by sea imports) and the National Treasury. Since the National Treasury needs to issue securities to fund BNDES, the difference becomes a fiscal burden. This cost of opportunity also hits FAT, since the resources of FAT, if allocated into market instruments, would generate better returns and preventing National Treasury’s support. To adjust these gaps, the government moved to create the TLP which will replace the TJLP after a 5-year phasing out process.

The Long-Term Rate TLP was created in September 2017 (BRASIL, 2017) to replace the TJLP. It is formed by the remuneration of inflation-linked securities NTN-B plus the official inflation index IPCA. The NTN-B is federal security linked to the IPCA inflation. So, the new TLP is just the real interest rate over IPCA plus the IPCA inflation, for the 5-year period. It is noteworthy that the average term of the current outstanding of NTN-B is 7.7 years (while fixed-rate LTN have 1.5 and Selic-linked LFTs are 3.5y).

On January 1, 2018, the first TLP would be equal to the TJLP in force on the same date. For this purpose, a percentage of the five-year NTN-B real interest rate will be established. This percentage will be valid for one year and will increase progressively until 2023. So, the phasing in process was set to be smooth (PESSÔA, 2017). Early this year BNDES held an amount of

disbursements in outstanding contracts above half a trillion reais plus more than BRL 150 billion in outstanding contracts to be disbursed.

Criticism on the TLP mounted among part of analysts. The key points include:

- Backward-looking estimates show that the TLP would have been higher than the basic Selic rate in the recent past, making no sense to promote investments (STUDART, 2017). However, the analysis is not that simple. It seems clear that the implementation of TLP in the past, as it is proposed by MP 777, would have avoided high subsidies from National Treasury to BNDES, preventing, partially, the jump in the public debt. What it is not clear is whether it would have restrained capital expenditure in the past – many argue that the hundreds of billions of reais in credits poured in the market by BNDES have had no relevant effect on gross fixed capital formation rates which fell dramatically in spite of the abundant official financing.
- Higher volatility of the TLP as compared to the TJLP (TORRES FILHO, 2017). It is bad for one side since it increases reading on risk for long term projects. However, it would require projects to be better designed to be eligible and selected.

## **A CHALLENGE TO THE LONG-TERM YIELD CURVE?**

The formation of a yield curve, especially the long end of the curve, has a long way to go, and require further evolvement of fixed-rate and inflation-linked securities market. Brazil's inflation-linked securities market ceased during the period of hyperinflation and returned early in the years 2000, boosted during the Lula administration, as the confidence in long term instruments was restored by his decision to follow economic policies implemented by his predecessor, Fernando Henrique Cardoso. National Treasury began to extend terms in newly issued inflation-linked securities, initially to 3, 5 and 7 years and carried out a placement of NTN-C indexed by the IGP-M with a term of 30 years. Since then, the market for long term securities indexed to inflation grew up (GIAMBIAGI, 2008).

The outstanding of NTN-B and NTN-C is currently at one-third of the domestic federal securities debt (please see chart). The amount outstanding in these securities is currently near BRL 1 trillion. Inflation-linked bonds are preferred by pension funds which hold 44% of the total outstanding (as seen in Figure 2).

Despite the increasing participation of inflation-linked bonds in the total outstanding, market liquidity has to be improved further – there is still 30% of total outstanding linked to the overnight interest rate. Market participants still allocate relevant part of the liquidity in overnight instruments – that might explain why “operações compromissadas” increased from BRL 250 billion in 2008 to BRL 1.1 trillion in 2017, now more than the outstanding in inflation-linked securities. In other words, market participants still see some risks that prevent them in allocating liquidity in risky assets. Such an explosion of repo agreements has become an actual source of concern on public debt management in Brazil (see figure 3).

With market conditions restoring, liquidity may flow back into risky assets (long term bonds, credit lines for long term projects). It will support a better pricing policy for those bonds and for the yield curve as well.

## **IS IT GOOD OR BAD? GOOD IN THE SHORT TERM...**

If we make a brief retrospect to see how the fiscal indebtedness worked in Brazil during the last two decades, we can see a very remarkable difference in the ways the country varied their debts. As noted by Giambiagi (2008):

- *the radical changes in the composition of public debt over time: net external debt became almost irrelevant until 1996, it became increasingly important until 2002 and again lost weight thereafter, to the point that, currently, the sector Brazilian public is a net creditor from abroad (negative debt);*
- *the dangerous increase, on the other hand, in the relative importance of the federal securities debt which, in 1991, even though it included the NCZ\$ blocked from the Collor Plan, was only 5% of GDP and had already reached 12% at the beginning of the Real Plan; has risen to 34% of GDP at the end of the FHC government in 2002 and reaches 42% of GDP today [(2008)], as a counterpart to the process of accumulation of international reserves, which reduced the net external debt of the public sector, but increased the internal debt;*
- *changes in the evolution of renegotiated debt, which represents a credit from the Union and a debt from the states and municipalities, increasing until 2003 because of the strong influence of the IGP - which increased more than the GDP deflator - but slowly declining from of then, and;*
- *the decisive importance of "equity adjustments", that is, "below-the-line" phenomena, unrelated to the evolution of the NFSP flow and associated with exchange rate effects on public debt and the recognition of liabilities contingents, known as "skeletons" [esqueletos].*

The latter is crucial for understanding the evolution of public debt since 1998. Until then, these adjustments had added only 1% of GDP to net debt. Between 1998 and 2002, however, they impacted debt by a further 17% of GDP, which explains why, despite the 1999/2002 fiscal adjustment, public debt continued to increase.<sup>26</sup> Already in the years after 2002, played in favour and decreased net debt. Meanwhile, the outstanding of the "fiscal debt" of the Central Bank statistics fell only 2% of GDP between 2002 and 2008.

Although the evolution of domestic debt inspires care and prevents the fiscal crisis from being completely overcome, in addition to the fall in the public debt / GDP ratio, there are three other elements that deserve attention in the evolution of public debt in recent years. The first was a gradual reduction not only of the domestic debt indexed to the exchange rate, but also of the portion linked to the SELIC rate (LFT), which reached 69% of the debt in 1998 (Table 21). Together with the foreign exchange-indexed debt, they were no less than 75% of the debt in 2002. From 2003 onwards, the portion of fixed-rate securities indexed to price indices, therefore in both cases with interest not associated with the SELIC rate, was in general lines increasing progressively - albeit with small swings - from only 13% of the federal securities debt in 2002, up to 51% currently, at the same time that the foreign exchange debt disappeared and SELIC debt fell to 32% of the total (GIAMBIAGI, 2008).

So what the author reiterates is that the dynamics for fiscal indebtedness has changed very gradually, and now it appears to be basically linked to a new instrument, the repo agreements, that are usually used with companies and private market players that are, in some way, connected with the government, being or private pension funds or/and state banks.

One positive effect is the opportunity for BNDES to reduce its costs (by avoiding money market spreads) and to strengthen its skills to act in the bond market.

Information advantages to be held by BNDES are a key ingredient of the move. Under the dealer status, BNDES will have access on a regular basis to Central Bank and National Treasury.

In addition, BNDES will count on more information on the formation of the benchmark rate of its operations, if not able to intervene in that formation, which will enhance its planning capacity. That will smoothen even further the adaptation into TLP with the phasing out of TJLP.

It is natural, and one should expect that after the conversion of BNDES operations from TJLP into TLP the development bank would turn into an even more relevant player in the Brazilian long-term money market. Bank officials are not expected to walk from the Rio downtown headquarters towards the Candelaria cathedral to pray for a favorable trajectory of TLP. One should rather expect that price formation in that market will be increasingly influenced by BNDES strategic objectives. The question is how and how much.

Theoretically, since TLP will charge both, assets and liabilities of BNDES, the key role of BNDES in the NTN-B bond market would ideally be to support a better price-setting policy. Should the coupon rate of NTN-B steepen, BNDES will have troubles in finding good assets for its portfolio? Consequently, cash holdings will increase, raising doubts about the size of the bank and creating challenges for monetary policy (unless in the case of reduction in the funding from FAT or National Treasury) - in both cases, causing troublesome situations in the fiscal policy.

## **INFRASTRUCTURE MAY BENEFIT**

For infrastructure projects, this is good news, at least in the long run. The formation of a healthy market of private sector financing instruments of infrastructure projects crucially depends on the establishment of benchmark market interest rates for those projects. If this reference is distorted somehow, an assumption of the formation of these rates will not be met. This looks the case with TJLP – assets and liabilities are charged by TJLP. But this is a bad mix since it is not difficult for BNDES to find projects that want to be financed by TJLP (in many cases, worst projects), but FAT and National Treasury are not adequately remunerated, enlarging the already big hole in the public sector's account.

For projects, it is also good news. The volatile TLP will become one of the selectors of projects. Good projects will be financed relatively easier as compared to bad projects, also meaning that project selection will be subject to less official discretion and more market scrutiny than in the recent past.

## **CONCLUSIONS**

It is not about being open market dealer, but it is about how BNDES will influence the yield curve. It looks, under TLP, BNDES will have to prove its existence. BNDES expected role in financing long term projects is still there. Under appropriate risk management and asset and liability management, only good projects will be financed. But even good projects need a competitive cost of capital – which means a fair pricing policy of NTN-B. Otherwise, the price of public service will turn punitive to society.

Thus, in the long run, BNDES will have to become a supporter of yield curve formation rather than monetary policy supporter, for its own survival as a large development bank, with implications on the roles development banks play in emerging market economies since, because of its size and reach, BNDES' moves have been closely watched by other emerging jurisdictions.

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Figures

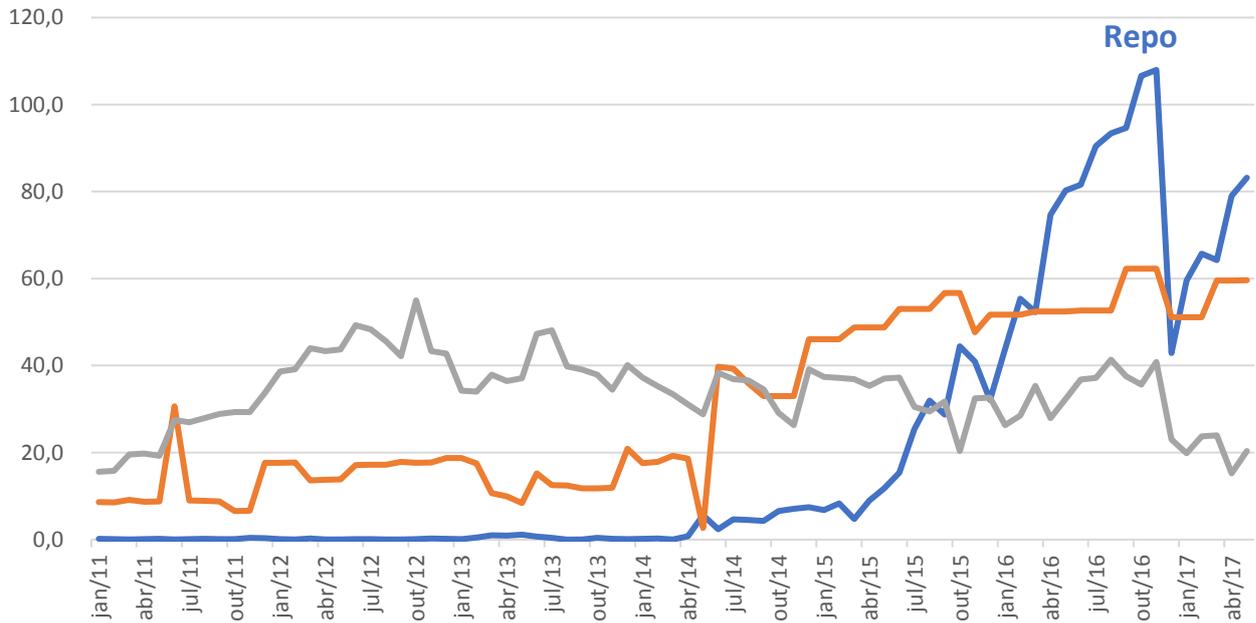


Figure 1: Selected BNDES portfolio items (BRL billion)

Source: Brazilian Central Bank (2018)

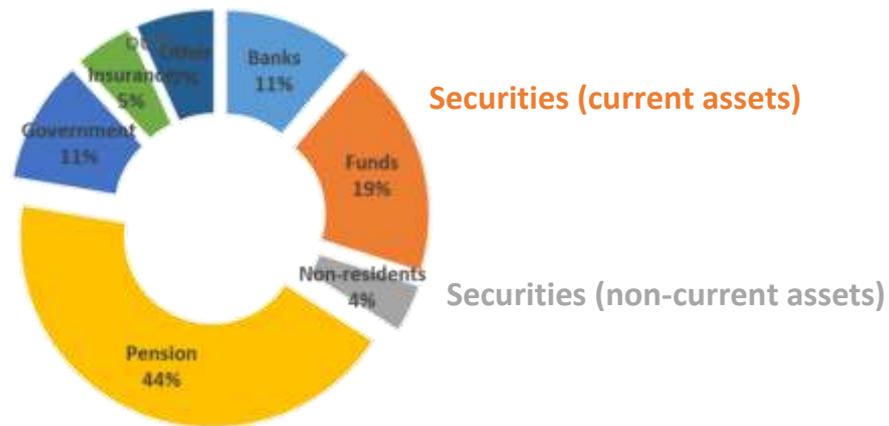
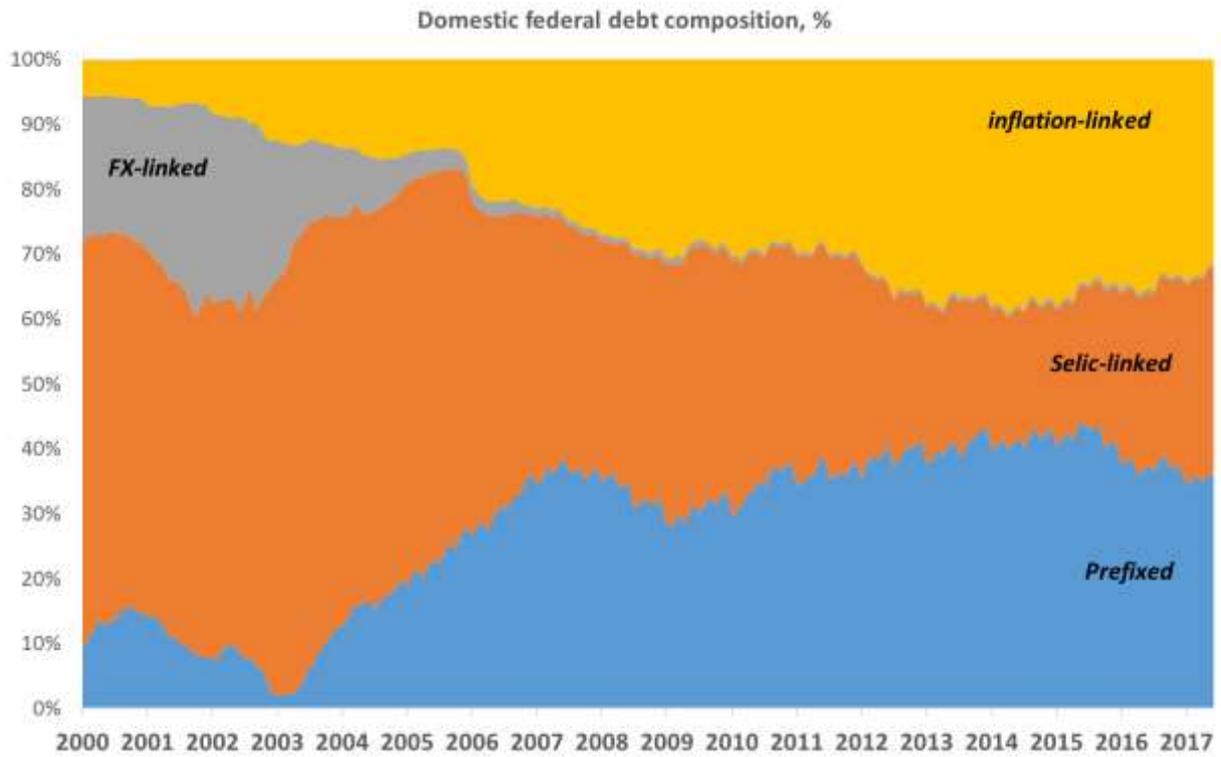


Figure 2: Holders of the Brazilian federal securities debt outstanding by type

Source: Brazilian Central Bank (2018)

Figure 3: The chart below depicts the evolution of federal debt composition by indexers.



Source: Brazilian Central Bank (2018)

*Track 02 Social Entrepreneurship & Local Development*

**ID #682**

**Expectations for positive data in Brazil**

Yan Nonato Cattani (ESPM, Brazil)

Flávio Estevez Calife (PUC SP, Brazil)

**Abstract**

*The "Positive Data" is a system that registers behavioral aspects of economic agents into models of credit analysis. Since it was implemented in 2011, the results for improving the quality of credit and its volume were very restricted because of particular criteria of the law established in its beginning. Based on the opt-in registers, which requires borrowers to make an extensive cadastral listing, the number of effective users is still low, with just over 5% of the total available (MELLO, MENDES AND KANCZUK, 2018). However, with the recent amendment of the law that implements efficiency improvements in registration data, the outlook for credit concessions in the Brazilian market should change significantly the credit in the country.*

**Keywords:** Positive data; efficiency; space state; credit bureau; concessions.

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*Track 02 Social Entrepreneurship & Local Development*

**ID #714**

**Theoretical review empowerment of women and the impact on economic development**

Liliane Matias de Almeida (ESPM, Brazil)

Luciana Florencio de Almeida (ESPM, Brazil)

**Abstract**

*This article presents a bibliographical review of women's empowerment and a relationship with economic development. From articles consulted in the Scopus, Scielo and Google Scholar databases, which brought a result of 1.132 articles and of these 7 articles were selected. The review points to a growing field of debate, with the common goal of building gender equality through the empowerment of women in all spheres. The results pointed out that education is an important factor for the empowerment of women, and when empowered contributes to economic development as a maid and as an entrepreneur.*

**Keywords:** Female Empowerment; Economic Development; Women; Education.

**Acknowledgments**

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## INTRODUCTION

The perspective of female empowerment is associated with social change. Allied to an incipient theory, the theoretical debate on empowerment is carried through research on the development and performance of women in society. First used in 1988, the term empowerment was discussed in the academic field and thereafter gained influence within women's studies and research. The authors Gita Sen and Caren Grown have developed a book from the *Programa Interdisciplinar de Estudos da Mulher (PIEM)* with the purpose of promoting research and studies on women as a vector for the transformation in the social process. The book *Desarrollo, crisis y enfoques alternativos: Perspectivas de La mujer en El tercer mundo* links social development, social crisis, and economic crisis and presents an explanation of practical strategies aimed at improving the living conditions of women in third world countries. The concept of empowerment faces a challenge in the search and conquest of the sources of power for women (Marinho & Gonçalves, 2016), in all areas, which according to Leon (1997) is a process of overcoming gender inequality. Culture and the patriarchal family were challenges that women faced in order to achieve and empower themselves, and this has had a consequence in the individual area, since it has had consequences in physical health, but in a context of multiplicity, the feminist movement has a political connotation that empowers the democratic participation in decision-making (Sen & Grown, 1988).

The understanding of the term empowerment leads to the sociological debate of power. Within the social relations in which the woman is inserted, power is exercised, and traditionally it can be considered as the authority of one individual over another. The concept of power is presented by Weber (1991, p. 33) as "power means any probability of imposing the will in a social relation, even against resistance, whatever the basis of that probability." We must consider that power relations exist because of the influence of social forces and that the power of one individual over another, eliminates the freedom of those who are under the dominion of the individual with power. From a different perspective, Foucault (1994) approaches power as a valuable and present relationships in all groups, considering the subjects of these groups, with dominant and dominated positions, and resistance to power. Empowerment considers this position of power to be unequal between men and women, and in this scenario, the relationship between power and empowerment for Batliwala (1997) is in control of material, intellectual, and ideological resources, and defines empowerment as "Process of challenging existing power relations, as well as gaining more control over the sources of power" (p. 193).

By accepting power, a position of submission is accepted as well. The same is possible with a resistance behavior when the dominated does not accept the power over itself. Leon (1997), under the prism of woman empowerment, describes other types of power: power over, power for, power with and power from within or power from within. The power over is about influence over the other in decision making, the power to have potential for collective support facilitating and opening possibility without using power over, power with is related to solution of one group that is shared with another, that is, that together the individual parts can be part of something greater, and finally the inner power or inner power represents the ability to resist the power of domination over self, developing individual power.

Theories on female empowerment address issues within history that bring relevant achievements. The struggle of women takes place in various spheres, and following the order of this phenomenon, are themes that at first reach concerns, in the period between 1900 and 1960, such as recognition as citizens, social rights, political rights, voting rights, conditions of daily life and at work, in a second moment, the claims go until 1980, and are aimed at the participation of women in the labor market, enhancing the performance of women in the same

way, in the family environment. In this period, reception for the need of women widened the context in which it was inserted, because, when conquering the labor market, it was inserted in this discussion the reproduction and the violence, once the woman happens to have autonomy on the own body with the contraceptive pill (Marinho & Gonçalves, 2016). A third moment, which reaches the present day, is related to sexuality and various debates around women that encompass domination and oppression by man, the inclusion of unlawful women - gays, lesbians, transsexuals, and others - that concerns identity and the right to be a woman (Butler, 2012). At the last moment, it includes in this process of recognition of women, through the empowerment, development, and expansion of women's participation, considering the diversity of themes and activities in the political, economic and social spheres.

The importance of the analysis of issues related to women and empowerment is directly related to economic empowerment, according to Arul Paramanandam and Packirisamy (2015), of the world population, 1.3 billion people live in extreme poverty, and 70% of that number are women.

The context that women participate in influences the formal organizations installed in society, which are systems of controlled and coordinated activities that arise from complex relationships and networks, which define rules following the institutions' objective. The organization in modern society is very bureaucratic, first because as it modernizes, become more complex and second, modern society has goals to achieve. The participation of organizations in society impacts the leadership and local organization, which is often seen as a deviation to reach the goal, but we must consider that organizations adapt to the context (Meyer & Rowan, 1977).

Researches emerge and broaden the discussion about women in economics, politics and society, and this phenomenon cannot be considered unprecedented. It is a theme that calls attention to statistics, politicians and social scientists. To contribute to the discussion on empowerment, a literature review was carried out considering women's empowerment and economic development. This literature review is part of a broader research involving female empowerment and the construction of strategic networks.

## **METHODOLOGY**

To develop the discussion of this article, to study the theme and to produce insight into the theme of women's empowerment in Latin America, a bibliographical review was carried out. The intention of the literature review is to increase knowledge by seeking previous research and to identify implications of contribution to the theoretical debate. The research has a qualitative approach since it is a survey about what has already been researched. The planning techniques were: definition of the keywords, search in the *Scopus* and *Scielo* databases on the keywords, determination of a period and a minimum of 50 searches to verify the useful literature, accomplishment of a map of the selected literature, summaries of the most important articles, summary of the main concepts (Creswel, 2009).

The keywords for research were extracted and combined according to the research theme: female empowerment and economic development, women's empowerment and economic development, and gender or women's economic development, as well as the use of these terms in the English language *female empowerment and economic development*, *woman's empowerment*, *empowerment of woman and economic development* and *gender or woman and economic development*. To complement the research, we used *Google Scholar* to find relevant, unidentified articles in the field.

In order to be accepted for the review, we considered the articles that considered the feminine empowerment and economic development, independent of the year, since the search did not delimit a period, to understand the performance of the subject in the academic field. The *Scopus* database resulted in 1.106 articles, the *Scielo* database had a result of 24 articles and *Google Scholar* resulted in 2 articles.

It was a total of 1.132 articles, covering the period from 1983 to 2018 and with an increasing production, mainly from the year 1992 to the year 2000, between the years of 2001 and 2006 production has a fall, but grows again as of 2007.

ANO	ARTIGOS	ANO	ARTIGOS	ANO	ARTIGOS	ANO	ARTIGOS
1983	3	1992	22	2001	16	2010	46
1984	1	1993	30	2002	13	2011	50
1985	6	1994	48	2003	24	2012	44
1986	2	1995	72	2004	16	2013	53
1987	3	1996	35	2005	26	2014	70
1988	7	1997	53	2006	26	2015	68
1989	4	1998	48	2007	32	2016	56
1990	5	1999	36	2008	30	2017	76
1991	7	2000	21	2009	41	2018	42
	<b>38</b>		<b>365</b>		<b>224</b>		<b>505</b>
<b>TOTAL</b>				<b>1132</b>			

**Chart 1:** number of articles per year

Of these 792 articles were excluded, we considered only the articles that contained the topics searched in Portuguese or English in the title and in the keywords. Of the remaining 339 articles, we excluded articles dealing with the empowerment of women in a specific region or country, and issues such as HIV, health, child, agriculture and rural space were not considered for the final phase as well as articles without any citation. We finished with 145 articles. We also excluded the articles with research focused on gender equality and selected 21 articles in which the topics women's empowerment and economic development were related. For the final selection, the articles went through a reading analysis and resulted in 7 articles, 5 being found in *Scopus* and 2 in *Google Scholar*.

## RESULTS

The selected articles were published in six academic journals and from 2006 to 2017. We considered the articles that contained the words women's empowerment and economic development, both in the theme and in the key words of the article, and we considered the relevance of the relationship between the themes.

Articles on racism, sexism, health, domestic violence, technology, prejudice, consumption, sex workers, sexuality, journalism, literature for women, prison system, maternity, sports, immigration, birth control, arts, female body, psychology of women, politics, drugs, HIV, emotional therapy, postpartum depression, breast cancer, tourism, addiction, cigarette, entrepreneurial activity, etc. Due to the broad scope of academic research referencing various aspects and themes that involve women. However, the interest of this review was to understand women's empowerment and economic development.

Below, a table of selected articles containing: article title, newspaper, *ISSN*, impact factor, *CAPES* classification, and year of publication.

TÍTULO	JOURNAL	ISSN	FATOR DE IMPACTO	ESTRATO CAPES	ANO
The double-X factor: Harnessing female human capital for economic growth	International Journal of Emerging Markets	1746-8809	1.33	B1	2006
Women Empowerment and Economic Development	Journal of Economic Literature	0022-0515	3.01	A1	2012
A review of approaches and methods to measure economic empowerment of women and girls	Gender and Development	1355-2074	0.82	B1	2014
Women's Empowerment And Economic Development	EXCEL International Journal of Multidisciplinary Management Studies	2249-8834	7.382	-	2014
An empirical study on the impact of micro enterprises on women empowerment	International Journal of Economic Research	0972-9380	-	-	2015
Exploring Women's Agency and Empowerment in Developing Countries: Where do we stand?	Feminist Economics	1354-5701	1.419	B1	2016
Toward Understanding Another Gender Gap: How Women in Economic Development Perceive Access to	Journal of Women, Politics and Policy	1554-477X	0.625	-	2017

**Chart 2:** Journal and year of publication of selected articles

### **Types of research**

Concerning the types of research, we found three methods, the case study, the literature review, and the exploratory research. They were distributed in an article with the literature review method on the relation between empowerment and development and five articles of exploratory research passing through subjects like a case study that analyzes the history of fifty years of the MEDA (Mennonite Economic Development Associates), measurement of the women's economic empowerment, the impact of microenterprises on women's empowerment, women's empowerment in developing countries and women in economic development and access to capital. It is possible to observe a concentration of the exploratory research method in the phenomenon of female empowerment.

### **Country of research and data collection**

Data from selected articles were collected between 2006 and 2017, covering the USA with three articles, England with three articles and India with one article. The theoretical framework of each selected article is presented below. The small company contributes to the economy of a country. In a developed country, such as the US, there is a program called the Women's Business Center, according to the Small Business Administration (SBA, 2018), which provides support for women who own small or medium-sized businesses. In underdeveloped countries, the reality shows the lack of support as well as the informality of the microenterprise, with emphasis on the female presence for informal jobs. However, Jones, Snelgrove, and Muckosy (2006) point out three important points: female human capital for a country's prosperity, small business contribution to strengthening the private sector and economically active women becomes an economic contributor.

According to the *The World Bank*, it is estimated that the number of missing women, that is, lack of registration for reasons of birth, death, children, and women of childbearing age, reached 60 million in 2011 (Duflo, 2012) the domination of man has made it difficult for women to access education, employment and political responsibility. The *Sustainable Development Goals (SDG-ONU)* includes reducing poverty and child mortality, universal education, and bridging the gender gap in education, as this can promote equity and contribute to the development of the poorest countries. According to the author, in promoting the economic development of a country through education, gender inequality decreases, as the supply of opportunities increases. This context can be improved by an institutional structure with programs and political actions that add strategies of economic development through education.

For women, experiencing empowerment is access to power. For WGEE (Women's and Girls' Economic Empowerment), women's empowerment is a process that encompasses economic,

social and political space (Pereznieto & Taylor, 2014). After a literature review, the authors reached four dimensions on women's empowerment, based on the book by Lukes (1974) - *Power: A Radical View*, the authors Pereznieto and Taylor call results of change and list as: internal power, considering the intellect of the individual, the power to, considering the power of decision-making in the environments that is inserted, the power over, considering financial performance and income generation, and power with, considering the relationship with other individuals. Empowerment is a process of transformation that involves resources, processes and outcomes, and that will only be sustainable if it reaches the environments of the individual, institutions and communities, the economic and political and legal.

The term female empowerment conceptualizes that women have the autonomy to manage the day to day tasks related to the social, political, and economic environment. It has already been found that empowering and empowering women has a positive impact on economic development. This scenario has led women to move in various segments of society, while in the 21st century, they were limited to domestic and agricultural activities in India (Bhoganadam, Malini & Rao, 2014). For this scenario to be sustainable, motivational interventions and policies are needed to empower women in economic, social, and political areas (Duflo, 2012). According to the authors, women's participation in the formal and informal sector promotes economic growth, and when they reach strategic levels, they contribute efficiently, with a significant return to corporate equity. If this is applied on a global scale, according to the Organization for Economic Cooperation and Development (OECD), it can contribute to the economical production of a nation.

Arul Paramanandam and Packirisamy (2015) consider empowerment as the intellectual capital that is needed in any industry, and today, we can no longer dissociate women's empowerment from economic development. The role of microenterprise is fundamental in the economy and empowering women through training, technical knowledge, and marketing techniques contributes to the sustainability of development. Empowerment takes the woman from disadvantage to a condition of ability to make choices. For the United Nations Secretariat, the empowerment of women has five components:

- (1) a belief in individual self-esteem;
- (2) the right to make decisions;
- (3) the power to access opportunities and resources;
- (4) the ability to control public and private life; and
- (5) the opportunity to engage in society to influence nations and the world.

The participation of women in society has raised questions due to the impact caused both in decision making at home and in the labor market (Hanmer & Klugman, 2016). For Kabeer (2008) women's empowerment is associated with the individual agency or agency of women with the institutionalized power of gender issues. This action has three strands, action or agency, resources and achievements that are interdependent and has the possibility of transforming group life in which the woman is part. Indicators such as knowledge, ownership and access to communication have been included in research and are identified as contributing factors to women's empowerment, but the qualification and outcome for empowerment can be changed according to the country. The interrelationship is such an amalgam that it becomes a challenge to analyze the indicators in isolation. Choices may differ according to norms, values, and culture depending on what is politically or socially accepted for the individual's decision-making.

The participation of the individual in the institutions of society is of vital importance because the collaboration contemplates his vision and highlights subjects of self-interest, so the participation of both men and women have different values, and preferences can influence decisions in areas such as political, economic and social (Read & Leland, 2017). Women-run businesses have different characteristics of male-run businesses, as well as the type of segment chosen by women; these are a few factors that decrease security in freeing access to capital for women entrepreneurs, according to Coleman (2000). Other characteristics are identified as barriers to accessing capital for women entrepreneurs, such as human capital, educational level, relationship networks or strategic and management (Verheul & Thurik, 2001). Another important factor is the culture of women entrepreneurs that influence decision making and hinder access to capital because even when released, they refuse to accept capital. However, institutions that collaborate with local economic development are willing to support programs that empower women to access capital.

## **RESULTS FOUND IN THE ARTICLES**

The results found in the articles have convergence, and we call attention to education as the main factor for the empowerment of women Duflo (2012). To Bhoganadam; Malini; Rao (2014) and Arul D., Packirisamy P. (2015), once empowered, it has contributed to the country's economic development. The sequence of findings is below.

The unfolding of female human capital increases the prosperity of a country. Women tend to become involved in micro and small enterprises (MPE's), both as owners and employees. This phenomenon is strengthened by the offer of opportunities by geographical region, socio-cultural norms, and the private or public sectors of underdeveloped countries. In gaining experience, women tend to progress, but the challenge lies in programs that help these women to excel in viable industries. Microfinance programs targeting low-income women enable financial empowerment, the authors point out Jones, Snelgrove, and Muckosy (2006), which inevitably leads to social and personal empowerment, and empower women for domestic management, decision-making, entrepreneurship, self-confidence, respect, and participation in communities. The financial program serves men as well, but there is an approach and action to motivate the involvement of female clients. With anti-poverty programs targeting underdeveloped countries, MEDA (Mennonite Economic Development Associates) faces challenges such as illiteracy and women who, in addition to their own business, educate children, improve domestic nutrition, build community groups and fairer social structures.

Paid work outside the home contributes more to the empowerment of women than paid work in the home, even though it is more prone to stress and to suffer marital abuse, highlight Hanmer and Klugman (2016). Female-headed households have a greater investment in children, and this investment in education is the best way to empower and empower women. Another impact of education is the reduction of poverty. It is noted that women in extreme poverty have to fight harder to gain access to education and invest in education not only empowers women, but contributes to organizational solutions, reducing poverty levels and improving economic growth.

Economic development is not enough to reduce inequality, political-institutional structures are needed to achieve leveling, and gender inequality is usually greatest in poor countries, according to Duflo (2012), Arul and Packirisamy (2015), Hanmer and Klugman (2016) e Read and Leland (2017). With economic development, women have access to work and increased life expectancy, more than men, besides reducing maternal mortality, the number of children in

women of childbearing age and corroborate with policies of right to women. Women who have access to work and education opportunities have a motivation for empowerment and promote a vicious cycle as women with access to credit invest more in goods and services that improve the well-being of families, and households have more substantial outcomes when the income is concentrated with the management by a woman. Women as decision-makers with money, property rights, and policy formation tend to think more broadly, considering the well-being of the family.

Developing countries have a large share of microenterprises. Called entrepreneurs, they usually act out of necessity. Empowerment begins in communities with education projects and access to micro-credit, enabling microenterprises to improve performance and include women's participation. Female entrepreneurship is fundamental to the growth of economic development. Microenterprise contributes to empowerment by providing socio-economic opportunity, political and social representation, community, and national development (Arul & Packirisamy, 2015). Duflo (2012) approaches that the support programs and access to credit have less than half of them with financial focus and effect on women's economic empowerment, but Perezniето and Taylor (2014) highlights that areas such as micro-insurance and the use of new technologies are little explored.

The gender factor impacts on the perception of access to capital for economic development, since women tend to see it as a problem (Perezniето & Taylor, 2014). Women-headed enterprises tend to borrow less than men-led firms. Entrepreneurial women with undergraduate education perceive access to capital as a form of local economic growth and development, and women who see the capital access gap for entrepreneurial women tend to support projects geared toward access to capital, with the economic development of other entrepreneurs. In programs of access to credit, smaller communities and communities with high unemployment rate perceive access to capital as a significant barrier to economic development. In these programs, women are more punctual in payments and this improves the result, which has an average of 2.5% of default. Access to microcredit presents an important role in the training of women in marketing and production, which is an essential factor for sustainable success.

Finally, the main implications for women's empowerment are indicators such as sexual and reproductive health, household decision-making, economic activities, participation in community decision-making, national bodies and policies, indicators to measure reasons for choice and indicators to measure the relationship of acting with empowerment highlighted Arul and Packirisamy (2015).

## **CONCLUSION**

The issue of empowerment of women in developing countries has grown and contributed to the academic field. An important factor is education, which has emerged in selected articles as an important factor in empowering women, but it is not enough to contribute to gender equity.

Local economic development programs are strategic for the empowerment of women entrepreneurs. The political instruments to promote the empowerment of women should not only be expected of economic development, as a driving force of this movement but with an educational role that transmits knowledge, empowers and multiplies through the women involved in the programs. It is because women have different expectations and needs from men,

and this needs to be taken into account both in the institutional structure and in the construction of public policies and programs to support economic development.

Economic development and the empowerment of women is not an instant illusory solution; it is necessary to understand and educate institutions and society. Institutions play an important role in empowering and empowering women, contributing to economic development and achieving a return through the empowerment of women through a cycle of empowerment from one woman to another.

Women's activities have an intrinsic aspect for economic development, and their actions are directly related to the motivation and commitment to seek economic, political and social opportunity, thus contributing to institutions, communities and the empowerment of other women.

Research on women's empowerment and economic development correlates and presents important results for the economies of the countries and especially the impact on women's education and development.

It is recommended the development of a model to evaluate women's empowerment projects with a methodological strategy and indicators to verify the results and impact of the projects on empowerment, allowing the preparation of reports and analysis applied.

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## **Track 3**

# ***International Marketing***

*Track 03 International Marketing*

**ID #602**

**Governance of international distributors: Addressing distinct organizational levels and impacts on performance**

Christian Stadlmann (University of Applied Sciences Upper Austria, Austria)

**Abstract**

*The purpose of this study is to examine how internationally operating manufacturers can govern the management team and the sales force of their channel members. Through the application of governance mechanisms on two distinct levels within the distributorship and the investigation of their effects on performance and social satisfaction, the study contributes to channel management research in which the influence on individuals of intermediaries are still underrepresented. A survey of 120 Austrian machinery and equipment manufacturers was conducted and partial least squares path analysis tested the conceptualized model. The findings indicate that the management team is the key to success and by focusing on them, the outcome- and behavior-based control methods and interpersonal socialization increase performance. Normative control mechanisms positively influence satisfaction with psychosocial aspects of the relationship. On the other hand, governing the distributor's sales force only impacts performance and the degree of social satisfaction if all efforts are aligned with activities targeted at the distributor's management team. In particular, governance mechanisms applied to the management team fully mediate control mechanisms dedicated to the sales force. Thus, these results show internationally operating manufacturers how they can globally improve their marketing channel activities.*

**Keywords:** International; Channel Management; Governance; Performance.

**Acknowledgments**

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## **INTRODUCTION**

Globalization increasingly threatens internationally operating companies in local and international markets. As a result, the competitive situation confronts local and exporting manufacturers with the challenge of managing and continuously optimizing their international marketing and strategic activities (Wiersema & Bowen, 2008). Among others, enterprises need, therefore, a systematic and strategic configuration of their distribution management, particularly if this marketing task has been outsourced to independent channel members. The securing of channel intermediaries' cooperation and the improvement of the channel effectiveness are thus, fundamental tasks of producers (Mehta, Dubinsky, & Anderson, 2002). The governance of distributors is therefore, decisive for the success of manufacturers (Luo et al., 2001; Dong, Tse, & Hung, 2010) although the selection of specific governance mechanisms remains debated in the scientific community (Huang et al., 2014). As channel management research focuses on inter-organizational relationships, the focus is put on the institutional governance of channel members. Distinct levels within the distributors are usually not the center of governance research although predominantly in brand management studies the management and the salesforce of the intermediaries are highlighted as key groups for the success of the suppliers (Huges & Ahearne, 2010; Badinarayanan & Laverie, 2011; Hughes 2013). Thus, this study explores the influence on performance and social satisfaction of distributors through the use of different governance mechanisms applied to the distributors' management team and salesforce.

## **LITERATURE REVIEW**

Governance or control mechanisms of international marketing channel members are classified from various viewpoints founded in diverse research streams and hence, allow broad interpretations (Zhuang & Zhang, 2011). Appearing noticeably in different research logics, including marketing (Lai, 2007), relational contracting (Zhou et al., 2015), economics (Grewal et al., 2013), and organization theory (Joshi, 2009) the governance construct principally refers to all cooperative and coordinative efforts to manage the business relationship with channel members with the final aim to reach one's own and also common targets (Homburg et al., 2009). A review of the literature pertaining to channel governance highlights the institutional or inter-organizational perspective as the main focus of previous studies (e.g. Dong, Tse, & Hung, 2010; Gilliland, Bello, & Gundlach, 2010; Yang, Su, & Fam, 2012; Grewal et al., 2013; Zhou, et al., 2015). Different governance objectives within the distributor, as the management team or the salesforce, are limitedly in the focus of studies in which operationalized scales predominantly aim at the company relationship level and not at specific distributor individuals. Moreover, several researchers make use of two governance mechanisms frequently complementarily investigated: first control through relational mechanisms and second, the outcome- and/or behavior-based governance efforts guiding the business relationship through information about the performance and activities of the distributor (Gilliland, Bello, & Gundlach, 2010).

The relational control mechanism embraces relational norms and interpersonal socialization (Luo et al., 2011). Hereby, relational norms allow the supplier and distributor to internalize and formalize their activities into accepted practices that finally guide the parameters of the business relationship (Yang, Su, & Fam, 2012). This normative governance is often measured with flexibility, mutual understanding, and problem solving, information exchange, and participation. Interpersonal socialization encompasses personal ties and social activities between representatives of the enterprises in the business relationship (Luo et al., 2011) discouraging opportunism and malfeasance through developed personal bonds (Granovetter, 1985).

The second set of governance mechanisms in channel management research, i.e., outcome- and behavior-based control means, primarily relies on Anderson and Oliver's (1987) conceptualization which draws from theoretical approaches in organizational behavior, economics, and psychology (Baldauf, Cravens, & Piercy, 2005). It conceptualizes a formal management control system that measures the observable consequences of a distributor's actions against predefined required behavior and outcome standards (Grewal et al., 2013). The outcome- and behavior-based control mechanisms are intensively used in research about salesforce control systems (Piercy, Cravens, & Lane, 2012) and could, therefore, be also adapted at a personal level in the inter-organizational research. Reviewing the channel marketing literature, however, indicates that usage of these governance mechanisms is only given at a company level and not at an individual level.

Summing up, individual target groups are rarely addressed in studies involving channel governance mechanisms. In brand management research, however, the importance of the distributors' salesforce is highlighted as a success factor of the supplier (Badrinarayanan & Laverie, 2011). Above, Hughes and Ahearne (2010) emphasize the channel member's management team as the primary point of interaction and control. Although the distributor's managers exercised control over the brand effort of their own sales staff the channel member's salespeople identify themselves more or less with the supplier's brand leading to additional effort for the supplier (Hughes & Ahearne, 2010). Therefore, Hughes (2013) emphasizes that suppliers should proactively manage brand perceptions of the salesforce of distributors. Hence, governance mechanisms of manufacturers may be targeted at these two levels, i.e., the distributor's management team, and their salesforce to ultimately increase the performance for the supplying manufacturer.

## **GOVERNANCE MECHANISMS AND THEIR EFFECTS**

This paper aims to contribute to international channel marketing research by focusing on the channel governance mechanisms targeted specifically on two distinct levels within the distributor's organization, i.e., on the management team and sales force. Manifold studies examine the effects of channel governance mechanisms on perceived channel performance (e.g., Gundlach & Cannon, 2010 or Yang, Su, & Fam, 2012). Above, the effects of control systems on social satisfaction with the channel relationship is another investigated phenomenon (e.g., Gençtürk & Aulakh, 2007; Dong, Tse, & Hung, 2010). Therefore, this study explores the influence of relational and the outcome- and behavior-based governance mechanisms on the channel performance and social satisfaction with the channel relationship.

### ***Governance mechanisms targeted at the distributor's management team***

Huang, Cheng, and Tseng (2014) point out that the effects of governance mechanisms on performance remain discussed in academia. However, various studies manifest a positive relationship between normative control mechanisms and the performance of the distributor for the supplier (Cannon, Achrol, & Gundlach, 2000, Jap & Gensan, 2000, Gençtürk & Aulakh, 2007, Huang, Cheng, & Tseng, 2014). As these studies are established within an interfirm approach, and one main locus of contact for suppliers is the distributor's management team (Luo et al., 2011) – e.g. for negotiating contracts or discussing channel programs (Coughlan et al., 2006, p. 205) – we expect a positive relationship between the normative governance of the management team and the performance of the distributor. Moreover, Dong, Tse, and Hung (2010) detect a positive effect of normative governance and social satisfaction if the governance philosophies of the two-channel partners are similar. Hughes and Ahearne (2010) accentuate hereto that the governance activities of the manufacturer need to be aligned with the

distributor's control activities exercised by the distributor's management team. Hence, we argue that the normative control of the distributor's management team has finally a positive impact on the social satisfaction with the business relationship, too. Thus:

**H<sub>1</sub>:** *Higher normative control of the distributor's management team results in a) higher performance and b) higher social satisfaction.*

Concerning interpersonal socialization, Peng and Luo (2000) figured out a positive effect on the affective commitment of the parties leading to a cooperative relationship. Luo et al. (2011) manifest this social bonding, particularly among managers of both parties involved. del Bosque Rodríguez, Agudo, and San Martín Gutiérrez (2006) and Skarmeas, Katsikeas, and Schlegelmilch (2002) have also shown that the distributor's commitment has a positive impact on economic performance and relationship satisfaction. Hence, we postulate that interpersonal socialization addressed to the distributor's management team has a positive influence both on performance and on satisfaction with the relationship. Thus:

**H<sub>2</sub>:** *Increased interpersonal socialization with the distributor's management team results in a) higher performance and b) higher social satisfaction.*

Regarding the effects of more formal or hierarchical governance mechanisms, as behavior- and outcome-based control a consistent picture does not emerge. However, various studies (Grewal et al., 2013; Bello & Gilliland, 1997) highlight either a positive or a moderated relationship with distributor performance. Conversely, Inkpen and Currall (2004) detect that trust emerges more slowly if formal control is too excessive in inter-organizational cooperation. Del Bosque Rodríguez, Agudo, and San Martín Gutiérrez (2006) add that trust is positively related to social satisfaction. Therefore, we postulate that there is a positive relationship between behavior- and outcome-based governance mechanisms and performance but a negative influence on social satisfaction when applying this control mechanism on the management team. Thus:

**H<sub>3a</sub>:** *Increased outcome- and behavior-based control of the distributor's management team result in higher performance.*

**H<sub>3b</sub>:** *Increased outcome- and behavior-based control of the distributor's management team result in lower social satisfaction.*

### ***Governance mechanisms targeted at the distributor's sales force***

When governance mechanisms are targeted at the sales force of the distributor additional aspects have to be taken into consideration. As the distributor is an independent legal entity, formal authority relationship with the distributor's salespeople are not provided for the supplier leading to no direct control of their activities (Celly & Frazier, 1996). Moreover, there is little performance transparency given which make monitoring and assessing of results of distributor's individual salespersons impossible for the supplier. Piercy, Cravens, and Lane (2012) point out that level of control and control competencies directly influence the performance of salespeople who are a central success factor for the supplier (Badrinarayanan & Laverie, 2011). Due to this lack of formal control the manufacturer needs to rely on informal governance possibilities of the distributor's sales force. Regarding this, the supplier's employees can communicate openly, behave flexibly and support the sales force of the distributor in solving their problems as well as socializing with them (Huang Cheng, & Tseng, 2014; Liu et al., 2008). Hence, the manufacturer can try to govern the distributor's sales force primarily through relational control mechanisms. However, as social identity theory predicts (Tajfel & Turner, 1986) sales people's identification with their employer will be associated with their attitudes and behaviors (van Dick et al., 2006) and result in a behavior which is consistent

with the interests of their employer (van Knippenberg & Sleebos, 2006). Therefore, Hughes and Ahearne (2010) highlight that control mechanisms targeted at the distributor's sales force need to be discussed with their management team and should be aligned with internal control activities set by the distributor's management team. As relational control of the distributor has a positive effect on performance and social satisfaction (del Bosque Rodríguez, Agudo, & San Martín Gutiérrez, 2006) we assume that normative control of and interpersonal socialization with the distributor's management team mediate the effects of control activities applied to the sales force and performance or social satisfaction. Thus:

**H4:** *Normative control of the distributor's sales force is indirectly related to a) performance and b) social satisfaction, mediated by normative control of the distributor's management team.*

**H5:** *Interpersonal socialization with the distributor's sales force is indirectly related to a) performance and b) social satisfaction, mediated by interpersonal socialization with the distributor's management team.*

### ***Relationship between social satisfaction and performance***

Although business-to-business relationship performance is separated into financial and non-financial performance (O'Toole & Donaldson, 2002) the ultimate aim of channel relationships is considered to be economic performance (Noordewier, John, & Nevin, 1990). However, satisfaction is decisive in a channel relationship, too (Lai, 2007). Focusing solely on economic results may undermine the satisfaction with psychosocial aspects of the relationship (Geyskens & Steenkamp, 2000). On the other hand, being satisfied with the social outcomes of a relationship – i.e. to appreciate the contacts with the distributor, to value the cooperation on a personal level and to be convinced that the distributor is concerned and respectful (Geyskens, Steenkamp, & Kumar, 1999) – lead to a positive affective response on the relationship between the partners (Frazier, Gill, & Kale, 1989) and hence, result in a higher likeliness of enhanced performance. Ramaseshan, Yip, and Pae (2006) show that improving social satisfaction results in higher commitment and finally better strategic performance. Lai (2007) additionally proves the direct positive relationship between social satisfaction and performance. Therefore, we infer that higher social satisfaction should lead to better performance.

**H6:** *Social satisfaction has a positive effect on performance.*

Figure 1 summarizes the conceptual framework of the hypothesized relationships between the different control mechanisms – applied to the distributor's management team and sales force – and performance as well as social satisfaction.

## **METHODOLOGY**

### ***Study setting***

The empirical context for this study is the Austrian machinery and equipment manufacturing sector. This sector was chosen because of its technological innovativeness, small- and medium-sized company structure characteristics (Statistik Austria, 2015a; 2015b), and a global export rate of 85% (Lang 2015). Additionally, the sector is of enormous importance for the European Union concerning employment and monetary value-adding (Eurostat 2018). Moreover, the entire sector is facing increased global competition from emerging markets specifically Asian countries (Staffa, & Daniels, 2018; Commerzbank, 2014). The channel relationships within this sector tend to be further categorized by tough locally-rooted distributors selling multiple product lines and brands with a high level of autonomy and hence, limited supplier power (Gilliland, Bello, & Gundlach, 2010).

### ***Fieldwork, pre-test, data collection and sample characteristics***

A national sample of machinery and equipment manufacturers was drawn from the Austrian public statistical publications (Statistik Austria, 2015a; 2015b) identifying a population of 1325 Austrian companies belonging to the sector class (NACE 28) of the statistical classification of economic activities in the European Community (European Commission, 2008). Following the procedure of Brennan, Turnbull, and Wilson (2003) a random sample of 485 firms was generated from a computer database of a commercial list broker and lists of the Austrian chamber of commerce. As the export of machines can also be realized without distributors (e.g. through wholly-owned subsidiaries) expertise of a public machinery manufacturing cluster organization was requested to clean the sampling list. Further, three specialist trade fairs were visited to identify possible firms and key informants, too. From the resulting list, 210 company representatives at board or head of sales management level were contacted via telephone or personally to introduce the study and identify the focal distributor and adequate key informants following the approach of Bello and Gilliland (1997). Similar to the study of Bello and Gilliland (1997) 25% of these firms did not export via distributors. A further 20 companies refused to participate, leading to 129 participating firms that represent approximately 13% of the Austrian machinery and equipment manufacturers exporting via distributors. After cleaning the sample from a few unengaged respondents and those who only have a relationship with the management team and no access to the distributor's sales force a sample of 120 data sets resulted for further processing. Following Anderson and Narus (1990) the channel relationship to be investigated was identified together with the respondents. The fourth-largest-turnover partner was selected as the focal distributor to reduce "positive evaluation bias" (Bello & Gilliland, 1997). This was necessary "to avoid potential restriction in range problems and to facilitate obtaining variation in the relationships studied" (Anderson & Narus 1990, p. 46). This viewpoint has been confirmed by our field research too as export managers inclined to describe their first and second-biggest partners as "best" and their fourth-ranked distributor as rather "typical." Due to the variety of machinery and equipment manufacturers (i.e., small, mid-sized and large enterprises) the key informant of the manufacturers responsible for the identified distributor-relationship were salesperson, project managers, area sales or export managers, international channel managers, sales and marketing directors and general managers. In line with the survey administration guidelines of Diamantopoulos and Schlegelmilch (1996) a short, personalized email was sent to the participants, briefly explaining the research study and guaranteeing absolute confidentiality and a copy of the report at the end. A small-scale pretest (n=5) was used to examine the practicability and interpretability of the items which led to a fine-tuning and quality improvement of the standardized questionnaire concerning length, understandability and adequacy for the channel relationships. In the questionnaire design

further measures were set to evaluate the key informant competences and to reduce common method bias (Podsakoff et al., 2003). Therefore, the questionnaire included post-hoc competency questions, revised answer formats, various scale lengths, and explicit notices that there are no “wrong” or “right” answers possible (Söhnchen, 2009, pp.143). The survey methodology was predominantly personal interviews (84%) combined with telephone interviews (16%) to guarantee a high response rate (Diekmann, 2009, pp. 437) conducted by 7 interviewers to reduce interviewer bias. Non-response bias was evaluated by comparing early to late responses (Armstrong & Overton, 1977). The t-tests indicated no difference between the two waves of respondents. Hence, non-response bias is not seen to be a serious concern. Because of the data collection process utilized, common method variance may be an issue (Klarner et al., 2013) and hence, Harman’s single-factor-test was calculated. As the first factor, extracted with principal axis factoring without rotation counted for only 26% of the overall variance, no general apparent factor could be identified. Thus, it is unlikely that common method variance influences the results and seems to be of no critical concern for this study (Podsakoff & Organ, 1986).

### ***Measures***

For all latent constructs existing scales from the literature were used and if necessary, adapted to the two specific foci within the distributorship (i.e., on the management team and sales force). The measurement items, factor loadings, and psychometric properties are presented in table 1. Unless otherwise noted, all items are reflective and measured on seven-point Likert-type scales, ranging from “strongly disagree” to “strongly agree.” The exogenous constructs for two relational governance mechanisms were taken from Luo et al. (2011) as they include both aspects of normative control and interpersonal socialization in their multi-item construct. The item “information exchange” from Heide and John (1992) was additionally enclosed to the normative control construct as this aspect supplements the operationalized norms of flexibility, solidarity, and participation of Luo et al. (2011). However, the relational governance mechanism is not operationalized as one composite construct but measured with the two constructs in isolation following Zhou et al. (2015). The more regulative governance mechanisms of outcome- and behavior-based control were adapted from salesforce control (SFC) research and came from Panagopoulos, Johnson, and Mothersbaugh (2015). Thereby, the governance constructs could be adjusted to the individual level of interest, i.e., for the management team of the distributor. This measurement adaptation was also plausible because both, the (interpersonal) SFC constructs and the (inter-organizational) channel management constructs (Bello & Gilliland, 1997; Grewal et al., 2013) rely on the operationalization from management control research, specifically on the work of Jaworski and MacInnis (1989). Various authors (Joshi, 2009; Grewal et al., 2013) set outcome- and behavior-based control constructs in isolation, investigating their individual effects on endogenous constructs. However, Panagopoulos and Avlonitis (2008) showed strong statistical evidence for a second-order factor structure, which is also in accordance with the conceptual definitions of Anderson and Oliver (1987). Hence, we conceptualized outcome- and behavior-based control mechanisms into a second-order construct.

The endogenous construct of social satisfaction came from Geyskens and Steenkamp (2000), and the performance constructs from Kumar, Stern, and Achrol (1992) which are widely used in channel-management research.

### ***Method***

The methodological choice of a partial least squares’ structural equation modeling (PLS-SEM) reflects the aim of this study and the restrictions of data collection. Our goal is to contribute to

the channel governance research by taking a new perspective through the switch from an inter-organizational approach to an attempt to explain governance mechanisms applied to individuals within the distributor organization. Because of this exploratory nature, we selected the PLS-SEM technique that is a particularly useful multivariate analysis method and increasingly utilized in international marketing research (Henseler, Ringle, & Sinkovics, 2009). The strengths of this variance-based SEM approach are its low sensitivity to small sample sizes and to distribution-free data characteristics (Reinartz, Haenlein, & Henseler, 2009) and its appropriateness for complex model set-ups (Hair, Ringle, & Sarstedt, 2011) as it is the case in this study.

## **ANALYSES AND RESULTS**

### ***Model estimation and results evaluation***

By the use of the statistical software SmartPLS (Ringle, Wende, & Becker, 2015) the path model computation and parameter estimation were accomplished (Henseler, Ringle, & Sinkovics, 2009). In assessing and documenting the results, the guidelines for PLS-SEM given by Chin (2010), Hair et al. (2017a) and Hair et al. (2017b) were applied. Following these guiding principles, the measurement model was evaluated before assessing the structural model. According to Hair et al. (2017b, pp. 53) the repeated indicator approach with factor weighting scheme applying Mode B was used for parameter estimation as the model consists of reflective measured lower-order constructs (outcome-based and behavior-based control) pointing formatively at the higher-order construct (outcome-/behavior-based control). The repeated indicator method estimates all constructs simultaneously and, therefore, takes the entire nomological network into account and avoids interpretational confounding (Becker, Klein, & Wetzel, 2012). To assess the structural model, the nonparametric bootstrapping method with 5,000 resamples was executed. Finally, indirect effects were assessed in order to identify expected and unexpected mediation influences (Hair, Ringle, & Sarstedt, 2013). Figure 2 illustrates the path model conceptualized in SmartPLS 3.2.8 for assessing all hypothesized relationships.

### ***Measurement model***

The assessment of the measurement model followed the standard evaluation criteria (Hair et al., 2017a) and supports reliability and convergent validity through the measures of outer loadings, composite reliability (CR) and average variance extracted (AVE). Items below the required cut-off values were deleted (Table 1). Discriminant validity was evaluated through indicator cross-loadings and the Fornell-Larcker-criterion (Fornell & Larcker, 1981). Each indicator's outer loadings surpassed its cross-loadings with other constructs, and the square roots of the AVE of every variable was higher than its correlation with any other variable of the model (Table 2). Hence, the measurement model shows satisfactory discriminant validity, too. The formative lower-order constructs were further evaluated regarding significance, relevance, and collinearity. The weights of the constructs, represented by their path coefficients to the higher-order construct (Hair et al., 2017b, p. 51), the t-values (calculated through the bootstrapping procedure) and the variance inflation factor (Hair et al., 2017a, pp. 141) indicate satisfactory relevance, significance and no critical levels of collinearity (i.e. Outcome-based Control: weight = 0.566; t-value 21.229; VIF = 1.850; Behavior-based Control: weight = 0.524; t-value 20.217; VIF = 1.850).

### ***Structural model***

A bootstrapping method with 5,000 resamples was used to assess path coefficients' significance. Table 3 shows the corresponding values. Governing the distributor's management

team with normative control mechanisms did not have a significant influence on performance (H1a,  $\beta = -0.008$ , n.s.) but was positive and significantly related to social satisfaction (H1b,  $\beta = 0.227$ ,  $p < 0.10$ ). The interpersonal socialization with the management team showed a positive and significant effect on performance (H2a,  $\beta = 0.294$ ,  $p < 0.05$ ) but not on social satisfaction (H2b,  $\beta = -0.025$ , n.s.). The hypothesis for the outcome- and behavior-based control of the management team and performance was supported too (H3a,  $\beta = 0.197$ ,  $p < 0.05$ ). However, there is no evidence for a significant negative influence on social satisfaction (H3b,  $\beta = -0.086$ , n.s.).

Regarding the mediation of the relational governance mechanisms applied to the distributor's sales force through the distributor's management team, two hypotheses were supported. Normative control of the sales force was indirectly related to social satisfaction being mediated by normative control of the management team (H4b,  $\beta = 0.091$ ,  $p < 0.10$ ). Interpersonal socialization with the sales force has an indirect positive effect on performance being mediated by interpersonal socialization with the management team (H5a,  $\beta = 0.178$ ,  $p < 0.05$ ). Both indirect effects represent a full mediation as the direct effects are not significant. It means that the mediating governance mechanisms applied to the management team fully absorb the effects of the same control mechanisms targeted at the sales force and completely pass or hinder their influence on social satisfaction and performance (Nitzl, Roldan, & Cepeda, 2016). However, no evidence was found for the other two hypothesized mediating relationships (H4a,  $\beta = -0.003$ , n.s.; H5b,  $\beta = -0.015$ , n.s.). Finally, the proposed positive influence of social satisfaction on performance was confirmed (H6,  $\beta = 0.328$ ,  $p < 0.01$ ). Figure 3 depicts the model with all significant paths.

In order to measure the in-sample predictive power of the structural model,  $R^2$ -values were calculated with an  $R^2$  of 0.11 for social satisfaction and 0.20 for performance. For the interpretation of the  $R^2$ -values, Döring and Bortz (2016, p. 54) point out that these should be compared to previous similar content-related research. Due to the exploratory nature of this study comparable  $R^2$ -values are missing. Hence, the commonly used reference values of Cohen are used indicating a minor predictive power level for the construct social satisfaction and a moderate level for performance (Döring & Bortz, 2016, p. 820). With these  $R^2$ -values, the given sample size and the number of paths pointing at the endogenous constructs, the statistical power was further calculated with a post-hoc statistical power test (Soper, 2017) showing sufficient power for the analyzed model, i.e.  $>80\%$  with an 0.05 error probability level (Döring & Bortz, 2016, p. 811). Further, Stone-Geisser's  $Q^2$  was calculated to evaluate the out-of-sample predictive relevance of the model (Geisser, 1974; Stone, 1974).  $Q^2$ -values were obtained by using the blindfolding procedure with an omission distance of 7. Both endogenous constructs show value above 0 (with 0.03 for Social Satisfaction and 0.12 for Performance) that indicate sufficient predictive relevance for all endogenous constructs (Hair et al., 2017a, pp. 202).

## **DISCUSSION AND FINDINGS**

As globalization is leading to increased competition from emerging economies in the machinery and equipment manufacturing sector (Staffa, & Daniels, 2018; Commerzbank, 2014) companies selling globally through independent distributors need to continuously optimize their coordinative and regulative governance mechanisms for channel members in order to reach marketing targets (Homburg et al., 2009). This study contributes to the governance research by putting a focus on the target groups within the distributor organization, specifically on the management team and the sales force of the distributor. The results of the empirical study highlight that controlling the management team is the key to increased satisfaction with psychosocial aspects of the relationship and for improving performance. However, only the normative governance mechanism influences social satisfaction if applied to the management team. Hence, being flexible in unexpected situations, mutually sharing information and having a problem-solving attitude to the distributor's management team improves satisfaction with the relationship but has no impact on performance. On the other hand, an outcome- and behavior-based control of the management team and socialization at this level can positively change the performance but not affect the degree of social satisfaction.

Concerning the governance of the distributor's salesforce, the results show a different picture. Despite the significant role of the distributor's sales force for the manufacturer's success (Badinarayanan & Laverie, 2011), this study shows that governance mechanisms do not directly influence performance nor social satisfaction if applied to this group. Control activities that can improve performance and social satisfaction need to be aligned with the mechanisms set for the management team. This confirms Hughes' and Ahearne's call (2010) for alignment of the manufacturer's and distributor's control mechanisms. The results of this study indicate that the effects of control mechanisms targeted at the sales force are fully mediated by activities targeted at the management team. Similarly, interpersonal socialization with the sales force can only indirectly influence performance whereas normative control only indirectly impacts social satisfaction. Finally, this study shows that higher satisfaction with psychosocial aspects of the relationship improves performance, too. In this regard, further implications for research and practitioners can be drawn.

### ***Theoretical implications***

This paper has developed a different channel governance approach through the perspective of who is influenced by internationally operating manufacturers. The investigation at different levels within the distributorship are notably underrepresented in current channel management studies. The results of this study show that it makes a difference if the institution "distributor" is governed (i.e., inter-organizational governance) or distinct groups within the distributor are key target subjects. This study further extends existing governance measures through the operationalization of SalesForce Control research. Findings from intra-organizational Sales Force Control are also indicated in the inter-organizational discipline. Concerning this aspect, the lack of direct control competence of the manufacturers over the distributor's sales force, hinders a direct influence on performance or social satisfaction. However, this lack of control can be overcome if the manufacturer simultaneously governs the distributor's management team with the same mechanism and hence, indirectly influences the sales force. Additionally, the study separates relational control into normative control and interpersonal socialization and shows that the first has an impact on social satisfaction, whereas the second positively influences performance.

### ***Managerial implications***

The findings of this study emphasize that channel managers need to be aware of the different governance mechanisms and their effects. If internationally operating companies want to improve the performance of the distributor, they can use outcome- and behavior-based control mechanisms for the management team and socialize with them. Additionally, this effect is strengthened if they socialize simultaneously with the distributor's sales force. If they want to improve psychosocial aspects of the relationship normative governance of the distributor's management team is the best. Again, a simultaneous application of this mechanism on the sales force increases this effect. A sole focus on the sales force does not lead to any improvement. Hence, the alignment of control mechanisms, together with the management team of the distributor is strongly recommended. Finally, managers need to be aware that being unsatisfied with the relationship will deteriorate performance. Hence, they should have an eye on the psychosocial aspects of the relationship, too.

### ***Limitations and further research***

Regardless of its merits, this study has certain limitations that provide an avenue for further research. First, despite the notable participation of Austrian machinery and equipment manufacturers, the selection of one sector and the few participating companies limit the sample size and as well the generalizability of the findings. Further research with bigger samples could be beneficial for verifying the findings and detecting smaller effects. Second, all the data were collected from a single source. However, common methods analysis did not indicate a single source or subjective measurement bias disturbances. Multiple responses to the same distributor relationship would offer better design characteristics and reduce potential respondent bias. Third, the endogenous construct performance is subjectively evaluated and operationalized. Plouffe, Bolander, and Cote (2014) hereto, point out that the objective performance in sales simple cannot be exchanged through a subjectively perceived assessment. Despite this limitation, the study followed Li and Dant's (1997) postulation that the subjectively described evaluation of the channel performance has a significant influence on the success of the channel relationship itself. Therefore, a validation of the findings through the inclusion of objective performance measures could be an advisable next step.

Fourth, the study focused only on two levels within the distributorship, i.e., the management team and the sales force. Investigations, including additional departments of intermediaries such as service personnel may contribute to a better understanding of whom to influence and with which mechanisms especially in the field of business-to-business. Fifth, the findings of this study indicate no impact of governance mechanisms applied to the sales force on the final performance. However, Hughes and Ahearne (2010) have shown that the identification of salespersons with the manufacturer's brand positively affects performance. Therefore, distinct governance approaches such as influencing strategies may contribute to a better understanding of the possibilities for manufacturers to win over the distributor's salesforce to improve the final performance.

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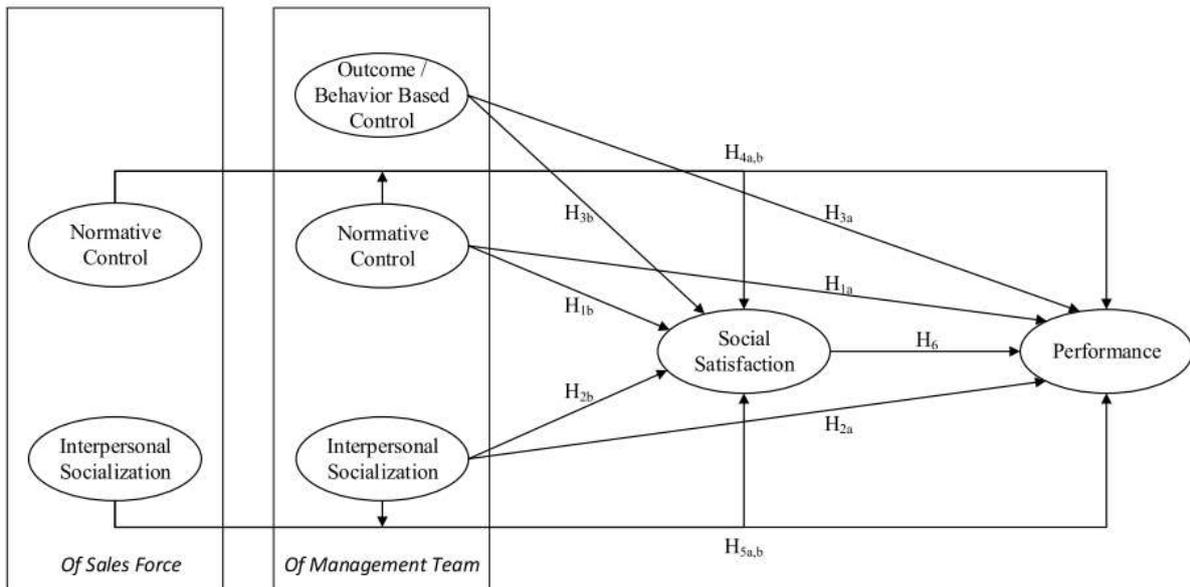
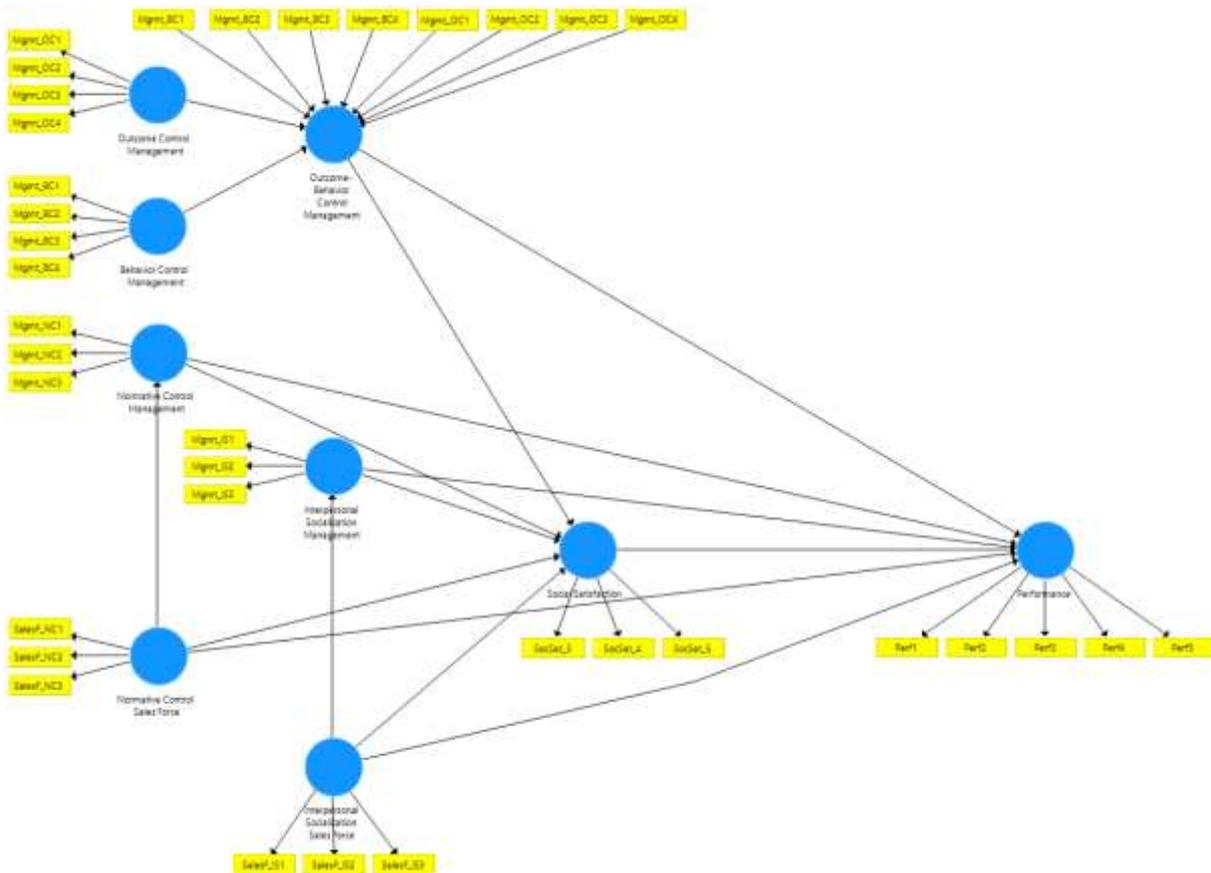
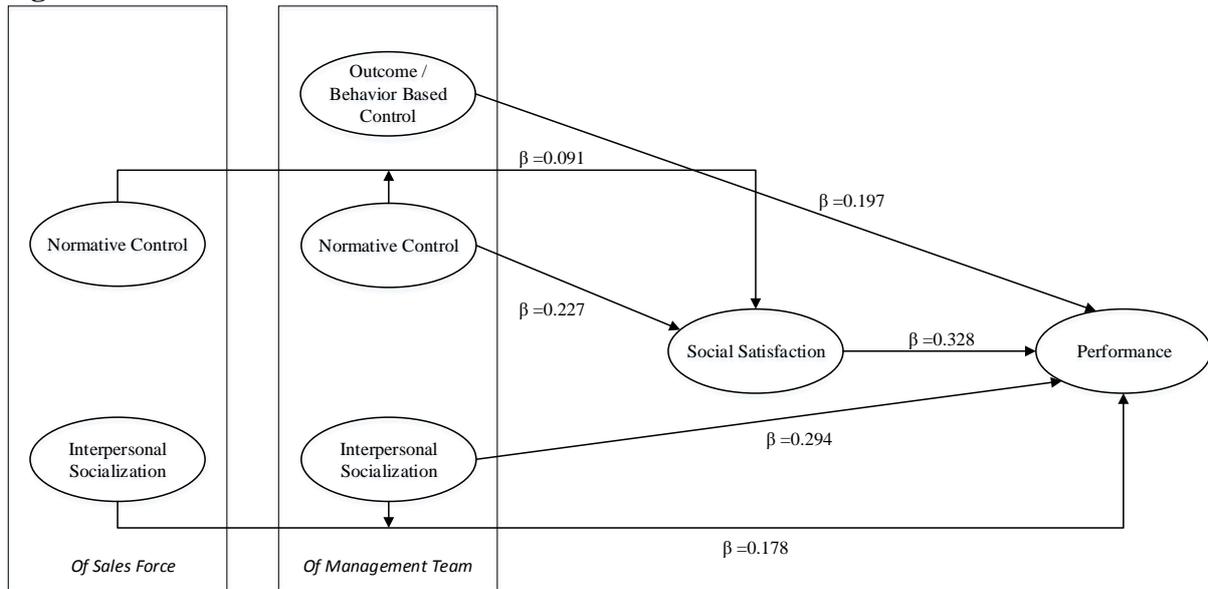


Figure 1: Conceptual Model

Figure 2: Path model conceptualization with repeated-indicator approach in SmartPLS



**Figure 3: Final model**



**Table 1: Measurement items, factor loadings and psychometric properties**

Construct	FL
<b>Outcome-based Control – Management (CR = 0.912; AVE = 0.722)</b>	
We provide specific sales and marketing objectives for the sales partner which we communicate to management.	0.852
We monitor the extent to which the management of the sales partner fulfils the performance objectives.	0.852
If the performance targets are not fulfilled by the sales partner, the management is asked to explain the discrepancy.	0.825
We give the management of the sales partner feedback on the degree of fulfillment of the performance targets.	0.868
Extra payments / conditions to the sales partner are linked to the fulfillment of performance targets.	D
<b>Behavior-based Control – Management (CR = 0.842; AVE = 0.572)</b>	
We observe if and how the management of the sales partner implements marketing and sales activities for our products.	0.713
We evaluate / assess the marketing and sales activities of the management of the distribution partner for our products.	0.780
When desired sales and marketing results of the sales partner are not obtained, we try to influence the management of the sales partner to modify their procedure.	0.795
We give the management of the sales partner feedback about how they are to achieve sales and marketing goals.	0.734
<b>Normative Control – Management (CR = 0.808; AVE = 0.586)</b>	
The management of the sales partner and we are flexible enough to provide a common response to unexpected serious cases.	0.705
In this relationship, it is expected that both sides - that is the management of the sales partner and we provide any available information (e.g. also confidential information) to the other if this could be of help.	0.730
The management of the sales partner and we cooperate with each other to solve problems, regardless of which side caused the problem.	0.853
The management of the sales partner plays an active role in the decisions we make with regard to the sale and marketing of our products in the distributor's market.	D
<b>Interpersonal Socialization – Management (CR = 0.866; AVE = 0.684)</b>	
We and the management of the sales partner know one another well through frequent meetings.	0.776
We and the management of the sales partner invite each other to common social events and meals.	0.798
We and the management of the sales partner often visit each other's companies.	0.901
<b>Normative Control – Sales Force (CR = 0.908; AVE = 0.767)</b>	
Individual or multiple sales persons of the sales partner and we are flexible enough to provide a common response to unexpected serious cases.	0.853
In this relationship it is expected that both sides - that individual or multiple sales persons of the sales partner and we provide any available information (e.g. also confidential information) to the other if this could be of help.	0.879
Individual or multiple sales persons of the sales partner and we cooperate with each other to solve problems, regardless of which side caused the problem.	0.895
Individual or multiple sales persons of the sales partner play an active role in the decisions we make with regard to the sale and marketing of our products in the distributor's market.	D
<b>Interpersonal Socialization – Sales Force (CR = 0.917; AVE = 0.786)</b>	
We and individual or multiple sales persons of the sales partner know one another well through frequent meetings.	0.853
We and individual or multiple sales persons of the sales partner invite each other to common social events and meals.	0.911
We and individual or multiple sales persons of the sales partner often visit each other's companies.	0.895
<b>Social Satisfaction (CR = 0.758; AVE = 0.512)</b>	
The working relationship of my firm with this sales partner is characterized by feelings of hostility. (R)	D
This sales partner expresses criticism tactfully.	D
Interactions between my firm and this sales partner are characterized by mutual respect.	0.655
This sales partner leaves me in the dark about things I ought to know. (R)	0.753
This sales partner refuses to explain the reasons for its (sales/marketing) policies. (R)	0.735
<b>Performance (CR = 0.918; AVE = 0.692)</b>	
If I had to give the sales partner a performance appraisal for the past year, it would be (poor – outstanding; 5 point Likert)	0.834
Taking all the different factors into account, the sales partner's performance has been (bad-couldn't be worse – excellent-couldn't be better)	0.834
Overall, how would you characterize the results of the relationship with the sales partner (has fallen short of expectations – has greatly exceeded our expectations)	0.778
The business with this sales partner has been a highly successful one.	0.919
The sales partner leaves a lot to be desired from an overall performance standpoint. (R)	0.787
Notes: FL = factor loading; CR = composite reliability; AVE = average variance extracted; D = deleted Measurement: 7 point Likert-type scale from strongly disagree (1) to strongly agree (7)	

**Table 2: Correlation matrix**

No.	Construct	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.
1.	Outcome Control_Mgmt	4.29	2.06	0.849							
2.	Behavior Control_Mgmt	4.44	1.76	0.678	0.756						
3.	Normative Control_Mgmt	6.20	1.07	0.048	0.206	0.765					
4.	Interperson. Socialization Mgmt	5.31	1.66	0.399	0.304	0.31	0.827				
5.	Normative Control_SF	5.24	1.85	-0.063	0.04	0.4	0.081	0.876			
6.	Interperson. Socialization SF	4.34	1.87	0.282	0.197	0.214	0.606	0.568	0.887		
7.	Social Satisfaction	6.21	1.11	-0.167	-0.071	0.186	-0.136	0.028	-0.197	0.715	
8.	Performance	4.71	1.06	0.215	0.187	0.159	0.247	-0.006	0.056	0.288	0.832

Notes: SD = Standard Deviation. Mgmt = Management Team. SF = Sales Force. The diagonal values represent the square roots of the AVE.

Construct correlations are documented below.

**Table 3:**

Hypothesis	Path	$\beta$	t-value
<i>Direct control of the distributor's Management Team</i>			
H1a	Normative Control → Performance	-0.008	0.069
H1b	Normative Control → Social Satisfaction	0.227	1.926 <sup>a</sup>
H2a	Interpersonal Socialization → Performance	0.294	2.428 <sup>b</sup>
H2b	Interpersonal Socialization → Social Satisfaction	-0.025	0.166
H3a	Outcome- & Behavior-based Control → Performance	0.197	2.045 <sup>b</sup>
H3b	Outcome-Behavior-based Control → Social Satisfaction	-0.086	0.716
H6	Social Satisfaction → Performance	0.328	2.825 <sup>c</sup>
<b>Mediation effects</b>			
<i>Direct and indirect control of the distributor's Sales Force</i>			
Normative Control of Sales Force → Performance		0.042	0.343
H4a	Normative Control of Sales Force → Normative Control of Management → Performance	-0.003	0.065
Normative Control of Sales Force → Social Satisfaction		0.082	0.589
H4b	Normative Control of Sales Force → Normative Control of Management → Social Satisfaction	0.091	1.811 <sup>a</sup>
Interpersonal Socialization with Sales Force → Performance		-0.133	1.034
H5a	Interpersonal Socialization with Sales Force → Interpersonal Socialization with Management → Performance	0.178	2.358 <sup>b</sup>
Interpersonal Socialization with Sales Force → Social Satisfaction		-0.253	1.607
H5b	Interpersonal Socialization with Sales Force → Interpersonal Socialization with Management → Social Satisfaction	-0.015	0.164

Notes: The t-values are computed with bootstrapping resampling procedure in SmartPLS (120 cases, 5,000 runs); <sup>a</sup>p < 0.10; <sup>b</sup>p < 0.05; <sup>c</sup>p < 0.01.

*Track 03 International Marketing*

**ID #610**

**Institutional actors, policy and internationalization of  
emerging market SMEs: Lessons from AGOA and the  
Ghanaian textile industry**

Irene Kujala (Åbo Akademi University, Finland)  
Richard Owusu (Linnaeus University, Sweden)

**Abstract**

*This study focuses on understanding institutional actors and their roles in internationalization of SMEs from an emerging market to a developed market economy. This paper empirically concentrates on highlighting the roles of the institutional actors of Ghana, the US, and AGOA. Theoretically, the study is limited to the network internationalisation approach (e.g., Johanson & Mattsson, 1988; Johanson & Vahlne, 2009) and the industrial network approach (Håkansson & Snehota, 1995). Methodologically, a longitudinal qualitative case study approach is employed. Theoretically, the present study contributes to business network research by providing an understanding of the process of developing network relationships and their impact in an African context. By focusing on SMEs, a contribution has been made in relation to the advancement of SME research. The expected research findings show the greater importance of institutional actors than has been found in the research regarding firms in developed countries. Institutional actors were essential in the internationalisation process and as sources of exogenous critical events. The results of this study provide implications for management and policymakers especially on how to manage and use network relationships to promote SME internationalisation from newly emerging markets and to implement strategies and policies that could help improve the competitive advantage of African SMEs.*

**Keywords:** Business Network; Emerging market; Critical events; SMEs.

**Acknowledgments**

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*Track 03 International Marketing*

**ID #617**

**Causation and Effectuation: Untangling export marketing and performance of micro and small Brazilian enterprises**

Reynaldo Dannecker Cunha (ESPM, Brazil)

Thelma Valéria Rocha (ESPM, Brazil)

**Abstract**

*In this study, we evaluate how causation and effectuation influence export marketing strategies and export performance of micro and small enterprises (MSE). Some studies have applied these concepts as a dichotomy issue; the novelty is on presenting both theories simultaneously and their impact on the decision-making process of exporting companies. We advance the theoretical conceptualization of international marketing management of MSE and present new connections with previous concepts that either originated in the rational decision of neoclassical microeconomics or rely on cognitive science. Empirically we developed quantitative research, using the survey method, with 110 micro and small companies. The results pointed out a significant effect of causation on product adaptation and of effectuation on product, communication, and price adaptation. Causation was positively associated with export performance. We also identified the importance of maintaining planned, controlled, and result-oriented decisions, as well as having flexibility and experimentation to enhance exportation results. Its applicability is revealed by indicating practices that improve the internationalization of MSE.*

**Keywords:** International Marketing. Export Marketing Strategy. Causation. Effectuation. Export Performance. MSE.

**Acknowledgments**

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*Track 03 International Marketing*

**ID #640**

**The Brazilian franchisors governance mode choice in international markets**

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**Jefferson Ricardo Bretas Galetti** (Universidade Federal do Rio de Janeiro (UFRJ), Brazil)

**Thelma Valéria Rocha** (ESPM, Brazil)

**Abstract**

*This study proposes and tests a Resource-Based Theory (RBT) / Organizational Capability Theory (OCT) model of international franchise governance mode choice. The purpose is to test the impact of system-specific assets (brand name and business know-how), financial assets (financial capacity) and local market assets (geographic distance and business environment distance) in the choice of the governance mode by Brazilian franchisors in foreign markets. Using data from the Brazilian Franchising Association, World Bank and CEPII (Centre d'études prospectives et d'informations internationales), we analyzed two sets of data: first, a sample of 108 observations related to Brazilian franchisors with operations abroad to test the impact of system-specific and financial assets' variables and, second, a sample of 267 observations related to the countries where those 108 franchisors have operations to test the impact of local market assets' variables. The results of logit and probit models reveal that the system-specific assets named brand name and business know-how, the franchisors' financial capacity and the relevance of local market assets due to geographic and business environment distance, impact the choice between high and low control modes. This paper contributes to the literature by using quantitative methods to test and expand the integrative model of international franchise governance mode choice. Besides that, although other studies approach the international franchise governance mode, few studies investigate the topic at the emerging market franchisors standpoint. It also provides a managerial contribution to franchisors which seek international expansion, presenting variables to be evaluated and considered to the international governance mode choice.*

**Keywords:** International franchising; Governance modes; Entry modes; International Marketing; International Business.

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*Track 03 International Marketing*

**ID #654**

## **Arts Entrepreneurship on the international career of artists from emerging economies**

**Mariana Lorca** (ESPM, Brazil)

**Ilan Avrighir** (ESPM, Brazil)

### **Abstract**

*This research aims to analyze how arts entrepreneurship influences the career performance and internationalization of artists from emerging economies, focusing on Brazil. The theoretical framework refers to the phenomenon of entrepreneurship in the core of the arts, more specifically a deep analysis of the concept of arts entrepreneurship in the visual arts, and through a systematic review of literature and the analysis of the properties attributed to the concept, namely arts entrepreneurship, the study makes a significant contribution in the sense of consolidating the theoretical alignment around the theme. The research methodology uses both qualitative and quantitative approaches in the development of multiple case studies and the use of the survey method. Keywords: Art Entrepreneurship; Art; Internationalization; Career Management*

**Keywords:** Art Entrepreneurship; Art; Internationalization; Career Management.

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## **INTRODUCTION**

Modernist and contemporary artists from emerging economies, such as Brazil, have achieved international recognition; their collections have been presented at exhibitions, fairs, and international art galleries, and their art, estimated at millionaire values, have been negotiated and acquired by collectors and renowned art's institutions, in Europe and the United States, such as the Museum of Modern Art in New York (MOMA), and Christie's, Sotheby's and Tatte Galleries in London.

While this broad exposure of national artists has projected them internationally, and brought them to the forefront of the global art market, "taking the work of Brazilian artists out of the country is still a goal for most galleries" (Latitude, 2018).

Although the arguments that art is above all an attribute of personality and talent, and regardless of its origin and nationality, there seems to be a hierarchy of countries represented in international galleries (Quemin, 2006), limited in large part to artists from the USA and European countries, while those from Latin America, Africa, and Asia are poorly represented (Velthuis, 2013).

In the face of this paradox, the discussions emerge, and we ask, what reasons or factors explain the performance and internationalization of artists, especially those in emerging economies, such as Brazil, and how did they achieve this recognition? How can these factors, allied to creativity and talent, explain international career success?

Dimensions that integrate the entrepreneurial process, the entrepreneurial orientation - such as proactivity, innovation, identification of opportunities, and networking - are present in both the artistic and business segments, which justify the adoption of an entrepreneurial perspective in the field of art, the theme of research of this study.

The purpose of this thesis is to analyze "if" and "how" the Arts Entrepreneurship influences the performance and the career's internationalization from artists of Emerging Economies and the trade of their works abroad.

## **RELEVANCE – CONTRIBUTION**

The research will provide an important theoretical contribution in the field of "arts entrepreneurship", since the concept is not consolidated, and it is still being discussed among different authors in the academic literature, with multiple attributes.

Gartner et al. (2015) makes an appeal to the academic community for the development of the concept on Arts Entrepreneurship. The author raises a question of mobilizing research and future contributions to the field: "How do artists organize themselves, both in terms of how they generate art, and how what is produced as art is valued and exchanged?" (Gartner et al., 2015).

## **ORIGINALITY - VALUE**

Although Arts Entrepreneurship has received increasing attention from academic research, there is no knowledge of the use of this theoretical framework to study the international career performance of artists from Emerging Economies and the trade of their works in developed markets.

## **THEORETICAL BASIS**

Entrepreneurship at the core of the arts refers to creativity, the creation of new ventures, innovative behavior, and recognition of opportunities and risks. Such behavior translates into the artistic sphere in self-management and self-realization of the artist in a career direction (Beckman and Essig, 2012). In line with this precept, Entrepreneurship and Art Management resemble each other; both involve the attributes of the entrepreneur, the process of creation, innovation and combination of resources and the generation of value - artistic, economic and social (Taylor et al., 2015, Chang and Wyszomirski, 2015).

## **INTENDED DESIGN / METHODOLOGY / APPROACH**

### **FIGURE 1 HERE**

The qualitative and quantitative approach foreseen in this thesis will carry out two empirical studies. The first will be a multiple case study and the second a survey.

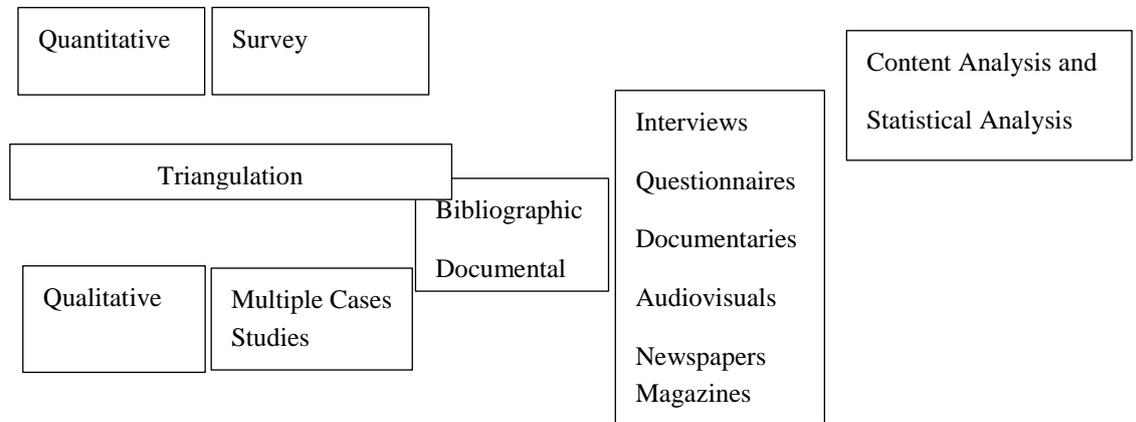
In the first study, there will be developed eight multiple case studies with eight artists from Brazil, using as theoretical reference the taxonomy of components from Arts Entrepreneurship (Chang and Wyszomirski, 2015). In the literature review, this taxonomy was the most promising breakthrough in the sense of identifying variables that

allow us to analyze the Arts Entrepreneurship, and establish empirically verifiable propositions. The multiple case studies will allow to broaden and consolidate the Chang and Wyszomirski (2015) taxonomy and to derive propositions that would be tested in the next study.

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Figure 1 - Methodological Path  
Source: Author (2019)



*Track 03 International Marketing*

**ID #659**

**Value redistribution in the phonographic industry's supply chain  
after the music's digitization**

**Alan Jezovsek Kuhar** (ESPM, Brazil)

**Abstract**

*The music industry has suffered a decline in its revenues year after year since 1998, the year that marked changes on the way to produce, distribute, sell, and consume music as a result of music digitization. The music is part of popular culture for centuries, and since 1877, when Thomas Edison invented the phonograph, different music equipment was spread throughout the world, developing the musical supply chain. The music digitization is an innovation that changed the standards of this industry, allowing the music to segregate the physical format. Access to almost zero cost music among a multitude of songs changed the logic of the music industry. This new format demands new knowledge and relationship among the participants in the music industry, changing the value distribution across the supply chain. The objective of this paper is to evaluate the value change of music distribution among the members of this supply chain, comparing pre and post music digitization. The result certifies changes in value distribution among the participants of the phonographic supply chain.*

**Keywords:** Music Industry; Supply Chain; Music Digitization; Value Distribution.

**Acknowledgments**

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## **INTRODUCTION**

Since the end of the twentieth century, with the possibility of exchanging music through digital files, the music industry supply chain began to develop a new format of relationship that affected industry, artists, consumers, and music itself, altering significantly the structure of this industry (Vargo and Lusch, 2004).

Before the music was digitized, the consumer usually went to a retail store that sells physical music media such as cassettes, LPs, and CDs to get in touch with releases and purchase music. The power and control of the supply chain was primarily in the hands of the labels that selected the musicians to be promoted and the distribution channels that would operate. It was a closed system with almost no room for new entrants or even for consumers (Hardaker and Graham, 2001).

The digitization of music, the popularization of the Internet as well as the gain in the capacity and speed of data transmission between computers has created a new opportunity for music consumers: sharing digital files at almost zero cost between people without the need for a physical media, no longer depending on a retailer network and the record label's control, changing the relationship between participants in the music supply chain (Lewis, Graham and Hardaker, 2005).

The music industry market can be broken into nine stages, starting with the Thomas Edison phonograph in 1877. The last two stages emphasize factors that catalyze changes in the relationship between participants in the supply chain music industry, which they call liquid music, for the lack of physical media to play music, as presented in Table 1 (Ordanini and Parasuraman 2012).

The moment that highlights the rupture of habits and relationship with music from its digitization was promoted by the gathering of some factors that ended up developing a new custom, the exchange of digitized songs. Napster and other similar sites, access and consumption of computers, digital file compacting software and broadband Internet access; these four factors allowed for the exchange of peer-to-peer files almost instantly, making it a new way to consume music at almost zero cost (Ordanini and Parasuraman, 2012).

This article aims to compare the redistribution of value in the supply chain of the music industry after the music digitization through exploratory research, allowing to infer which participants of this productive chain lost value and which gained value after digitized.

## **RESEARCH PROBLEM**

Supply Chain Management has become a field of functional studies that allows researchers to investigate different phenomena in fields such as strategy, distribution, processes, and services. The research problem within the field of Supply Chain Management should have some characteristics such as being explicit, clear and possible to be backed by a theoretical repertoire, as well as being able to awaken the need for a greater discussion on the subject (Forza, 2002).

The research problem is the starting point of a process that relates data, theory, literature, and objective to be verified, bridging concepts, constructs, and evidence (Eisenhardt and Graebner, 2007).

To assist to define the research problem of this paper, there are changes in the sources of billing in the music industry, with a decrease in sales of physical media and an increase in the sale of music through digitalized formats at the turn of the 21st century, mainly with the use of the Internet.

This research has as object of study the phonographic industry; using as a temporary rupture and comparative basis of this industry the advent of the digitization of music, more precisely, the year 1998, which was the year of highest revenue in the history of the world music industry, reaching 27.3 billion US dollars (source: IFPI - International Federation of the Phonographic Industry, 2012). These are the starting points for the formulation of the objective of this paper:

Estimate the distribution of value among participants in this supply chain between the two periods (pre and post-digitized music) through the consumer's disbursement arrangement. In order to develop this study, the present work intends to answer the following question of research: To assess what the distribution of value among the actors of this industry before is and after the music digitization.

### ***General objective, specific objective, and hypothesis***

This research aims at estimating the distribution of value among the actors in the supply chain of the music industry, which was reorganized due to the decrease in music sales through physical media and increased sales of music in digital format, using the point from the viewpoint of the consumer, since this member of the supply chain is the last participant actor that determines the demand for the product or service.

Specifically, it is intended:

Evaluate the appropriation of value and its redistribution in the supply chain of the music industry.

Hypothesis: Musicians and consumers get hold of most of the value of the music industry's supply chain after music digitization.

## **METHODOLOGY**

When initiating the process of development of methodological aspects, all research must be developed and organized according to a research project, which seeks to gather empirically observed data and the initial questions of study, using rational bases and sources following that make it possible to construct a logical sequence that sustainable conclusion (Yin, 2005).

There are two approaches to scientific research: quantitative, which has a broader point of view, based on analysis of data and information usually obtained in questionnaires, demanding the interview of people belonging to a representative sample of the study area. The second approach is to qualitative, which has a more specific point of view, using instruments that require the inference of the researcher along with the development of the approach when evaluating phenomena and to obtain answers for their hypotheses (Yin, 2005).

This study seeks to examine the elements of the distribution of the value of the music industry that has been altered by music digitization, exploring the following theories that are related to the theme: supply chain management, information's economy and value distribution.

The object to be studied is the Phonographic Industry and the timing selected to estimate the redistribution of revenues is the digitalization of music, which led to a decrease in the revenues of the music industry and the development of new distribution channels. The year 1998 was selected as a cut-off point between the moments analyzed in this research since the year 1998, according to IFPI - International Federation of the Phonographic Industry, was the peak of the historical turnover of the world music industry, reaching US\$ 27.3 billion in global revenue.

Given the bases for the development of the study, the qualitative exploratory research method was selected with the objective of familiarizing itself with the investigated phenomenon in order to project a new understanding of the studied object. Exploratory research allows the use of different research techniques from bibliographical and documentary surveys to provide an approximate view of a phenomenon seeking patterns to make discoveries.

## **THEORETICAL REFERENCE**

The theoretical framework is the construction of an organized base of knowledge pertinent to the subject being researched, presenting theories, approaches, and studies that allow the author to obtain subsidies on the object of study (Rodrigues, 2006). In this section, the theoretical bases of the supply chain management, information's economy and value distribution are presented and discussed as support to the understanding of the transformation of the music industry and the music digitization. These references were selected from the research problem to build a solid base of knowledge and arguments to respond to the general and specific objective.

### ***Phonographic industry***

The music industry as multinational entertainment corporations produces and promotes music, earning revenue through distinctive ways as selling media and licensing music to other forms of entertainment like movies, television shows and video game tracks (Garofalo, 1999).

The digitization of music has altered the role of the intermediaries of the music market. Digitized music has caused physical distributors to be replaced by online retailers, which has zero physical inventory and the possibility of being a point of sale within any consumer's computer. The physical media pressing function has also lost relevance, since record companies or even musicians may be direct suppliers to online retailers. The distance between musicians and consumers was reduced with music digitization (Bockstedt, Kaufmann, and Riggins, 2005).

The reality of the music industry changed during the 21st century. The 2010 Recording Industry Association of America (RIAA) annual report indicates that total worldwide music sales were 15.9 billion dollars, down nearly 42 percent overall record sales volume in 1998. Still in 2010, according to the RIAA report, 4.6 billion dollars of total revenue came from digital music sales, accounting for 28.9% of sales, an expressive percentage value pointing to a source of revenue based on different habits and attitudes of music consumers.

The decline in total revenue comes from the widespread use of systems or websites that allow music to be exchanged freely, at no cost over the Internet, a platform that allows the circulation of unauthorized music copies. In 2002, more than 1 billion music files were exchanged over the Internet, adding that at least 27% of Americans with Internet access sent or received these music files (Leyshon et al., 2005).

The new technologies and new formats of relationship and consumption of music brought a new participation and division of the price with the authors of the supply chain of the music industry. According to the David Byrne's Survival Strategies for Emerging Artists and Megastars 2007 report, the selling price of a digital album compared to the physical album reduced by around 33%, bringing a gain to the consumer. In contrast, some players in the music industry supply chain are no longer members, such as packaging and production, distribution and retail, reducing the total cost of the album by around 35%, as can be seen in Tables 2 and 3.

Music digitization has created opportunities to restructure the supply chain and improve its efficiency. The recording industry is going through a tumultuous period as new communication technologies create new opportunities as well as significant challenges for established industry participants. The availability of free online music has changed the way people consume music as presented in Table 4. (Premkumar, 2003)

The advancement of information and communication technology has broken the link between content and support in the phonographic product, so the phonographic industry, which can work digitally, has the possibility of coordinating the supply chain at a distance, transmitting the content between the stages of the production process without the need to develop a physical flow to the consumer, making it possible to generate value along the chain, mainly between consumers and musicians (Nakano, 2010).

New technologies and the development of the information's economy would alter the distribution system of participants in these supply chains. The physical distribution chains were based on economies of scale, whereas the information's economy distribution chains are based on network economies, where the success of an initiative is linked to the size of the network of users who have adopted this new form of consumption (Shapiro and Varian, 1999).

### ***Supply chain management***

The supply chain management as a mix of distinct disciplines with influences from logistics, operations management, material management, distribution, and business relationships. Supply chain management enables companies to perform better by linking the company's activities with their suppliers and customers, making relationships a continuous flow of work that brings efficiency to participants in the same network of relationships (Wisner and Tan, 2000).

A supply chain is a network of organizations involved with different processes and activities that produce value in the form of products or services that are delivered to the consumer. The consumer is the one who will not value the product or service as an integral part of the supply chain and who will determine the demand for a product or service, impacting on the perspectives of the companies involved in a supply chain (Christopher, 1992).

Supply chain management, which aims to create value for the consumer by expanding supply chain boundaries beyond logistics, adding values that can be contextualized as consumer satisfaction, in other words, supply chain management is consumers, the last participants in this process (Langley and Holcomb, 1992).

### ***Information's Economy***

With the arrival of the 21st century, companies and businesses are driven with the help of the Internet, whose new dynamics grow rapidly and bring us new competitive characteristics, generating new means of creating value through the rapid exchange of digitized information through the Internet (Amit and Zott, 2001).

As early as 2000, at least 93% of US companies have some fraction of their Internet-based business. The Internet has brought new dynamics and format to businesses that are unprecedented since it breaks with the traditional model of work and relationship with suppliers and customers that existed until then. The information's economy is characterized by the high cost of production and the low cost of replication based on the concept that the information is a binary code, sequences of 0 and 1 that are reproduced almost instantly by the Internet, probably the largest and fastest network of distribution of existing information. Books, films, games, novels, and music are products of the information's economy that became

dematerialized throughout the 1990s and generated difficulties for producer companies to organize the sale of these traditional physical products in an easily copiable and reproducible market (Amit and Zott 2001).

Efficiency helps to generate value in e-business since the transaction cost is reduced, tending to zero since the relationship between companies can be done without the interference or help of a person. The speed gain in this relationship between companies can reduce the relationship between them by a simple transfer of data via the Internet, as well as reduce the cost of searching, since a person does not need to move, or even relate directly with several suppliers or clients (Lucking-Reiley and Spulber, 2001).

### ***Value distribution***

Value is a provision of the effort undertaken by the buyer has in relation to a product or service, understanding whether or not it is worthwhile to make an acquisition, through a series of attributes presented by the product or service provided. However this exchange is not linear, depends on the subjective utility that a product or service provides to each of the different buyers. This Malthus definition of value leaves the responsible buyer as the only agent who creates value in the relationship between a seller and buyer (Malthus, 1957).

The concept of value goes beyond the relationship between supply and demand, where the buyer is the agent responsible for the value in the intermediation of a product or service. Value is a system believing that a company is a body that brings together a series of activities that are developed to offer a product or service through evaluations of production, marketing and delivery, so a company should start generating value by criticizing its system of functioning and relationship with suppliers and customers, before even presenting its product or service proposal to the market (Porter, 1986).

The value is given by the claimant's perception of an offer, which is his willingness to pay for a product or service. The value is determined by the usefulness of the benefits delivered to the purchasers of the product or service; the relative value is the perceived satisfaction about the product or service proposal and the value proposition is the advantages offered by the seller of the product or service to the buyer (Walters and Lancaster, 2000).

The value in the virtual world has a new way of being perceived by the involved parties since usually, the object that is being presented is the information. The information is distinct and has its peculiarities since the information does not deteriorate, that is, it is not perishable, and the cost of being reproduced tends to zero (Rayport and Sviokla, 1995).

Value creation goes beyond the understanding of the opportunity cost of the supplier to the provision of the value that the customer is willing to pay. In this interval, the cost and the objective price that the company disburses (cost) or demand (price) emerge. The interval between the cost of opportunity and the cost of the company represents a gain of value for the supplier, and the interval between the willingness to pay and the amount paid represents value gain for the client, as shown in Figure 1 (Brandenburger and Stuart, 1996).

## **RESULTS**

This exploratory research seeks to understand how the distribution of value in supply chains occurs and to verify the change in consumer behavior with the purchase of music before and after its digitization, estimating how the value in the supply chain was redistributed since some

participants have been replaced. It was estimated that both the consumer and the musician were favored with the digitization of the music industry.

To test the hypothesis of value appropriation after music digitization by musicians and consumers, we present four arguments related to the appropriation of value based on the argument of the following authors:

- 1) Value is related to the opportunity cost of supplier relationships and the maximization of value that the customer is willing to pay (Brandenburger and Stuart, 1996).
- 2) The appropriation of value changes in the market as it is influenced by the bargaining power of the parts of a supply chain (Crook and Combs, 2007).
- 3) The recording industry was not able to replace the lost value in the fall of the CD sales by the sale of digitalized music (Sabbagh, 2008).
- 4) Innovations in the supply chain of the music industry impact on the organization of its participants bringing redistribution of value among its actors (Consoli and Mina, 2009).

The value-per-participant division of the music industry's supply chain is based on 2007 David Byrne's *Survival Strategies for Emerging Artists and Megastars*.

The year of 1998 was chosen as a moment of rupture since it was the year of highest revenue in the history of the world music industry (27.3 billion US dollars), just as it is a year before the Napster case, a milestone between the beginning of the decline in music sales on physical media and the beginning of free sharing of music in digital format. The year 2018 was chosen as the second reference because it represents the present moment of the research execution.

### ***Value distribution after music digitization***

Total worldwide phonographic industry revenue declined from US \$ 27.3 billion in 1998 (peak sales) to 15.7 billion dollars in 2016, down 42.5% over 18 years (source: IFPI - International Federation of the Phonographic Industry, 2016).

But it cannot be said objectively that consumption by music has fallen. What was reduced was the disbursement by the music in this period before and after digitalization. As a music consumption benchmark, Apple in 2013 announced that its iTunes digital music sales system had hit the 25 billion song mark sold in approximately 10 years of operations (Apple, 2013).

This means on order of magnitude that iTunes would have sold the equivalent of 2.24 billion CDs. Note: Using a random sample of 200 CDs, the author calculated that each CD has an average of 11.14 songs. The sample varied with CDs that had 5 to 17 songs. The sample fashion is 11 songs and the standard deviation is 1.72.

Considering that a CD can still be purchased in the United States for \$ 15 (source: David Byrne's *Survival Strategies for Emerging Artists and Megastars*, 2007), this iTunes-only sales volume would amount to \$ 33.66 billion, that the consumer still has the acquisition of music through new means of sale.

Another factor that shows that the consumer gained value in the supply chain of the music industry was the reduction of their disbursement to buy songs of their interest. If a CD costs US\$15 and has an average of 11 songs, this gives us a price per song of US \$ 1.36, which is higher than the US\$ 1.10 charge on the iTunes website (source: Apple, 2013). However, there is still an aggravation, since the consumer selects only the songs that interest him from an album, the consumer buys between 2 or 3 songs per album of the artist, this means that the acquisition that interests him about an album leaves by return of 3.30 US dollars (considering the acquisition of 3 songs).

When buying an album with 11 songs, the consumer ends up making a married purchase, that is, to have the 3 songs that interest him he needs to buy 8 more songs that he does not appreciate. Believing that the consumer pays a CD 15 US dollars to listen to 3 songs (number refereed by the author), each of these songs would cost you \$ 5, a value 454% higher than the value of a song on the iTunes website. Based on these numbers, we have the capture of value in favor of the consumer with the digitalization of the music.

It should also be considered that digitized music allows anyone with Internet access to get or just listen to music at zero cost, either by piracy or digital file exchange, or even by accessing music on specialized sites such as Vevo or Youtube, where anyone can make a selection of songs to listen to without paying for the service, similar to listening to music on the radio, with the difference that the consumer makes the selection that will be played.

If a participant captured value, this means that some participant lost value according to Brandenburger and Stuart (1996). Digitized music abolished some of the participants and processes in the physical music industry's supply chain processes. Suppliers of polymers, CD cases, shipping boxes, and inserts are no longer part of this supply chain.

Their costs represented around 10% of the total chain. Wholesale distributors, as well as retailers and retailers themselves, are almost extinct, reducing supply chain operation costs by 35%.

Comparing Table 5 (Division of values of a CD) with Table 6 (Division of values of the sale of digital music), we observe that the artist remains with a percentage almost equal of the revenue, falling from 15% (CD) to 14% of the revenue in the sale of digital music. The label can increase its share from 30% to 56%, part of this gain is in reducing production costs that it coordinated and ended up absorbing. Finally, the retailer, in this case, Apple via iTunes had its percentage rising from 25% to 30%. In this way, it can be considered that the record company and the new retailer (Apple) have absorbed part of the value. The artist remains with almost the same proportion, but the great winner in the absorption of value is the consumer, who now has the opportunity to need no longer to undergo a complete purchase of an album as a consequence of the acquired media, now the consumer can only buy music which is truly interesting.

The percentage assessment allows us to conclude that physical retailers such as suppliers, presses and distributors lost all the value they had before the music was digitized. Artists remain almost the same percentage value. The major percentage of value-added were the record companies and the new digital retail. The record companies went from 30% to 56% of the percentage value captured when comparing the two periods.

The digital retailer, dominated by Apple with its iTunes managed to take 30% of the total percentage value of the supply chain of the music industry, fact that does not impress since in the information's economy it is common that a single vendor tends to dominate the market by becoming a benchmark.

When assessing the objective value and not percentage to evaluate the objective gains and losses for each member of the supply chain studied. The flow of money always starts from the consumer, the ultimate actor in the supply chain who starts the cycle of dividing the money from his willingness to shell out for a product or service. Whereas the disbursement: the consumer started to spend \$ 1.10 per song instead of \$ 5.00 per song that interests him when buying a CD of 11 songs to listen to 3 songs.

The redistribution of the value happened to be, considering that a consumer would buy in average 3 songs per CD. US\$15 was used as a reference price for the CD and US\$3.30 as a disbursement for the acquisition of 3 songs on iTunes (US\$1.10 per song).

Examining Table 6 with the total redistribution of value among participants in the supply chain of the music industry, we can assert that the consumer is greatly benefited by the digitization of music, appropriating the equivalent of US \$ 11.70.

The new digital retailer appropriates \$ 0.99 but ends up gaining part of the value since it did not exist in the supply chain model before the music was digitized. Physical retail lost the equivalent of \$ 3.75; another absolute loser is the suppliers of suppliers, presses, and distributors that together lost US 4.50, since they are no longer part of this supply chain.

The artists, who remain with the proportional value distribution value between the two periods compared, end up losing the equivalent of \$ 1.79. Even record companies that increased the value-absorbing percentage lost absolute revenue: \$ 2.65. This consumer appropriation helps explain the decline in global music industry revenue. Consumption was not reduced, but the average disbursement fell by 78%.

## **CONCLUSION**

Recovering the specific objective and hypotheses for this article we have:

**Specific objective:** To evaluate the appropriation of value and its redistribution in the supply chain of the music industry from the point of view of the consumer.

**Hypothesis:** musicians and consumers appropriate most of the value of the supply chain of the music industry after the music is digitalized.

The hypothesis shows that the musician did not take value, the only actor who appropriates value with the music digitization is the consumer. The conclusions of the hypotheses are explained in detail below.

When evaluating the hypothesis it is decided that changes in the distribution of value of the supply chain of the music industry, suggesting that the hypothesis is correct partially correct since the musicians did not capture value as the music digitization, even though they may become independent of record companies and retail networks by communicating directly with the consumer.

It was the consumer who appropriated most of the redistribution of value by comparing the consumption of physical media in 1998 with the consumption of music in physical and digital media in 2018. His gain was proportional to US\$11.70 in the purchase of his favorite songs. No other supply chain member can absorb part of the new revenue distribution from the music industry supply chain by comparing the pre and post-digitized periods of the music. Those harmed by this change are the suppliers of polymers, pressing companies, packaging suppliers (CD and cartons), printing suppliers of inserts, wholesale distributors, retail distributors that lose the equivalent of US\$4.50 and stores that lose the equivalent of US\$3.75 as shown in Table 7.

The artists remain with a close percentage that they had previously, reducing from 15% to 14%, but lose in absolute value US\$1.79. Recorders punctually improve their catch percentage from 30% to 56%, even though they lose the equivalent of US\$2.65. A new virtual distributor

emerges, iTunes that can sell more than 25 billion songs in approximately 10 years of operations, which also captures value, proportional to 30% or US\$0.99. If these participants gained percentage relevance, they lost in absolute relevance when assessing the amount of money redistributed in the supply chain.

However, as highlighted, consumers are the winners in capturing the supply chain value of the music industry because they have more means to relate to music and no longer need to buy a media that requires the acquisition of more songs than is truly interested, earning \$ 11.70.

We have two assessments about value distribution: the consumer is the only beneficiary capturing the value and to complicate the redistribution of value, his frequency of purchase of music has also diminished, presenting new challenges for the music industry and its participants.

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Table 1: Stages of the phonographic market (page 2)

Period	Events
1877-1915	Invention and diffusion of the phonograph. Dissemination of listening to music in physical media.
1916-1929	Gramophone patent expires: arrival of new competitors. Propagation and popularization of the use of long play as physical media. 150 million records are sold in the United States in 1929.
1930-1940	The music broadcast via radio becomes popular in the United States. Long Play consumption drops to 25 million copies in the North American market in 1935 in consequence of the popularization of radio.
1941-1948	The first record label appears in the United States. Decca is the first company to organize the music industry as we know it. The radio becomes the main media to promote artists: 120 millions of Long Plays are sold in 1942.
1949-1968	New generation of consumers become music and some artists in cultural icons. There is a spread of small labels across the United States.
1969-1979	The music industry became verticalized. There is an aggressive purchase of small record companies. It begins the diffusion of different musical genres looking for the increase of billing.
1980-1995	The Compact Disk is a sales success, bringing better quality for music reproduction.
1996-2005	MP3 is a new technology that eliminates the use of physical media to play music. Sales of physical media for music playback fall by more than 50 percent in just 10 years in the North American market.
2006-actual	The Apple company through its iTunes portal becomes the largest music seller in the world. Digitized music becomes widely consumed in the world, eliminating almost definitely physical media. New business models emerge in the music industry. The change is definitive in relation to the previously existing model.

Source: adapted from Ordanini and Parasuraman (2012).

Table 2: Price division of a Compact Disc per participant in the supply chain of the American recording industry (page 6)

<b>Item</b>	<b>Percentage</b>	<b>Value in dollars</b>
Artist's rights	15%	2.25
Publishing rights	5%	0.75
Packaging and manufacturing	5%	0.75
Distribution	5%	0.75
Marketing	15%	2.25
Label cost	20%	3.00
Label margin	10%	1.50
Retail cost	20%	3.00
Retail margin	5%	0.75
Retail price	100%	15.00

Source: adapted from “David Byrne’s Survival Strategies for Emerging Artists and Megastars” (2007).

Table 3: Price division of a digital disc sold on the Apple iTunes site by a participant in the supply chain of the American recording industry (page 6)

<b>Item</b>	<b>Percentage</b>	<b>Value in dollars</b>
Artist's rights	14%	1.40
Label rights	56%	5.60
Apple's margin	30%	3.00
Retail price	100%	10.00

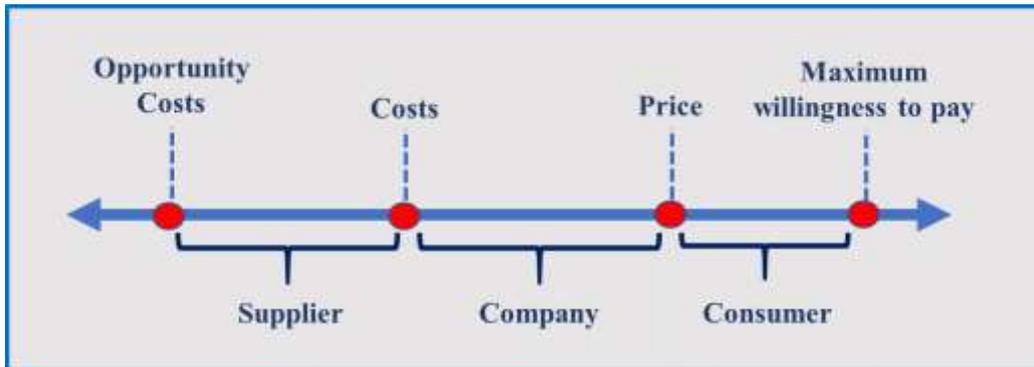
Source: adapted from “David Byrne’s Survival Strategies for Emerging Artists and Megastars” (2007).

Table 4: Costs composition in the digital distribution (page 6)

<b>Costs</b>	<b>Value (dollar)</b>	<b>Physical distribution</b>	<b>Label/Retail/Consumer</b>	<b>Label/Consumer</b>	<b>Artist/Consumer</b>
Total	15-18	100%	100%	100%	100%
Retail	5-6.5	35%	30%	10%	10%
Advertising	2-4	20%	20%	15%	5%
Distribution	1-1.5	7%	0%	0%	0%
Production	1	5%	0%	0%	0%
Studio	1	5%	5%	5%	5%
Rights	2	12%	12%	12%	12%
Labor	2	12%	12%	12%	0%
Label margin	0.5	4%	4%	4%	0%
Retail price		100%	83%	58%	32%

Source: adapted from Premkumar *Alternative Distribute Strategies for Digital Music* (2003).

Figure 1: Value creation (page 9)



Source: adapted from Brandenburger and Stuart (1996).

Table 5: Percentage distribution of value comparing the participants in the supply chain of the music industry pre and post digitization (page 11)

Participant	% before digitization	% after digitization
Artist	15%	14%
Label	30%	56%
Retail	25%	0%
Digital retail	0%	30%
Suppliers	30%	0%
Total	100%	100%

Source: adapted from David Byrne's Survival Strategies for Emerging Artists and Megastars (2007).

Table 6: Dollar distribution comparing the participants in the supply chain of the music industry pre and post digitization (page 11)

Participant	Value before digitization	Value after digitization	Difference
Consumer payment	15.00	3.30	11.70
Artist	2.25	0.46	-1.79
Label	4.50	1.85	-2.65
Retail	3.75	0.00	-3.65
Digital retail	0.00	0.99	0.99
Suppliers	4.50	0.00	-4.50
Total	15.00	3.30	

Source: adapted from David Byrne's Survival Strategies for Emerging Artists and Megastars (2007).

Table 7: Value gains and losses of the music industry supply chain participants (page 13)

<b>Participant</b>	<b>% before digitization</b>	<b>% after digitization</b>	<b>% difference</b>	<b>Value before digitization</b>	<b>Value after digitization</b>	<b>Value difference</b>
Consumer payment	0%	0%	0%	15.00	3.30	11.70
Artist	15%	14%	-1%	2.25	0.46	-1.79
Label	30%	56%	26%	4.50	1.85	-2.65
Retail	25%	0%	-25%	3.75	0.00	-3.65
Digital retail	0%	30%	30%	0.00	0.99	0.99
Suppliers	30%	0%	-30%	4.50	0.00	-4.50
Total	100%	100%	0%	15.00	3.30	

Source: author's elaboration.

## **Track 4**

# ***Consumers & Brands***

*Track 04 Consumers & Brands*

**ID #547**

**The impact of brand trust and technology readiness on the  
willingness to use autonomous cars in Brazil**

José Carlos Rodrigues (ESPM, Brazil)

Mateus Canniatti Ponchio (ESPM, Brazil)

**Abstract**

*This study sought to analyze whether brand trust and technology readiness influence the willingness to use (WTU) autonomous vehicles (AVs) in Brazil. A survey was applied with potential consumers, and the results, based on 213 respondents, indicated that there is a strong correlation between brand trust and WTU AVs of the same brand as well as between technology readiness and WTU AVs. When confronted through multiple linear regression, brand trust played a more relevant role than technology readiness over WTU AVs for the 11 brands tested. When comparing information technology companies (ITCs) and automobile manufacturers, while the first has a higher level of average brand trust, the preference in WTU AVs rests on traditional automakers*

**Keywords:** Consumer Behaviour; Automotive industry; Autonomous Cars; Technology Readiness Index; Brand Trust; Willingness to Use.

**Acknowledgments**

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*Track 04 Consumers & Brands*

**ID #558**

**The Influencing Factors and Consumer Behaviors of Bicycle Sharing  
in Beijing**

**Lijuan Wang** (City University of Macao, China)

**Songbai Liu** (Beijing Normal University, China)

**Abstract**

*This paper aims to explore the factors that affect consumer behavior in Beijing bicycle sharing. According to the questionnaire survey, perceived usefulness and perceived ease of use have positive impacts on consumer intentions. However, owing to the relatively high income of the sample population, the economic cost is also positively related to the intentions of consumers, and consumers' intentions are negatively related to actual behavior. This study provides a new contribution to the literature and a business opportunity. This study also provides a reference for market segmentation and the target population of the sharing economy.*

**Keywords:** bicycle sharing, sharing economy, consumer behavior, TAM.

**Acknowledgments**

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## **INTRODUCTION**

The “sharing economy” has very frequently been mentioned in recent years. The sharing economy influences different aspects of our economy today. In China, there are already several sharing economy platforms, such as traffic sharing (network car), bicycle sharing, house sharing, food and beverage sharing, logistics sharing, finance sharing, charge sharing and so on. “The sharing economy is a term for an emerging set of business models, platforms and exchanges” (Alen & Berg, 2014).

The development of science and technology makes people face various impacts. At the same time, it also brings convenience to our daily lives. The emergence of bicycle sharing in China is a good example. Bike-sharing is different from ride-sharing (Towson, J. 2016). Big data-research (BDR)™ predicted that by the end of 2017, the total market share in the whole country will reach 50 million users, with an estimated growth of approximately 260%. Bicycle sharing will continue to provide strong support for short-distance travel in urban traffic and solve the problem of the “last 1 km distance”. As reported by the statistics from the Ministry of Transport of the People's Republic of China, in the peak period, there were approximately 70 bicycle-sharing corporations in China, with more than 16 million bikes being ridden, and there were over 130 million registered users. By December 2017, there were more than 30 companies in the bicycle sharing market.

The goal of this article is to examine the effects of bike-sharing on consumer behavior in China. First, we consider the age of the people who choose bicycle sharing. Second, we consider how the perceived usefulness, perceived ease-of-use, and perceived value affect the consumers’ intentions. Finally, we look at the attributes of the consumers’ intentions and how these affect the consumer’s behavior. The results of this paper contribute to theory by updating the literature on the sharing economy and expose business opportunities for others to flourish in the sharing economy. This paper also contributes to the literature of consumers’ behavior under the sharing economy. The research on the users’ intentions as the starting point not only provides a reference for enterprises aiming to cultivate customer loyalty but can also offer some guidance for the enterprises’ strategic and operations management.

To analyze the relationship between the consumers’ intentions and consumer’s behavior, we take the following approach. First, a questionnaire was designed to survey the users’ backgrounds and attitudes about bicycle sharing, such as perceived usefulness, perceived ease-of-use, and perceived value. The survey was distributed to people via the wjx.cn website. Because the focus of this study is the bicycle sharing users’ behaviors in Beijing, the questionnaire was available in Chinese, and a total of 115 surveys were completed in Beijing.

## **LITERATURE**

### ***Bicycle sharing***

Boyd Cohen & Jan Kietzmann (2014) mentioned in their article that the first-generation of bicycle sharing, White Bikes, was an unsuccessful program that began in 1965. The company placed 50 unlocked white bikes to be shared all over Amsterdam, but the project failed because the bikes were repeatedly stolen or destroyed. The second-generation of bike-sharing was first offered in Denmark in 1991 (DeMaio, 2009). As a coin-deposit system, it used recognizable bikes and appointed parking stations with locks (Shaheen, Guzman, & Zhang, 2010). The third-generation bicycle sharing programs offered today are distinguished by four individual characteristics (Shaheen et al., 2010): recognizable bicycles, docking stations for security,

kiosks for the user interface, and advanced technology, such as radiofrequency identification (RFID) cards, for bike tracking and checkout.

In China, according to a report of Bigdata-Research (BDR), in the first quarter of 2017, the bicycle sharing market share was highly concentrated, with OFO and Mobike becoming a strong bicycle-sharing due with relatively obvious advantages. OFO had 51.9% market share, ranking first in the industry, while Mobike ranked second with 40.7% market share. Beijing was at the top of the bicycle sharing list, and the development index was up to 90%. (Note: The development index was calculated according to the basic level of the use of bicycle sharing, the development of environmental policy, and the operation of the industry. Combined with the iMedia Research (IMR) statistical model, the higher the development index, the higher the maturity of bicycle sharing in the city.)

Bicycle Sharing (BS) was a new form of sharing economy, which was provided by enterprises on campuses and in subway stations, residential areas, business districts, and public service areas. Currently, the national policy was in favor of the sharing economy: 1) The "13th Five-Year plan" first proposed "development of the sharing economy"; in 2016 the government released a report to "encourage the development of the sharing economy" and "support the development of sharing economy", marking the "sharing economy" and its representative business model as a national level of strategic planning. 2) Since March 1st, 2016, the green lifestyle had been advocated for in "Guidance on Promoting Green Consumption", which encouraged low-carbon travel such as walking, bicycling and using public transportation. 3) The government had introduced relevant policies to control bicycle sharing.

From a public perspective, the emission of pollutants is becoming more serious with the increase of the urban use of motor vehicles. The desire for clean air is becoming stronger, and green travel will become an inevitable trend. Traffic congestion is also a major problem faced by large and medium-sized cities in China. With the advancement of people's living conditions, the number of personal cars is rising rapidly, and traffic problems at rush hours are serious. Bicycle sharing can effectively reduce traffic jams in the cities.

The related technology of bicycle sharing is relatively mature in China. In 2016, mobile phone users in China reached 700 million, up 12.1% from the previous year. With the fast growth of mobile Internet use, the maturity of GPS positioning technology, the convenience of mobile payment, the popularity of smartphones, and Internet access to the social credit system, a good foundation was laid for the penetration and development of bicycle sharing. The technical environment has been supportive in the following aspects: 1) GPS positioning technology provides support for users to find a dockless bicycles. 2) The popularity of smart phones provides users with a convenient terminal. 3) Mobile payment technology is mature and convenient, and the user experience is good. 4) Internet access to the social credit system reduces illegal vehicles and reduces the cost of enterprises.

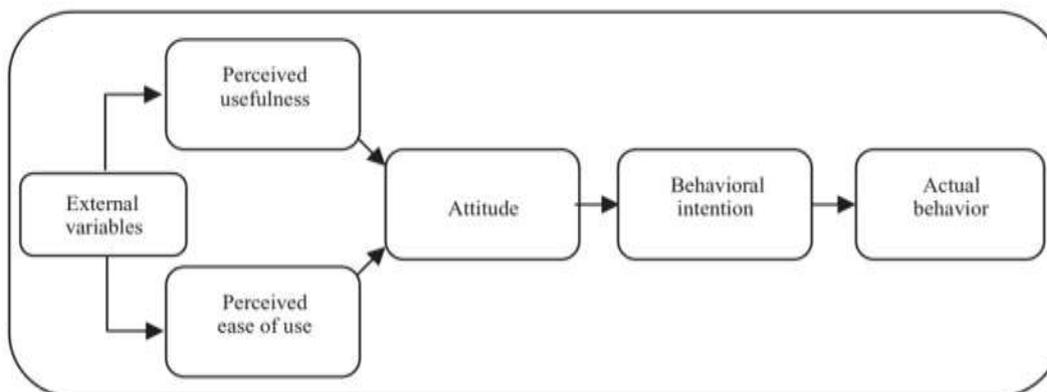
The number of users sharing bicycles has been increasing rapidly since November 2016. The OFO official website shows that they were in more than 250 cities in 20 countries and had 200 million users by December 2017. The Mobike official website shows that they are in more than 180 cities in 9 countries, have more than 7 million Mobike bicycles, provide intelligent tourism services for over than 200 million users all over the world, and their daily orders are over 30 million. The users of bicycle sharing are mainly concentrated in the first tier and second tier cities of China. Bicycle sharing companies are constantly emerging; meanwhile, there are also bankrupt companies. The market competition is intense. Bicycle Sharing fills the cities' "last kilometer" vacancy.

In China, the research on bicycle sharing appears in the following areas: 1) bicycle sharing and the sharing economy (Qin Zheng & Wang Qin, 2017; He Tao, 2017; Li Jin, 2017; Wang Guangrong, 2017; Lu Yiqi, 2017). 2) Government responsibility – the government had no relevant policies about the effective supervision of the mass packing and occupation of the road (Xie Luoqun, 2017). Wang Guangrong (2017) note that the government should cooperate to create conditions for the development of bicycle sharing and promptly formulate a forward-looking standard for the management of bicycle sharing. 3) Cost management and profit model (Leng Beibei, 2017; Li Linfeng, 2016; Wang Jiangang, 2017; Zhou kunwei, 2017).

At present, other countries do not have such an extensive dockless bicycle-sharing market like China. The bike-sharing markets in other countries consist primarily of bikes that can be found and unloaded at self-serving docking stations. Fishman (2016) reviewed the literature of bike-sharing, analyzes bike-sharing history and recent growth, compares bike-sharing user preference and summed up the barriers to bike-sharing: 1) convenience and safety concerns, 2) mandatory helmet legislation, and 3) sign-up process. Finally, he evaluates the impacts of bike-sharing. According to the literature both domestic and foreign, the research about consumer behavior in China's bicycle-sharing market is still relatively vacant.

### **Technology Acceptance Model (TAM)**

In 1989, Davis (1989) proposed the TAM model (see Figure 2 below), which was used to explain and predict the use of computers in the workplace. TAM ((Davis 1989, Davis et al. 1989) was dependent on the theory of reasoned action (TRA). Dishaw & Strong (1999) proved that attitude and behavior are extremely closely related, and the user's attitude about trying new technology can be described by two variables: perceived ease of use and perceived usefulness. After that, Serenko & Bontis (2004) found that many researchers frequently used TAM to explain how major factors affect individuals' decisions to accept new technology. However, it is necessary to modify the TAM model when it is used for the research of the consumer rather than the company staff.



**Figure 1: Technology Acceptance Model (TAM)**

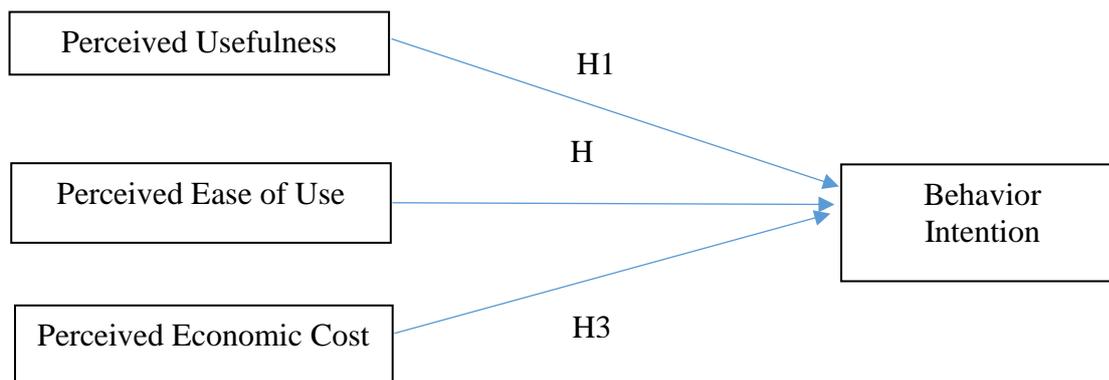
At present, TAM is not only applicable to technical acceptance but also to other factors. Lee & Lehto (2013) used the TAM model to investigate how users learn by YouTube. The willingness to accept YouTube was mainly influenced by perceived usefulness and user satisfaction. TL Chen, HK Liu & AM Lin (2014) studied the desire to use the system of leaving or entering to school and increased the TAM model from the view of quality. Patwardhan, A. M. (2013) proposed a cross-cultural and cross-national study to test the integrated model developed to explore consumer behavior, which might be influenced by national culture along with perceived

risk. Research had also been conducted on the influencing factors of TAM-based tourism apps and use behavior (Li Dong, & Zhang Luxu. 2015). The TAM model was also used to study users' perspectives and responses to social networking games. The study found that perceived mobility, perceived control, perceived enjoyment and perceived usefulness seriously affect users' willingness to use. (Park, E., Baek, S., Ohm, J. & Chang, H.J. 2014).

## RESEARCH MODEL AND HYPOTHESIS

### Research Model

The aim of this analysis was to find the user acceptance factors of bicycle sharing adoption in China. As argued, the research model offered in this article is given on the basis of the TAM model, which keeps the main structure of bicycle sharing customers' adoption behaviors cited in the literature (Zhang Junying, 2017). Linked with the aspects of bicycle sharing, the model in this article puts forward three elements: perceived ease of use, perceived usefulness, and economic cost. Customers' behavior intentions, as a major index, forecast and clarify the customers' acceptance behaviors. The bicycle-sharing user acceptance model is shown in Figure 2.



**Figure 2: Conceptual Framework**

This study aims to explore consumers' attitudes on the sharing economy and consumers' intentions to accept it, as well as their actual behavior under the sharing economy. This research is based on the development of bicycle sharing as an object of empirical research. The analysis of customer opinions and behavior is largely dependent on the theory of combination with reasoned action, planned behavior, and the technology acceptance model, and this study uses the technology acceptance model as the foundation of the article and links it with the unique attributes of bicycle sharing. This study focuses on the user's perception and behavior related to bicycle sharing. The following are the details of the study (possible variables) and the proposed model (the connections between the variables).

### Research Variables and Hypotheses

Many researchers, such as Hu, Chau, Sheng & Tam(1999), Lim, Xue, Yen et al. (2011), believe that the basic TAM model is one of the most outstanding models. The basic TAM model is widely applied to explore the acceptance of innovative technology in changing environments and shows a strong prediction ability. TAM has two basic assumptions. First, "perceived usefulness" positively affects people's acceptance of new technology. Second, "perceived ease

of use" also has a positive impact on people's acceptance of this new technology. According to the basic TAM assumption, this study will propose another two hypotheses:

*H1: Perceived usefulness has a positive influence on behavior intention.*

*H2: Perceived ease of use has a positive influence on behavior intention.*

Any means of transportation will incur a certain fee. Ordinarily, the lower the cost, the better. Therefore, the users' perception of the cost will affect their intention to ride. Campbell et al. (2016) found that time and budget are among the most important factors that affect the public's choice of sharing bicycles when studying Beijing citizens' choice of sharing bicycles. Spending is essentially concerned with the cost of use. This article studies the user's perceived use cost (Casimir, G., Lee, K., & Loon, M. 2012), and thus puts forward the following hypothesis:

*H3: Perceived economic cost has a negative influence on behavior intention.*

## METHODS AND FINDINGS

### Research Model

Data were collected through convenience sampling. The sample of Beijing bicycle sharing was acquired on the WenJuanXing (WJX) website through sharing by the researchers' friends and colleagues. The questionnaires were collected from January 18, 2018 to January 31, 2018, with 11 total valid questionnaires collected.

**Table 1 : Variable measures**

Latent variable	The observed variables	Source
Perceived Usefulness	<ul style="list-style-type: none"> <li>● using a bicycle sharing can save your trip time</li> <li>● using a bicycle sharing, you don't have to worry about losing your bike</li> <li>● using a bicycle sharing, you don't worry about maintaining of the bike.</li> <li>● using a bicycle sharing, you don't have to find a place for a fixed parking.</li> </ul>	Davis (1989) & self
Perceived ease of use	<ul style="list-style-type: none"> <li>● you can find a bicycle sharing at any time</li> <li>● you can find a bicycle sharing at any place</li> <li>● you think it is convenient for APP of bicycle sharing</li> <li>● you think it is easy to operation the bicycle sharing</li> <li>● you think it is convenient for paying</li> </ul>	Zhang Junying. (2017) & self
Economic cost	<ul style="list-style-type: none"> <li>● you think the deposit of a bicycle sharing is very high</li> <li>● you think the riding cost of a bicycle sharing is very high</li> <li>● you think the cost of bicycle sharing is higher than the cost of owning a bike</li> </ul>	Jiang, G., Peng, L., & Liu, R. (2015) & self
Behavior intention	<ul style="list-style-type: none"> <li>● if there is a bicycle sharing near your home (office), you would like to use it</li> <li>● you would recommend your favorite bicycle sharing brand to your classmates, friends, and family</li> <li>● would you like to use a bicycle sharing as usual</li> </ul>	Zhang Junying. (2017) & self

The inquiries in this paper consist of two sections: the first consists of the figures of demographic description, including gender, age, and which bicycle-sharing brand are your favorite; and the second section includes measures of all indices in the empirical model. To ensure the reliability and validity of the indices, this paper fully cites the formulations used in the relevant literature to develop the measurement variables on the basis of the characteristics of bicycle-sharing, and the particular measurement of each variable and their sources are shown in Table 1.

The elements were surveyed on a 7-point Likert scale. Actual behavior was measured by only two response options. To easily understand the questionnaire, we rehearsed a small-scale questionnaire before collecting data from the large-scale questionnaire. Pre-test purposes were put forward to some professors in questionnaire form, requesting them to give advice about what they understood of the questionnaire items and their opinion of the grammar of expression. Finally, in accordance with the outcome and feedback from these interviews, the items from the earliest were adjusted to create the final questionnaire. The questionnaire was available in Chinese.

***Reliability and validity test***

To test the reliability and validity, this study used SPSS19 and Exps (a widget is used to count the validity). The results are shown below.

The Cronbach 's alpha of perceived usefulness was 0.812 and the composite reliability CR was 0.8824, indicating that the reliability was good. The AVE value is 0.6555, which is greater than 0.5, indicating good aggregation validity. (see the table2)

The Cronbach 's alpha of perceived ease of use was 0.797 and the composite reliability was 0.8677, indicating that the reliability was good. The AVE value is 0.5703, which is greater than 0.5, indicating good aggregation validity. (see the table2)

The Cronbach 's alpha of economic cost was 0.586 and the composite reliability was 0.7813, indicating that the reliability was good. The AVE value is 0.5497, which is greater than 0.5, indicating good aggregation validity. (see the table2)

The Cronbach 's alpha of behavioral intention was 0.808 and the composite reliability was 0.8882, indicating that the reliability was good. The AVE value is 0.7264, which is greater than 0.5, indicating good aggregation validity. (see the table2)

**Table 2 : Reliability and validity**

	Items(No)	Cronbach's alpha	AVE value	Composite reliability
Perceived usefulness	4	.812	.6555	.8824
Perceived ease of use	5	.797	.5703	.8677
Economic cost	3	.586	.5497	.7813
Behavior intention	3	.808	.7264	.8882

## Findings

This survey mainly studies the use and evaluation of bicycle sharing in Beijing. A total of 116 people participated in this survey, with women twice as many as men; nearly half of the respondents were between the ages of 35-45, almost 38.8% of the respondents were between the ages of 25-34, and only 12.9% of respondents were between the ages of 18-24; levels of disposable income were between 20,000 to 50,000 for 11.2% percent of respondents, between 10,000 to 20,000 for 28.4% of respondents, below 10,000 for 58.7% of respondents, and more than 50,000 for 1.7% of respondents. There are 89.7% of respondents using bicycle sharing, most of them use Mobike (67.2%) and OFO (60.3%), and most of them pay by WeChat (65.5%) and Alipay (50.9%). Nearly 87% of respondents said that bicycle sharing can save travel time, and nearly 90% of respondents said they enjoy not worrying about their bicycles lost or bicycle maintenance problems. About 83.6% of the respondents said that bicycle sharing can reduce the hassle of finding a parking place. Less than half of the respondents said they could find bike-sharing anytime and anywhere, approximately 80% of respondents said the bike-sharing app was easy to use, and nearly 90% of respondents said that bicycle sharing operation and payment is very convenient. Also, nearly 77.6% of the respondents said the bicycle sharing deposit is too high, less than 30% of the respondents said the cost of riding is high. More than 90% of respondents said that if bicycle-sharing was available nearby, they would be glad to use it often; almost 87.1% of the respondents are willing to recommend their favorite bicycle sharing service to friends and family.

**Table 3: Profiles of respondents**

Demographics	Level	Frequency	Percent (%)	Valid Percent (%)
Gender	Male	38	32.8	32.8
	Female	78	67.2	67.2
Age	18-24	15	12.9	12.9
	25-34	45	38.8	38.8
	35-45	56	48.3	48.3
Disposable income(RMB)	<10,000	68	58.7	58.7
	10,000-20,000	33	28.4	28.4
	20,000-50,000	13	11.2	11.2
	>50,000	2	1.7	1.7

The mean, standard deviation and correlations of perceived usefulness, perceived ease of use, economic cost and behavioral intention analysis are shown in Table 4. It is known from table 4 that perceived usefulness is positively related to perceived ease of use ( $r=0.471$ ,  $p<0.001$ ); perceived usefulness is positively related to behavior intention ( $r=0.571$ ,  $p<0.001$ ); perceived ease of use is positively related to behavior intention ( $r=0.477$ ,  $p<0.001$ ); economic cost is negatively related to behavior intention, but it's not significant ( $r=-0.011$ ).

**Table4: descriptive statistics and correlations in Perceived usefulness, perceived ease of use, economic cost and behavior intention**

		Mean	Std deviation	Perceived usefulness	Perceived ease of use	Economic cost	Behavior intention
Perceived usefulness	Pearson correlation	5.8168	1.20161	1			
Perceived ease of use	Pearson correlation	4.9190d	1.09798	.471***	1		
Economic cost	Pearson correlation	4.0431	1.23204	-.077	.000	1	
Behavior intention	Pearson correlation	5.8190	.97147	.571***	.477***	-.011	1

\*\*\* correlation is significant at the 0.01 level (2-tailed)

**Table5 : Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.134	.369		8.489	.000
	Mean of perceived usefulness	.462	.062	.571	7.426	.000
2	(Constant)	2.562	.398		6.442	.000
	Mean of perceived usefulness	.360	.068	.445	5.303	.000
	Mean of perceived ease of use	.237	.074	.268	3.193	.002

a. Dependent Variable: mean of behavior intention

**Table6 : Model Summary**

Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571 <sup>a</sup>	.326	.320	.80102	.326	55.151	1	114	.000
2	.618 <sup>b</sup>	.382	.371	.77055	.056	10.192	1	113	.002

a. Predictors: (Constant), Mean of perceived usefulness

b. Predictors: (Constant), Mean of perceived usefulness, Mean of perceived ease of use

**Table7: ANOVA<sup>c</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.386	1	35.386	55.151	.000 <sup>a</sup>
	Residual	73.145	114	.642		
	Total	108.532	115			
2	Regression	41.438	2	20.719	34.895	.000 <sup>b</sup>
	Residual	67.094	113	.594		
	Total	108.532	115			

a. Predictors: (Constant), Mean of perceived usefulness

b. Predictors: (Constant), Mean of perceived usefulness, Mean of perceived ease of use

c. Dependent variable: (Constant), Mean of behavior intention

As seen from Table 5 above, this study used stepwise regression analysis to explore the findings that perceived usefulness and perceived ease of use are significantly related to behavioral intention. ( $\text{sig} < 0.05$ ) Beta represents the coefficients of the variables in the regression equation.

Table 6 explains the goodness of fit with the model and observed values. The R square is close to 1, which explains that the model is good. The adjusted R square is more accurate than the R square. In this paper, the perceived usefulness is good (adjusted R square is 0.320), the total adjusted R square of perceived usefulness and the perceived ease of use is 0.371, which means the two independent variables can explain 37.1% of the change in the dependent variable.

Table 7 shows the results of the ANOVA, which indicates the results of variance analysis. From the results, it can be seen that the sig value corresponding to the F value is less than 0.05, so the regression equation is useful. That is to say, the relationship between the explained variables and the explaining variables in the model is significant.

## CONCLUSION, FUTURE RESEARCH AND LIMITATIONS

This study uses the empirical research method to examine the data, and the results are shown in below.

Hypothesis	Result
H1: Perceived usefulness has a positive influence on behavior intention.	Support
H2: Perceived ease of use has a positive influence on behavior intention.	Support
H3: Perceived economic cost has a negative influence on behavior intention.	Rejected

It can be seen from the above table that one hypothesis is rejected. The research results are discussed below.

The age of the respondents is roughly 35-45 years old. The proportion of the 25-45 age group is almost 87%. That is to say, the target respondents of this survey are those who have working

experience and have some economic foundation. They usually commute in a private car or taxi, and whose probability of selecting public transportation is relatively low; however, some are willing to use bicycles and have an interest in the new sharing economy. In the results, the behavioral intention does not have a positive effect on the actual behavior, which agrees with the results of Big Data Research, according to which up to 70% of bicycle sharing users are approximately 25 years old.

The percentage of respondents with disposable income between 10000 and 50000 was as high as 70%. For these people, the deposit required by OFO (199) or Mobike (299) is relatively cheap. Their intention to use bicycle sharing does not increase as economic cost decreases. From the perspective of behavioral economics, the reference point for individual decisions is not as obvious as that for those with lower income (such as college students).

Perceived usefulness and perceived ease of use have a positive effect on behavioral intention, and these results are consistent with the TAM theory. For a new technology or business model, no matter what age or income is, ease of use and practicality will positively affect customers.

### ***Managerial implications***

The differences in age and income offer important managerial implications. With the increase of age and income, people's consumption behavior will tend toward something of high quality or something matching their social status, whereas young people prefer new, low-cost things. Given the low cost of bicycle sharing or other goods and services in the sharing economy, the target market should focus on young people or the lower-income group. Managers or marketers should pay attention to the current subdivision and positioning strategies. There are different economic distributions throughout China, and in various regions, there are significant differences in per capita GDP and disposable income (China Statistical Yearbook, 2017). Because income can urge on people's consumption, there is a need to segment the market according to the regional-level elements.

The findings also highlight that usefulness and ease of use have a positive effect on behavioral intention. The factor of the convenience of the bicycle sharing app is significant. In the investigation, nearly 67.2% of respondents choose Mobike over OFO because, in the beginning, Mobike's unlocking and positioning system were better than OFO's. In the process of actual use, the destruction rate of OFO bikes is higher than that of Mobike. Thus, OFO launched new bicycles into the market and updated their unlocking and positioning systems. As enterprises enter the new market, they should pay attention to the usefulness and ease of use of their products.

### ***Limitation and future research***

This study examines the factors affecting the behavioral intention of consumers to use bicycle sharing based on perceived usefulness, perceived ease of use, and economic cost. Behavioral intention affects actual behavior. The respondents in the survey are mainly 30-40 years old. However, the consequences should be explained carefully. If we can expand the group size and discuss different groups individually, the results of the model should be more meaningful. First, the sample size consisting of Beijing bicycle sharing users is limited and may not completely symbolize their matching populations. Second, the general principle of the consequences is narrowly applicable to Beijing users. Third, some possible moderators, such as environmental protection, attitude, subjective norms, and psychological enjoyment were excluded in this paper. The possible moderating effects should be studied in the future. Considering that bicycle

sharing and the sharing economy are hot topics, other sharing economic models are also worth exploring.

In addition, the literature on bicycle sharing and the sharing economy is limited, and the sharing economy develops over a short time. How to make an enterprise profitable or ensure that the enterprise continues to operate is also worth studying in-depth interview? For example, Uber, a representative of the sharing economy, is still in a state of loss.

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## Notes

Note. The development index.

## Appendix B

### The Tables and figures to Appendix B

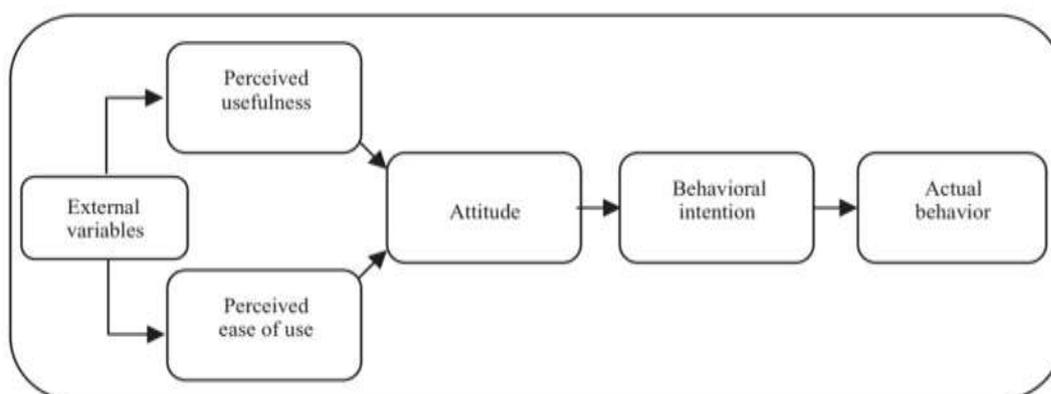


Figure B1. Technology Acceptance Model (TAM)

*Track 04 Consumers & Brands*

**ID #581**

**Repurchase intent and its antecedents on hosting app**

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**Barbara Diogo de Paula** (Uniritter, Brazil)

**Abstract**

*The technological advance has made possible the development of new business formats in the virtual context, being the cases of applications of places reservation and experiences. However, consumption barriers are still created in such applications because of the confidence of the participants. In this sense, the article aims to identify the influence of perceived utility, ease of use, and trust in the company and third parties in the intention of repurchase in hosting applications. For this, a survey was carried out with 176 users of a hosting application (Airbnb) and the analysis performed through structural equation modeling (SEM). The results showed that the perceived utility and ease of use positively influence the repurchase intention, but confidence in the company and in the third one was not positive. In addition, perceived utility positively influenced trust in the company and in others, which did not occur with ease of use. The research contributed to a reflection about the new economy or the sharing economy, allowing reflections for companies on the importance of the perception of the utility of their applications.*

**Keywords:** Perceived utility; Ease of use; Trust; Purchase intention; Mobile Apps;.

**Acknowledgments**

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## EXTENDED ABSTRACT

The mobile communication technology has undergone major advances in recent years, with mobile phones becoming more advanced, enabling users to connect to the internet for a low cost, facilitating access to communications and other services (Curth, 2018). From this scenario, new technologies have emerged, such as mobile applications or *app* that today has been gaining great space for both businesses and consumers (Turban & King, 2004; Curth, 2018).

In this sense, the consumer seeks the environment *online* to save time, to have a better facility to find the product/service, to have a sense of pleasure when buying, easier to compare prices and the use of after-sales services (Schaupp & Bélanger, 2005). In addition, the purchasing experience comprises confidence-building aspects, considering elements that influence delivery times, elements related to the transaction with the supplier, perceptions, and feelings during and after the purchase.

However, the gap for the inclusion of trust elements in the transactions carried out in the virtual environment, considering the information security, the service provider and third parties (McCole et al., 2010; Wu et al., 2010; Rohden et al., 2016) with theories that address users' perception of utility and ease of use.

In this way, one arrives at the research problem that tries to understand the impact of the perceptions of utility, ease of use and confidence of those involved in the intention to carry out new transactions in travel and experience applications?

From the problem, the article aims to identify the influence of perceived utility, ease of use and trust in the company and third parties in the intention of repurchase in a hosting application.

The choice of theme was mainly due to the current scenario of consumption via *apps*, that is, the facilities that the use of applications brought, being more and more practical and accessible to carry out a transaction or communication. To better illustrate the research, a company was chosen to be the reference of the study, being the company of lodging Airbnb, because it is an example of a company that offers service of lodging in diverse cities of the world. The company was founded in November 2008 in San Francisco California. Airbnb specializes in a shared economy, allowing the individual to rent their home or apartment through the *site* or application giving the opportunity for the tourist to book accommodation in 192 countries and thus encouraging the meeting of people in different parts of the world.

In this way, the Airbnb hosting application is an example of a company that exploits this hosting market using the internet and the use of the application as a sales channel, being the purest form of e-commerce, since the sale process is carried out *online*.

A survey was carried out with 176 users who made use of the hosting reservation application. For the data collection, the non-probabilistic and convenience technique was used.

The research instrument had 17 questions, and 15 questions verified the constructs of the research from Likert scales of 7 points. In addition, the instrument had two questions about the profile of the respondents (questions 16 and 17).

Questions about the Perceived Use Utility construct were adapted from Davis et al. (1989), emphasizing the degree to which the user believes that the use of the application will improve their shopping experience (Application XX improves my purchase/reservation savings; purchase/reservation).

The Ease-of-Use construct was also adapted from Davis et al. (1989), highlighting the degree to which the user believes that the use of the application is easy and effortless (The use of the application for purchase / reservation is clear and easy to understand; The use of the application for purchase/reservation is facilitated).

With respect to trust-related constructs, the Trust in the Enterprise construct was adapted from McCole et al. 2010 (I feel that my privacy is protected when I make purchases/reservations in application XX; I feel secure when I am making purchases/reservations in the XX application; XXX has security features).

Likewise, the construct that involved Trust in Third Parties was adapted from the same authors, and considered the degree to which the consumer relies on the information provided by the host (I rely on the information provided by the hosts in the XX application; I will make the purchase/reservation; I trust the host will not use my information).

Repurchase Intent was adapted from Jarvenpaa et al. (2000), highlighting the degree to which the individual expresses their intention to make new in-app transactions (the next time I buy / reserve, the probability that I will choose the XXX application is; shopping / booking by the XXX application is; The probability of making purchases / reservations in the coming years considering the XX application as the first choice is).

Data collection was performed considering the following steps: a) initial contact for the presentation of the research and b) sending the Google Forms link with the research questions.

To carry out the statistical evaluation of the collected data, statistical procedures were used for data treatment, reliability, and validity analysis of the questions that measured each construct, and finally, the structural equations modeling (SEM) for statistical analyses and verification of the conceptual model and test of mediation of variables.

The operation of the data analysis stage included the use of Microsoft Excel® 2010 and SPSS 21 software (Statistical Package for Social Sciences), for descriptive analysis and data preparation. For AMS analysis, AMOS™ 20 (Analysis of Moment Structures) was used, being one of the main software for this type of analysis (Garson, 2012).

The results showed that perceived utility, which addresses the relationship of improvement in the economy through the reservation purchase, increase confidence in the company, suggesting that the more the user understands that the app facilitates his actions, the greater the trust he has company. The construct also had a positive influence on third party trust, suggesting the great importance of the user's perception that the app has importance for performance in everyday actions, allowing greater trust in suppliers and intermediaries participating in the delivery process, allowing greater possibility in the intention of repurchase, being the case of the user searched. The intention of the online repurchase is a key success factor for the online company (Chou & Hsu, 2015; Fang et al., 2014).

The research contributed to identifying the role of perception of use over the trust, in addition to the negative influence of the application's ease of use for trust. As a limitation of this research, the sample was considered satisfactory, but because it is a very current subject, in the case the use of mobile applications, ended up covering a younger audience. Therefore, it is suggested for future researches, to study ways of assisting or taking technological facilities such as the use of applications for the public of the elderly, considering that people are increasingly linked to technology and that the public of third age has more free time and consequently travels more and more, it would be interesting companies that use applications as a sales channel to bring this potential audience to your e-commerce.

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*Track 04 Consumers & Brands*

**ID #649**

**The influence of movies' realism on product placement effectiveness**

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**Abstract**

*Product Placement is a communication strategy in which brands and products are introduced into movies and TV series without programming. This strategy has been increasingly adopted by companies due to the low tolerance of the public by commercial breaks. This project aims to investigate whether there is a difference in effectiveness in the use of this strategy between animated films and live-action films, based on the measurement of the factors: purchase intention and brand recall. The results of this study indicate that, unlike the marketing literature, product placement may not be efficient.*

**Keywords:** product placement; marketing communication; brand awareness; film; animation; live action;.

**Acknowledgments**

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*Track 04 Consumers & Brands*

**ID #670**

**Sustainable consumption in Brazil: an approaching between the consumer-oriented sustainability and temporal perspective.**

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**Abstract**

*This study has as objective to provide a categorization for Brazilian sustainable consumers according to the time perspective. The increase in consumption levels brings an alert to the scarcity of natural resources that can jeopardize tomorrow's future generations (Dalmoro et al., 2009; WWF, 2014). It is observed that the temporal perspective implies on the concern with the environmental preservation and the individual orientations for more sustainable consumption are determinant for the accomplishment of actions that minimize these social dilemmas (Longo et al., 2017; Milfont et al., 2012). For the investigation, quantitative and descriptive research was carried out. Regarding the procedures, this research is characterized by a survey in which 840 questionnaires were collected, filled in person by consumers from the five regions of the country. The results show that these can be divided into 3 clusters that were denominated from the dimensions obtained by the factorial analyzes of the variables of orientation to the sustainable consumption and temporal perspectives. On these groups were observed the sociodemographic data for the categorization of Brazilian consumers according to their region, age, and income. Finally, this research reaches three types of consumer profiles that are named as Now Conscious Consumer, Tomorrow Sustainable Consumer, and the Timeless Economic Consumer.*

**Keywords:** Sustainable consumption; Perspective of time; Orientation for sustainability..

**Acknowledgments**

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## **INTRODUCTION**

Excessive consumption has generated insufficiency of the natural resources and as a result, the planet has presented many environmental dysfunctions caused by man's actions through production and consumption activities that jeopardize the future generations (Dalmoro et al., 2009; WWF, 2014).

The awareness of people about environmental problems is a determining factor for consciousness and, consequently, ecological behavior, for Longo et al. (2017), the society must have access to information about the environmental impacts caused by the production and consumption of the products.

Many experts consider the current levels of consumption as unsustainable, with an emphasis on how and who is responsible for reversing this scenario and making it more sustainable (Eden, 1993; Greening et al., 2000, Jackson, 2004, Fuchs & Lorek, (2007), and Connolly and Prothero (2008), and Mont & Plepys (2008), and Fedrigo & Hontelez (2010).

Besides the people's awareness for more sustainable consumption, it is important that exist a behavior, that is, the pro-environmental attitude must become an action (Vaccari et al., 2016).

Environmental concern implies temporal concern, in which natural resources are preserved and ensured for future generations. Even the most common definition of sustainable development internalizes this temporal concern, stating that sustainable development must meet the needs of the present without compromising the needs of future generations (Brundtland, 1987).

As the long-term benefits of pro-environmental behavior involve immediate costs (eg, short-term time and money expenditures), researchers have been increasingly paying attention to the time perspective influencing individual decisions to engage in pro-environmental behaviors.

The environmental concern involves maintaining behaviors that affect future generations of people, so the strongest link between the perspective of future time and environmental involvement is understandable. However, our behaviors are influenced not only by future considerations but also by past and present temporal considerations (Milfont et al., 2012). In fact, there is now a recognition that environmental problems imply not only a conflict between personal and cooperative social interests, which is exemplified by social dilemmas but also a temporal conflict between short- and long-term interests (Arnocky et al. 2015).

In this way, the perspective of time is approached. The perspective of time, or PT, is the often-unconscious process by which continuous flows of personal and social experiences are attributed to temporal categories or temporal frames that help to give order, coherence and meaning to these events (Zimbardo & Boyd, 1999).

Measuring individual differences in time perspective involves assessing relative preferences for past / present / future events and goals. And there is a strong evidence that there are measurable differences as individuals overemphasize a specific time perspective (Milfont et al, 2012).

Several studies have been done to identify the gap between attitudes and actions on ecologically correct consumption, and what variables may influence this consumption (Azevedo et al., 2010; Longo et al., 2017). The sociodemographic variables may affect the conduct and behavior in relation to the environment, however, this area of study still lacks research (Longo et al., 2017)

Considering that current consumption patterns are considered unsustainable by some experts, which requires a redirection of people's consumption behavior in order to make this activity more sustainable (Fuchs & Lorek, 2005; Krause, 2009; Fedrigo & Hontelez , 2010); considering

that the act of consuming is influenced by several variables related to the individual differences of the consumers and to environmental aspects that involve the physical and cultural structure where the consumption takes place (Craig & Douglas, 2006; Fuchs & Lorek, 2005). , Bruggen et al., (2007); Finally, considering that there are many discussions about the types of behavior and the profiles of consumers that determine sustainability (Fabricio & Leocádio, 2013), the following question is outlined: what are the profiles of Brazilian sustainable consumers taking into account the orientation towards sustainability and the perception of time perspective?

Therefore, the general objective of this research is: To propose a categorization for Brazilian sustainable consumers according to the perspective of time. And to achieve this, it is necessary to outline the following specific objectives: i) Identify the levels of orientation for the sustainability of consumers; and, ii) Present the time perspective of these consumers.

This article is divided into five sections: the first corresponds to the introduction that addresses the problem and the objectives. The second presents the theoretical aspects of sustainability and orientation to sustainable consumption, and perspective of the present and future time. The third section discusses the methodology used. The fourth section presents the analysis and discussion of the results. Finally, in the fifth section, the conclusions are presented.

## **THEORETICAL BACKGROUND**

### ***Sustainability and Sustainable Consumption***

Consumption practices have their origin at the beginning of civilizations, a priori its purpose was to meet basic demands such as housing, food, and protection. However, in today's society, consumption goes beyond the production, purchase, and use of products, it has become a symbolic and social system, where the principles, ideas, and values of the individual are expressed, which sometimes guides their practice by following rules in order to belong to a social group (Maurer et al., 2015, Daugverne, 2010, Lipovetsky, 2007 and Bauman, 2008).

There is no life without consumption, however, the unbridled economic development and the frightening increase of the levels of world consumption have generated a preoccupation with the natural resources and the incapacity of replenishment of the planet, being able to jeopardize the tomorrow of the future generations (Barros & Costa, 2008, WWF, 2014).

Society and governments began to open their eyes to environmental issues just from the 1970s when environmental problems came to be seen as a social threat. The United Nations Conference on Environment and Development held in Stockholm in 1972 represented a historic milestone for the beginning of the search for more sustainable consumption, cleaner production and the term sustainability began to gain strength (Portilho, 2003; De Melo et al. al., 2017).

It is important to understand the term sustainability in order to understand its application in sustainable consumption. The word sustainability has been popularized in the last decades, however it carries different definitions, which makes it an ambiguous and often confusing concept (Pinheiro et al., 2017). The concept of sustainability has its foundation in biology and refers to the maintenance of all species, through the conservation and balance of ecosystems, preserving the quality of life and providing the subsistence of the greatest possible biodiversity (Butzke & Pontalti, 2014) .

In the organizational context, sustainability was defined by John Elkington in 1994 with the concept of the Triple Bottom Line or Tripod of Sustainability that relies on the integration of social, environmental and economic issues, from this definition also follows the concept of sustainable development that aims to meet the needs of the present generation without

compromising the needs of future generations, preserving the future of the human species itself and of other species (Elkington 1997, UNL 1987, Dahlstrom, 2011).

In this scenario, there is no sustainable development without sustainable consumption (Fuchs & Lorek, 2005). Several definitions emerged for sustainable consumption, but the most cited was presented during the Symposium on Sustainable Consumption held in Oslo in 1994:

*"Sustainable consumption is the use of services and related products that respond to basic needs and provide a better quality of life. This minimizes the use of natural resources and toxic materials as well as emissions of waste and pollutants throughout the service or product life cycle. Consequently, it satisfies the needs of future generations "(Norwegian Ministry for the Environment, 1994, part 1, section 1.2).*

Reducing consumption is not an option, and it is a definition proposed by the UNEP (United Nations Environment Program) that sustainable consumption is not about consuming less but consuming more efficiently and more responsibly (Jackson, 2004).

People are more aware that environmental protection is not only a task of government and business but of the responsibility of consumers as well, however government intervention is often necessary and a necessary way for citizens to act in an environmentally friendly and correct manner (Fraj & Martinez, 2007). Environmental protection is from the responsibility of everyone with the whole, and the population needs to be attentive (Torresi et al., 2010).

Sustainable consumption is not limited to the purchase of environmentally friendly products or services, neither limited to pro-environmental behavior such as reduced car use, recycling, waste reduction and the use of resources such as water and energy in a sustainable way (Shamdasani et al., 1993).

Sustainable consumption can, therefore, be considered as the search for ecologically correct products and services, the saving of resources such as water and energy, the careful use of materials and equipment to the end of their useful life, re-use whenever possible and the correct destination of materials for recycling at the end of the product life cycle (Almeida & Teixeira, 2011).

### ***Orientation for sustainable behavior***

The studies on consumer behavior seek to understand and explain consumption behaviors in an attempt to predict and measure preferences through a generalization conceived from patterns of behavior (Fabrício & Leocádio, 2013).

To explain why consumers adopt sustainable consumption orientation in their purchasing behavior, many theoretical models were used (Belz & Peattie, 2010).

The concern to investigate who is the consumer of sustainable products, what are their characteristics and how the environmental conscience of the people is modified has been frequent in the marketing researches, however to understand the sustainable behaviors of the consumers it is necessary to understand how the individuals perceive the environmental problems (Gonçalves-Dias et al., 2009).

The perception of the seriousness of environmental problems is different for ecologically conscious consumers compared to the consumers who are less sensitive to ecological issues, the first group believes that the current environmental conditions pose serious problems for

society, on the other hand, the second group believes that environmental problems can be solved by themselves (Banerjee & McKeage, 1994).

One of the main reasons why individuals do not engage in ecologically conscious actions is because of the perceived level of self-involvement in environmental protection (Wiener and Sukhdial, 1990). That is, at the moment when environmental behavior aligns with self-interest, individuals tend to comply with them (Ajzen, 1991).

Also, a portion of the population may be concerned about the environment, but they believe that the responsibility for ecological issues and their preservation lies with the government, or with large corporations, or both.

An approach to understand consumer decision making is provided by the Planned Behavior Theory, which focuses on the attempt to predict and explain consumer behavior of interest and encompasses the understanding of determinants for such behaviors (Ajzen, 1991). The behavior is the result of attitudes derived from totally conscious and rational choices of the individual (Melo et al., 2017). However, environmentally conscious consumers do not necessarily have environmentally sustainable behaviors (Ohtomo & Hirose, 2007).

In his research on consumption habits, Young et al. (2010) perceived a gap between the stated pro-environmental attitude and the behavior exercised by the interviewees. Many of the consumers showed concern about ecological issues. However, this criterion was not always taken into account at the time of purchase.

In this paper, Horne (2009) argues that although many consumers claim to take into account pro-environmental characteristics in their purchases, many still consider price and convenience as guiding criteria for purchases.

The attitudes that most influence consumers to be ecologically engaged or not are importance and inconvenience (LaRoche et al., 2001). The importance of the environment is defined as the degree that manifests the concern with ecological issues (Amyx et al., 1994). On the other hand, the inconvenience refers to how inconvenient it is perceived by the individual to behave in an ecologically engaged way (LaRoche et al., 2001). Although there is an individual's disposition for some behaviors from the attitude, this action will depend on non-motivational factors, such as the availability of resources and the perceived opportunity (time, money, skills, cooperation of others) (Ajzen, 1985).

### ***Time perspective***

While we are living the present moment, we think about the past and plan the future. This ability to shift attention between temporal frames, that is, between past, present and future, is defined by time perspective (Leite, 2014).

The perspective of time is one of the strongest forces and exerts a great influence on the behavior, attitudes and decisions of the people. The perception of temporal periods influences how the individual makes judgments and decisions (Zimbardo & Boyd, 1999). Given the aim of the research, this study is limited to addressing the present and future dimensions related to the perspective of time.

### ***Present time perspective***

The perspective of the present time is between the abstract psychological reconstructions of the past and the anticipated future. Individuals who adopt this short-term perspective tend to have a concrete, empirically, centralized representation of the present events (Karniol & Ross, 1996).

The perception of the present time equates the relation of time and consciousness (Rego, 2014). That is, an instant awareness created between sensory events as "happening now."

The present dimension, according to the Time Perspectives proposed by Zimbardo and Boyd consists of two subscales: Present-Hedonistic and Present-Fatalistic.

The Present-Hedonistic is associated with the pleasure of living, excitement and indulgence. That is, it is characterized by an orientation to pleasure and excitement present. No sacrifices today to have rewards tomorrow (Zimbardo & Boyd, 1999).

People who adopt the Present-Hedonistic tend to have an attitude of living in function of life. Interestingly, whether this attitude toward the moment appears to be adaptive or not adaptive, seems to largely depend on how this appreciative approach to the day is modulated by a concern for the future. People living now tend, in most cases, to enjoy life (Cunningham et al., 2015).

The Present-Fatalist is related to the perception of the lack of self-control of life, a fatalistic, impotent and hopeless attitude toward the future and life (Zimbardo & Boyd, 1999). It has been related to an external locus of control (Milfont & Gouveia, 2006); the literature on locus of control tends to differentiate between an internal locus of control in which people feel control over outcomes in their settings and an external locus of control in which people feel that their results lie with others or are the result of luck. In the literature on consumer behavior, the locus of external control has been associated with high levels of materialism.

### ***Future time perspective***

Individuals who adopt a future-time perspective tend to have highly significant mental representations of future events and to be attracted to such representations. This long-term perspective is characterized by the planning and achievement of future goals (Zimbardo & Boyd, 1999).

The future dimension is related to the planning and achievement of goals in the future. In general, the future orientation has been related to several positive consequences for the individual, while the predominance of an orientation to the present is associated with the risk of negative behaviors and consequences. (Wills et al., 2001)

This factor is characterized by planning and reaching future goals. The predicted relations were therefore expected with the consideration of future consequences, conscientiousness, preference for consistency and dependence on reward, along with low levels of novelty and search for sensations (Zimbardo & Boyd, 1999).

The psychological future is essentially related to motivation, and the absence of a future perspective is one of the factors that determines the inability of certain people to conceive and execute more complex constructive projects (Nuttin, 1985). The Future Time Perspective is characterized by the integration of the chronological future into the present moment of the individual. It is considered as a relatively stable personality trait, which develops from personal characteristics (Lens, 1981).

In short, it can be seen that people who have long-term, future-oriented goals are better able to turn their desires into actions, developing stronger, more durable and more balanced behavioral structures (Lens, 1981).

The future-time perspective is more related to environmental issues, and the future-time perspective is expected to have larger associations (in terms of size of effect) with environmental engagement than present perspectives (Milfont et al., 2012).

## **METHODOLOGY**

The present study is characterized as descriptive research, with a quantitative approach, as it aims to describe and categorize the relationship between the variables sustainable consumption, time perspective, and sociodemographic data.

The research was carried out through a survey through the application of a structured questionnaire. The primary data collection of this research was from August 2018 to December 2018, when the five Brazilian regions (Northeast, North, Southeast, Midwest, and South) were traversed. In total, 840 questionnaires were collected, filled in person by individuals from 10 Brazilian states (Ceará, Bahia, Pernambuco, Piauí, Amazonas, Pará, São Paulo, Goiás, Federal District, Paraná and Rio Grande do Sul).

In order to meet the general objective of the research, the data collection instrument was elaborated based on the conceptual structure as visualized in Table 1 (*p. 19*).

I was used the concept of Fabricio et al. (2017) for the sustainability-oriented consumption construct that can be operationalized through 15 conduits grouped in four dimensions: ecological awareness, resource-saving, recycling, and frugality.

For the time perspective construct, the Zimbardo and Boyd (1999) scale was used through 13 questions grouped in three dimensions: hedonistic present perspective, fatalistic present, and future perspective.

In addition to the questions about sustainable consumption orientation and time perspective, some information about the sociodemographic profile of the respondents were collected, including age, gender, level of schooling and income, for characterization of the sample.

A pre-test was carried out with 150 respondents in June 2018 to evaluate the adequate understanding of the assumptions used in the scales and to identify possible problems in the application process.

The collected questionnaires were submitted to a series of statistical analyses. Initially, with the scales of orientation for sustainable consumption and time perspective, a descriptive analysis was carried out in order to trace the profile of the respondents, regarding age, region, and income.

Then, to reach the two specific objectives, the factorial analyses were carried out to identify latent variables related to both constructs. The factorial analysis is a tool capable of reducing the dimensions of a problem, reducing the number of variables to be studied, with the least possible information reduction (Tuffery, 2011). The factorial analysis used in this research is based on an analysis of principal components, with varimax rotation method.

From the reduction of these variables, in order to reach the general objective of the research with the categorization of sustainable consumer profiles, a cluster analysis was performed that is a method that allows identifying and group observations according to the degree of similarities. This technique was applied to the dimensions obtained by the factorial analysis of the scales of sustainable consumption and time perspective. The clustering strategy by k-means is based on the representation of k groups formed by their means and how close the observations are to them (Williams, 2011). Finally, to observe sociodemographic characteristics of the clusters, a descriptive analysis was performed through a cross-tabulation between the clusters and the age, region and income frequencies.

## **ANALYSIS AND DISCUSSION OF RESULTS**

### ***Sample description***

Initially, an analysis was made to understand the profile of the survey respondents regarding sociodemographic aspects. The results are shown in Table 2(p. 19).

Among the respondents, the majority of the respondents are men (53%), earn between one to three minimum salaries (39%), have completed high school or are studying higher education (68%), are up to 25 years old (55%), and is from the northeastern region of Brazil (42%). This is justified by the geographical proximity of the origin of the researchers (northeast) and the greater ease in obtaining the questionnaires answered by the younger ones.

### ***Factorial analysis for the scales of sustainable consumption and perspective of time***

Continuing the analysis, a factorial analysis was conducted for the scale of sustainable consumption. In this scale, the result of the factor analysis for the 15 items is shown in Table 3 (p.20).

It should be noted that for this data set, considering the 15 questions, the KMO index was 0.828. In addition, the Bartlett sphericity test presented statistical significance lower than 1%. Thus, the results of both tests confirm the adequacy of the factorial analysis for this data set.

Among the tested solutions, it was chosen to maintain the one in which four factors are formed (Kaiser criterion). The factors formed explain 61% of the total variance of the data. It should also be noted that factors loads are almost all higher than 0.5, indicating that all the variables used here have a high correlation with the factors to which they belong.

In this way, the original scale was confirmed and the first specific objective was reached, which is to identify the levels of orientation for the sustainability of the consumers. For the factorial analysis resulted in four factors that can be divided into recycling, ecological awareness, frugality, and resource-saving. Table 3 (p. 20) shows ecological recycling and awareness as the highest indexes among respondents.

It was also conducted a factorial analysis for the time perspective scale, like what was done for the scale of sustainable consumption. The 13 questions of the scale were used in the analysis. The results are shown in Table 4(p. 20).

For this data set, the KMO index found was 0.767, the Bartlett sphericity test rejected the null hypothesis of no correlation between the variables at the significance level of 1%, thus attesting the adequacy of this set of data to the application of factorial analysis. In this analysis we opted for a solution with three factors (Kaiser criterion), with the total variance explained by them reaching the value of 52%.

In this way, the original scale was confirmed and the second specific objective that is to present the time perspective of these consumers. From the factorial analysis resulted in three factors that can be divided into Present-hedonistic, Present-Fatalistic, and Future. Also, Table 4(p. 20) shows the Present-Fatalistic and the Future as the highest indexes among the respondents.

### ***Cluster analysis for clustering the two scales.***

In order to achieve the main objective of proposing a categorization for Brazilian sustainable consumers according to the time perspective, a clusters analysis was carried out to obtain

clusters of the 7 factors obtained by the factorial analysis, four of the scale of sustainable consumption and 3 of the time perspective scale. Subsequently, an association between the obtained clusters and the sociodemographic data of the respondents is carried out.

First, the agglomeration planning between the factors of the two scales explained the existence of three clusters. According to the division proposed by the cluster association, the 7 factors behaved with the following groupings seen in Table 5(p. 21).

It is important to illustrate that the 7 variables used were statistically significant (Sig. <0.05). And in each cluster, there was a balanced division of data within the clusters, with 29% of the cases for cluster 1, 37% for cluster 2 and 33% for cluster 3. Thus, in the analysis, it results 3 different profiles among respondents.

In Cluster 1, it is observed a consumer who has a good index of ecological consciousness and with the perspective orientation of time for the Present-Hedonistic. With a strong negative for resource-saving and future time. That is, apparently a consumer more concerned with the pleasures of life (by the aspect of the Present-Hedonistic) that is not financially planned for the future but still has a good ecological conscience. Proportionally, this group is distributed mostly by respondents from the South / Southeast of the country, who have family income greater than 9 minimum wages and up to 24 years of age. In this way, this grouping will be called the **Now Conscious Consumer**.

Cluster 2 is characterized by a consumer profile more concerned with the future and with optimal levels of sustainable consumption when observing high levels in all the factors of sustainable orientation and negative only for its Present-Hedonistic time perspective. Thus it would be a consumer not too concerned with the pleasure of the moment, but with the long-term planning. Sustainability would then be one of those concerns and would be part of their behavior. Proportionally, this group is distributed mostly by respondents from the Northeast of the country, with a family income of up to 1 salary and aged between 46 and 60 years. In this way, this group will be called **Tomorrow Sustainable Consumer**.

In Cluster 3 there is a consumer profile in which a positive factor is observed only for resource savings. Therefore, it has no ecological awareness, nor behaves sustainably and is concerned, primarily with the financial side in its consumption orientation. Proportionally, this group is composed mostly of people from the North of the country, who have a family income of 3 to 6 wages and well distributed in the different age groups, as seen in Table 6(p. 21). In this way, this grouping will be called **Timeless Economic Consumer**.

One point to highlight in this cross-clusters with demographic data is when the age distribution between the clusters is analyzed proportionally (Table 6). It is noted that in group 1 there is a higher incidence when younger participants (up to 24 years) are observed, but as age increases, group 1 decreases in proportion as group 2 increases.

Therefore, it can be deduced that there is a fluctuation between the present and future time perspectives and their relations with sustainable consumption over time. Finally, group 3 apparently would not suffer significant changes because it is intrinsically linked to the financial aspect of consumption, regardless of age. Therefore, taking into account the whole of the analysis carried out in this research, we arrive at a categorization of Brazilian consumers briefly presented in Table 7(p. 22).

Among consumers, the young public is usually the most associated with materialism and consumerism, it can be said that they see consumption as an indicator of the quality of life. However, it is assumed that this profile of young consumers, because they have quick and easy

access to information, are aware of the current issues in which sustainability is embedded and are more clearly informed about sustainable consumption issues. It fits with the profile of Now Conscious Consumers, who seek momentary pleasure but are aware of the environmental dilemmas experienced in the world (Cardoso & Cairrão, 2007).

The categorization of cluster 2, Tomorrow Sustainable Consumers, confirms the prerogative of sustainable development that advocates a link between environmental concern and the perspective of future time, so keeping unsustainable behaviors in the present will affect future generations. However, our behaviors are influenced not only by future considerations but also by past and present temporal considerations (Brundtland, 1987; Milfont et al., 2012).

The grouping of Timeless Economic Consumers corroborates with Ajzen (1985), who states that although there is an individual's disposition for some behaviors from the attitude, this action will depend on non-motivational factors such as the availability of resources and the perceived opportunity (time, money, skills, cooperation of others), criteria such as price and convenience are still often considered more important although the interest in issues related to sustainable consumption is increasing, effective consumer behavior does not happen (Vermeir & Verbeke, 2006; Roberts, 1996).

## **CONCLUSION**

The general objective of this article was to propose a categorization for Brazilian sustainable consumers according to the time perspective. A survey was conducted with 840 participants through trips throughout Brazil. The results show that these can be divided into 3 groups that were denominated from their orientations to sustainable consumption, temporal perspectives, and their sociodemographic data's.

Regarding the first specific objective: to identify the orientation levels for consumer sustainability, the result of the factorial analysis confirmed the four dimensions: ecological awareness, frugality, recycling, and resource-saving. As well as to fulfill the second specific objective that is to present the time perspective of these consumers, the result of the factorial analysis also confirmed the three dimensions of the scale: Present-Hedonistic, Present-Fatalistic, and Future.

Then, the factors generated by both scales were used to generate three clusters in which three profiles of sustainable consumers could be grouped according to time perspective. From these groups were observed the sociodemographic data for the categorization of Brazilian consumers according to region, age and income. Finally, this research reaches three types of consumer profiles: Now Conscious Consumer, Sustainable Tomorrow Consumer, and the Timeless Economic Consumer.

It is important to highlight the relevance of considering the perspective of time in the orientation to sustainable consumption. As well as realizing that over the years there is the possibility of the individual changing his temporal perspective, leaving aside the perspective of a Hedonistic or Fatalistic Present to acquire a Future Perspective, with greater preoccupations with planning his time. Once this happens, its orientation to sustainability may also change as this research shows that individuals who adopt a future perspective present themselves with optimal sustainable orientation. But this can be confirmed with later longitudinal studies that prove this change of the individual over time.

It is also suggested that future studies seek to develop similar investigations in other countries, from different cultures, to allow comparisons between the results and to identify similarities and peculiarities of the researched constructs. In addition, qualitative studies can deepen and

aggregate a greater understanding of sustainable consumption orientation and their relationships with the perspective of time.

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## TABLES

Table 1 - Scales

CONSTRUCT	CONSTITUTIVE DEFINITION	SCALE	OBJECTIVE
Orientation for Sustainable Consumption	A broad perspective that takes into account the environmental, social and economic impacts of consumption.	Fabrcio et al., 2017	Identify levels of orientation for consumer sustainability.
Time Perspective	The non-conscious process by which the continuous flows of personal and social experiences are attributed to temporal categories that help to give order, coherence, and meaning to these events.	Zimbardo & Boyd, 1999	Present the time perspective of these consumers.

Table 2 – Sociodemographic analysis

Variable	Classes	Frequence	Frequence %
Gender	Male	432	<b>51,4%</b>
	Female	383	45,6%
	No answer	25	3,1%
Family income	Up to 1 minimum wage	54	6,6%
	1 to 3	319	<b>39,1%</b>
	3 to 6	240	29,4%
	6 to 9	89	10,9%
	More than 9	114	14,0%
	No answer	24	2,9%
	Education	Até o Ensino fundamental	30
Medio / Superior Incompleto		572	<b>68,1%</b>
Superior Completo		192	22,9%
Mestrado/Doutorado		14	1,7%
No answer		32	3,8%
Age	Até 24	447	<b>54,8%</b>
	De 25 a 35	244	29,9%
	De 36 a 45	71	8,7%
	De 45 a 60	40	4,9%
	Mais que 60	13	1,6%
Region	North	274	32,6%
	Northeast	353	<b>42,0%</b>
	South/southeast	213	25,4%

Table 3 – Factor analysis of sustainable consumption scales

	Factorial loads			
	Recycling Factor	Ecological Consciousness Factor	Resource Economics Factor	Frugality factor
RE4	0,893			
RE1	0,861			
RE2	0,859			
RE3	0,827			
CE3		0,791		
CE2		0,764		
CE4		0,736		
CE1		0,717		
ER2			0,702	
ER3			0,701	
ER4			0,647	
ER1			0,612	
FR3				0,825
FR1				0,776
FR2				0,446

Table 4 – Factor analysis of the time perspective scale

	Factorials loads		
	Present-Fatalistic Factor	Future Factor	Present-Hedonist Factor
PF2	0,719		
PF1	0,703		
PF4	0,690		
PF3	0,639		
PF5	0,562		
PH2			0,400
PH1			0,456
PH4			0,400
PH3			0,530
FO3		0,746	
FO1		0,643	
FO4		0,617	
FO2		0,471	

Table 5 – Clusters analysis

	Clusters			Sig.
	1	2	3	
Recycling	0,04941	0,31850	-0,41444	0,000
Ecological Awareness	0,12033	0,38507	-0,57064	0,000
Resource saving	<b>-1,21010</b>	0,46210	<b>0,46116</b>	0,000
Frugality	-0,07845	0,45731	-0,49486	0,000
Present-Fatalistic	0,01931	0,48463	-0,58043	0,000
Present-Hedonistic	<b>0,11706</b>	-0,11957	-0,02011	0,039
Future	-0,61317	<b>0,56550</b>	-0,15297	0,000

Table 6 – Age incidence in each cluster

	1	2	3
Up to 24	33%	31%	36%
26 to 35	24%	44%	32%
36 to 45	23%	41%	36%
46 to 60	17%	59%	24%

Table 7 – Categorization of brazilian consumers

Categorization		Age	Income	Region	Main sustainable features with time perspective		
Now Consumer	Conscious	Young adults	High	South/Southeast	Good ecological awareness, but low / medium orientation towards sustainable consumption	Lack of financial concern	Focused at the present moment and its pleasures
Tomorrow Consumer	Sustainable	Middle-aged adults	Low	Northeast	Great awareness and high orientation towards sustainable consumption	High concern for the future	Little attention to the pleasure of the moment
Timeless Consumer	Economic	Young adults	Medium	North	Totally focused on the financial side	High concern for resource saving	

*Track 04 Consumers & Brands*

**ID #692**

**Humanized and economic relationships in the online shopping environment**

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**Abstract**

*This paper looks at the implications of more personal or more economic relationships in the context of online shopping. Two studies were carried out on consumer relations in electronic retail, since in this environment, relations may have a symbolic character about humanization, or relations based on the search for discounts and savings of resources. However, while the virtual environment provides economies of scale to organizations, and consumers see e-commerce as a means of effecting their consumer relations with economic advantages, the intensification of this process suggests that there will only be price comparisons and reduction of personal relations, eroding profitability and promoting spurious relationships between companies and consumers. Two studies were carried out to investigate this phenomenon. In the first study, the paths between relationship and propensity to discount were evaluated. The following study empirically evaluated the need for consumer touch. In e-commerce, the way the consumer receives and processes information is unique since in this context, there is no personal interaction, so little, the possibility of physical contact with products. However, for some consumers, touching is an important way to obtain information. This behavior is not possible when it comes to online shopping. Structural equation modeling (MEE) has identified that relationships based on the propensity to discount lead to satisfaction and confidence in a significant way, as opposed to the search for a more humane relationship. The mediation of these variables in the virtual environment of consumption was also identified, replicating findings of the physical environment. The attitude towards the purchase intention, needing to touch (NFT) as moderator of this relation, were also analyzed through SEM. The results indicate that, for individuals with high NFT, the evaluation of the store reduces the intention to buy.*

**Keywords:** Consumer behavior; need for touch; purchase intention online;.

**Acknowledgments**

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*Track 04 Consumers & Brands*

**ID #735**

**Influence of personal aspects in the country of origin effect**

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Vivian Iara Strehlau (ESPM, Brazil)

**Abstract**

*The article explores limitations that are pointed out in the literature about the country of origin effect, such as lack of market segmentation, and research design. A model was developed that relates personal consumer aspects (self-connection with brand and country, involvement with the product category, consumer dispositions, generation) to the purchase intention of a global brand. The model was tested using PLS-SEM. The study demonstrated that personal factors impact how the consumer rates a country's image in its consumption decisions. It also showed that these personal factors interact differently when studying different consumers segments. As a result, it is concluded that consumers of different generations feel differently about the country, the brand, and the product category when forming their intention to buy. It is recommended that the design of the country of origin research consider the consumer personal aspects, such as self, involvement, dispositions for the consumption of foreign products and brands, and, above all, market segmentation, differentiating consumers who react differently to the country of origin.*

**Keywords:** Country of origin effect; Generations; Extended self; PLS-SEM..

**Acknowledgments**

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## **INTRODUCTION**

The research on the country of origin (COO) effect on product evaluation by the consumer has resulted in a large body of literature, with over 1000 articles published from the 1960s to 2004 (Papadopoulos, 2004).

Diamantopoulos et al. (2011) sought to answer several of the criticisms made about the relevance of the COO effect on the consumer buying decision. The authors conclude that the COO effect has a significant indirect influence on consumer intentions to purchase a brand. Specifically, the country image and product category image would strongly influence purchase intentions through its impact on the brand image. Thus, studies of the COO effect cannot be carried out without considering brand aspects and the product category, at least concerning consumer goods and some services. The latest research highlights the importance of context-specific factors in the relationship between the COO effect and the product/brand evaluation (Ahmed et al., 2004; Carneiro & Faria, 2016; Diamantopoulos et al., 2011; Godey et al., 2012; Josiassen et al., 2008; Pappu et al., 2006, 2007; Schuiling & Kapferer 2004; Strizhakova & Coulter 2015; Usunier & Cestre 2007).

An increasingly important approach is the one that considers the consumers' feelings about a product or brand COO. The literature on country image and its effect on consumer decisions is quite extensive (Pharr, 2005), but few studies have suggested the possibility that the COO may have emotional meaning for consumers due to causes unrelated to product stereotypes (Chen et al., 2014). In a statement to Lu et al. (2016), Zeugner-Roth, one of the top contributors on the topic, says that socio-psychological constructs (e.g., ethnocentrism, consumer affinity, cosmopolitanism, animosity and national disidentifying) are leading to new directions in research on the topic.

Another gap of COO literature is to treat consumers without segmenting them, ignoring demographic, psychographic, and socio-economic aspects (Samiee, 2010). Besides serving as control variables, demographic factors may be associated with other variables related to consumer dispositions, such as ethnocentrism (Sharma et al., 1995; Strehlau et al., 2012).

Behavior differences are also recorded as a function of age (Balabanis et al., 2002), and can be captured by the concept of generation, which groups people in a period ranging from 20 to 25 years or approximately the time it takes for a person to grow and reproduce (Meredith & Schewe, 1994). Individuals belonging to a generation were born at the same time and had similar values, beliefs, and attitudes because they have passed through the same external events in the life stage that most determine those characteristics. These events can be economic changes, wars, political ideologies, technological innovations, and social upheavals, which redefine social values, attitudes, and preferences (Schewe & Meredith, 2004).

Another developing front is the issue of consumer identity and its assessment of the COO effect. In this sense, there are some studies on the implications of extended self on the brand evaluations and purchase decisions according to the COO and domestic and global brands (e.g., Cui et al., 2014; Lu & Xu, 2015). Recent studies demonstrate the differentiated effects of the consumers' affective image of the country on the image of its products, in different purchase situations - rational versus experiential (Li et al., 2014).

Also, in a statement to Lu et al. (2016), Maheswaran suggests a change in the approach to the way consumers shape the image of countries. Although several studies already address emotions when they deal with ethnocentrism, animosity, and emotional attachment, the author

argues that greater emphasis is still needed on building a country's image under the light of the theories that deal with the emotional aspect.

The most recent studies on COO begin to address aspects of consumer identity and how their self-concept affects their assessment of products or services' country of origin. This approach must be a new aspect of COO research. In a study of 554 articles published between 1978 and 2013, Lu et al. (2016) point out that the influence of articles on the country image as well as its publication rate in first-line journals is decreasing. On the other hand, Carneiro and Faria (2016) point out that, despite 50 years of research and hundreds of articles published, the theme would not have reached its saturation.

We propose as an advance in the research on COO effect, by the inclusion of consumers' personal factors in the research model, his/her affective relationship with the country in question and his/her demographic and psychographic characteristics, factors that compose the gap not yet covered in the studies on the subject. The most recent research and the leading authors in the field, as George Balabanis, suggest that COO research should be updated by incorporating the subconscious or unconscious aspects of the consumer (Lu et al., 2016); sociopolitical characteristics of the consumer (Lu et al., 2016); market segmentation (Samiee, 2010); aspects related to the product category (Carneiro & Faria, 2016); and aspects related to brand (Diamantopoulos et al., 2011).

Faced with these questions and recommendations on the research of the country image effects on purchasing decisions, the main research question is:

*How can consumer personal factors affect the COO effect on the purchase decision?*

The hypothesis is that one cannot evaluate the effect of a product or service COO without regarding consumer's personal factors, such as their emotional relationship (connection) with the product or service's country of origin and their demographic or psychographic profile. Our general objective is to develop and empirically test a model that explains how consumer personal factors interfere in his/her intention to purchase global brands, and how it is affected by the product's country of origin. Each specific objective is associated with one of the trends pointed out for the study of the COO effect by the leading authors of the area, according to Figure 1.

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

## **LITERATURE REVIEW**

We will review for the model construction: consumer's self-country and self-brand connection, involvement with product categories, ethnocentrism as a disposition for buying (or not) global brands, and the concept of generations, the psychographic aspect chosen to moderate the research model.

### ***Self-Country Connection***

According to the Social Identity Theory (Tajfel, 1982), an individual has not only a "personal self," but also several social selves, depending on the different social contexts through which he/she circulates. These facets are grouped, by theory, into in-groups and out-groups. People who develop an affinity with a foreign country can do so because they identify with the country's culture; because they consider the country to be one of their in-groups; or feel that their identification with the country contributes to their social identity (Nes et al., 2014). Studies show that the lower the consumer's extended self, the stronger is the COO effect, and consequently, the greater the weight of in-group factors (greater animosity and ethnocentrism,

less acculturation), but few studies have focused on these factors such as layers of armor that consumers use to protect their self and their extended self (Cui et al., 2014). However, the self is never measured directly; it is only used as a framework and inferred from other findings (Dengfeng & Sengupta, 2013). Thus, we intend to assess the impact of the self-country connection as being part of the consumer's extended self and to measure its impact on the purchase intent, involvement with the product category, consumer ethnocentrism, and self-brand connection. Moraes et al. (2018) defined the construct self-country connection as "Consumers can establish connections of their selves with a country, incorporating the image of a country (own or foreign) to their extended self, as they do with possessions and brands."

*H1a: The self-country connection (SCC) has a positive effect on purchase intention (PI).*

*H1b: The self-country connection (SCC) has a positive effect on involvement with the product category (INV).*

*H1c: The self-country connection (SCC) has a negative effect on consumer ethnocentrism (ETH).*

*H1d: The self-country connection (SCC) has a positive effect on the connection of the self with the country's brand (SBC).*

### **Self-Brand Connection**

Brand personality as a single predictor of consumer behavior has produced unconvincing results and should not be used in isolation to provide relevant consumer-brand information (Brancaleone & Gountas, 2007). Many other factors influence the consumer concerning brands, and personality explains only a small part of the variance of behavior (Goldsmith et al., 1995). In this way, consumer relations with the brand can be formed based on individual or group connections, with the objective of creating self-concepts and personal identities of consumers, as well as satisfying psychological needs, such as the active creation of self-concept, reinforcement and expression of self-identity, and differentiation and affirmation of individuality (Belk, 1988; Richins, 1994; Swaminathan et al., 2007). Gürhan-Canli et al. (2018) stress the importance that, amid growing geopolitical tensions and growing polarization in different countries, the affective processes underlying consumer responses to global and local brands are a topic of additional investigation. According to the authors, the literature on consumer behavior already investigates the role of affect in thinking, problem-solving, and decision making, but few pieces of research have focused on affective processes used in the evaluation of global and local brands. Within this line of thought, the evaluation of the consumer's self-connection with brands is relevant. When brand associations are used to create and define consumer self-concept, a connection or link between the brand and the self is built (Escalas & Bettman, 2003). The self-brand connection is considered a critical dimension of the consumer-brand relationship (Swaminathan et al. 2007). Thus, the connection of the self with the brand was measured as influencing consumer's intention to buy.

*H2a: The self-brand connection (SBC) has a positive effect on purchase intention (PI).*

*H2b: The self-brand connection (SBC) has a positive effect on the involvement with the product category (INV).*

*H2c: The self-brand connection (SBC) has a negative effect on consumer ethnocentrism (ETH).*

*H2d: The self-brand connection (SBC) has a positive mediating effect on the relationship between self-country connection (SCC) and purchase intention (PI).*

*H2e: The self-brand connection (SBC) has a positive mediating effect on the relation between self-country connection (SCC) and involvement with the product category (INV).*

*H2f: The self-brand connection (SBC) has a negative mediating effect on the relation between self-country connection (SCC) and consumer ethnocentrism (ETH).*

### **Product Category Involvement**

The way in which the product origin influences consumers is a function of their involvement with the product category (Josiassen et al., 2013). According to the elaboration likelihood model (ELM), based on the persuasion theory, consumers use either a central route or a peripheral route for their analysis in their decision-making process (Petty et al., 1983). In general, ELM postulates that consumers will use a central route under conditions of high involvement with the product category when they exert a high cognitive effort to evaluate the available information. In contrast, consumers use a peripheral pathway in low-involvement circumstances when they tend to base their assessment on a more superficial analysis employing salient and accessible stimuli (Petty et al., 1983). Based on persuasion research results, some studies on origin image suggest that consumers rely more on origin information when they are less involved in the product category because the origin image acts as a proxy in which they can form the basis of a purchase decision (e.g., Han, 1989; Maheswaran, 1994). Thus, the level of consumer involvement with the product category is a mediating variable for the purchase decision. The following hypotheses intend to evaluate the impact of involvement as a mediator on the intention to buy.

*H3a: Involvement with product category (INV) has a positive effect on the purchase intention (PI).*

*H3b: Involvement with product category (INV) has a positive mediating effect on the relationship between self-connection with the country (SCC) and purchase intention (PI).*

*H3c: Involvement with product category (INV) has a positive mediating effect on the relation between self-connection with the brand (SBC) and purchase intention (PI).*

### **Consumer Ethnocentrism**

Lately, consumer dispositions toward foreign countries and globalization have been used by international marketing researchers as an approach to understand consumer behavior in multicultural contexts (Sankaran & Demangeot, 2011). The consumer dispositions are conceptualized in the consumption context “either as orientations defined as ‘set of values, opinions, and competencies held by certain individuals’ or as attitudes defined as ‘learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object’” (Bartsch et al., 2016, p. 3630). Among the various consumer dispositions (cosmopolitanism, patriotism, xenocentrism, etc.), the ethnocentric consumption occupies a position that is not only central but also predominant in all studies on consumer dispositions (Porto-da-Rocha et al., 2018). Shimp and Sharma (1987, p. 280) defined consumer ethnocentrism as the “morality of the acquisition of foreign-made goods,” which would be immoral and unpatriotic, would hurt the domestic economy, and lead to a loss of local jobs. Recent evidence from longitudinal research supports the view that ethnocentrism has the enduring nature of a personality trait and is unaffected by social factors such as out-group size and closeness and ethnic diversity. On the other hand, it would serve to provide people with a sense of belonging to a group, and pro-social behavior, because consumers may need to make sacrifices in quality and price to favor domestic products (Siamagka & Balabanis, 2014).

However, empirical results show that client characteristics such as age and gender directly influence trends for ethnocentrism (Josiassen et al., 2011). Thus, the following hypotheses intend to evaluate the impact of ethnocentrism as a mediator on the intention to buy.

*H4a: Consumer ethnocentrism (ETH) has a negative effect on purchase intention (PI).*

*H4b: Consumer ethnocentrism (ETH) has a negative mediating effect on the relationship between self-country connection (SCC) and purchase intention (PI).*

*H4c: Consumer ethnocentrism (ETH) has a negative mediating effect on the relation between self-brand connection (SBC) and purchase intention (PI).*

### **Generations**

Since it is part of our main objective to segment the consumers to evaluate behavioral differences concerning the country of origin, we studied consumer generation as a moderator of the effects of each independent variable with all others.

Baby Boomers (BB) and Younger Millennials (YM) have been defined as generations to moderate the model. BB currently holds great consumer power and are at the center of economic and political decisions, while the YM are considered the next generation up regarding consumer decisions. These two generations are groups of high interest, both for marketing and consumer behavior, as well as other areas such as human resources, economics, and demography. They are also age-distant, with the Boomer generation more than 50 years old today, by any classification adopted, and the Younger Millennials less than 25 years old, and yet to be well-described and defined. According to some of the classifications of generations, this 25-year interval is what differentiates one generation from another. The hypotheses about the moderating role of the generations in the model are:

*H5a: The impact of self-country connection (SCC) on the purchase intention (PI) is different between generations (YM, BB)*

*H5b: The impact of self-country connection (SCC) on involvement with the product category (INV) is different between generations (YM, BB)*

*H5c: The impact of self-country connection (SCC) on ethnocentrism (ETH) is different between generations (YM, BB)*

*H5d: The impact of self-country connection (SCC) on the connection of the self with the brand (SBC) is different between generations (YM, BB)*

*H5e: The impact of self-brand connection (SBC) on the purchase intention (PI) is different between generations (YM, BB)*

*H5f: The impact of self-brand connection (SBC) on involvement with the product category (INV) is different between generations (YM, BB)*

*H5g: The impact of self-brand connection (SBC) on ethnocentrism (ETH) is different between generations (YM, BB)*

*H5h: The impact of involvement with the product category (INV) on the purchase intention (PI) is different between generations (YM, BB)*

*H5i: The impact of ethnocentrism (ETH) on the intention to buy (PI) is different between generations (YM, BB)*

Figure 2 shows the general research model to be tested

\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\*

## **METHODOLOGY**

We used the survey to collect data. The questionnaire began with the control variables gender, age, income, education, and international experience, following the independent variable, the mediating variables, and, in the end, the dependent variable. The questionnaire used a 5-item Likert scale, which has good sensitivity and allows the questionnaire on mobile devices, widely used for much of the target audience of the survey (Barboza et al., 2013).

Unlike traditional studies, in which country, product and brand are previously selected and submitted to the respondents, this step was left to the interviewee's discretion, who chose a country which he/she identified with and admired or liked a lot. The interviewee could have visited this country, be a native descendant of the country, or have constructed the image through readings, Internet browsing, or comments from other people. They then chose a product category and a brand of that category that they associated with the country. The association did not have to be correct; it mattered what the consumer thought was right (Magnusson et al., 2011).

Sampling was non-probabilistic, for convenience, with ages under 25 and above 50 years, to characterize the BB and YM generations, all with a medium to the high family income. The sample consisted of 809 elements from both generations (560 YM, 249 BB). The sampling procedure was based on Cleveland et al. (2009). Undergraduate students were instructed to complete the online questionnaire in the computer lab, under our supervision, to solve questions of completion. After that, we asked them to send the questionnaires online to designated respondents (one to two adult members of the family, friends, and members of the social network), of different ages (at least one under 25 years old and at least one more than 50 years). The survey was hosted on the SurveyMonkey server. As an incentive to increase the number of responses, multiplier students were rewarded with credits for the number of responses achieved, after verification of the answers concerning IP, duration, identification, and full completion.

The independent variable studied was a self-country connection, measured by the Self-Country Connection (SCC) scale (Moraes et al., 2018). The scale of Putrevu and Lord (1994) was used to measure the dependent variable purchase intention (PI), as used by Oberecker and Diamantopoulos (2011). In order to evaluate possible influences on the relationship between independent and dependent variables, the following mediating variables were used: self-connection with the brand - SBC (Escalas & Bettman, 2003); involvement with product category - INV (Zaichkowsky, 1994); ethnocentrism - ETH (Oberecker & Diamantopoulos, 2011). These scales were used to test the hypotheses about the direct effect (2 a, b, c, 3 a, 4 a), and mediation 2 (d, e, f), 3 (b, c) and 4 (b, c) (Baron & Kenny, 1986; MacKinnon et al., 2002).

The moderator variable used was dichotomous (Generations BB and YM), with continuous independent variables. Generation was measured primarily by the age of the consumer. To classify Baby Boomers (BB), we adopted the most accepted criterion, such as born from 1946 to 1965 (Meredith et al., 2002). To classify the Younger Millennials (YM), we applied the criterion developed by Debevec et al. (2013), who divided this generation into two groups and called Younger Millennials those aged 17 to 23 at the time of the survey. Thus, in the present study, the youngest group investigated, which is seen as a new cut concerning generation, was the one born between 1993 and 1999, aging today between 19 and 25 years, approximately the

period considered as maturation (coming of age). The hypothesis regarding moderation is H5 (a, b, c, d, e, f, g, h, i).

We performed data analysis using the Structural Equations Model (SEM), to specify and analyze the interdependencies between the observed variables and the theoretical constructs, through the construction of the measurement model (outer model) and the structural model (inner model). The measurement model specifies how the latent variables or the hypothetical constructs are measured regarding the observed variables and describes the properties of the measures. The structural model specifies the causal relationships between the latent variables and describes the causal effects and the amount of unexplained variance (Chattopadhyay et al., 2010). There are two types of methods for applying SEM: covariance (CB-SEM) and partial least squares (PLS-SEM) techniques (Hair et al. 2012). According to Hair et al. (2016), CB-SEM is used to confirm (or reject) theories, whereas the variance-based model (PLS-SEM) is mainly used for exploratory studies and the development of theories. Besides, PLS-SEM would also be the most suitable model for a small sample, non-normal data, formative constructs, high model complexity, prediction of key constructs, and/or drivers (Hair et al., 2011). The present study can be characterized as exploratory because it applies for the first time affective and emotional, psychological, and sociological constructs (connection of the self with country and brand, involvement with product category, ethnocentrism) in relationships previously measured with constructs of more rational and cognitive nature (country image, evaluation of product quality, evaluation and brand personality) (Zeugner-Roth et al., 2015). Since this is a consumer behavior study, the data are not necessarily adherent to a multivariate normal distribution, which is common in studies of this nature, and PLS-SEM does not make assumptions about distributions since it is a non-parametric method (Hair et al., 2016; Ringle et al., 2014). The model is complex, or non-focused, as it has many endogenous variables and mediating effects, and a low number of exogenous variables (Hair et al., 2012, 2016). The model also aims to predict a dependent variable, purchase intention. Finally, one of the constructs was confirmed as formative, which reinforces the adequacy of PLS-SEM utilization. Thus, the studied model fulfills all the conditions to be evaluated with the use of SEM-based on variances (complex model, development of theory, and not test of existing theory, data not necessarily normal, predictive, formative construct), except for the size of sample, which, because it is not small, increases the precision and consistency of PLS-SEM. The data processing of the structural equation model was performed with SmartPLS software, v.3.

## RESULTS

We analyzed the 1595 questionnaires collected for their quality to exclude cases that might affect the results. We excluded those questionnaires unidentified, with problems of filling, with problems in unengaged responses ("I am a robot" and "We are in the year 2019"), with a very low standard deviation (meaning standardized answers), that inconsistently answered reverse questions, and beyond the age of analysis (only Baby Boomers and Young Millennials). After this exclusion, the resulting sample was 809 subjects.

The occurrence of missing data was very low (less than 0.2%), while the acceptable one is in the range of up to 10%, since they occur randomly, which was also the case in the present study (Hair et al., 2009). The few missing data cases were completed using the mean imputation method. The measurement of the Mahalanobis distance (MD) analyzed outliers, and no cases of atypicality have been identified (Hair et al., 2009). Multicollinearity verifies how much a variable can be explained by another, or to what degree an effect of a variable can be predicted or explained by other variables. In this case, multicollinearity was measured with the Variance Inflation Factor (VIF), which ranged from 1.460 to 2.874, a good measure. VIF has a lower limit of 1 and has no upper limit. However, VIF above 2.50 indicates an  $R^2$  of 0.60 and should be analyzed with caution (Allison, 2012).

The distribution by gender in the sample is in line with that of the population (female 52% in the sample and 51% in the population) (IBGE, 2010). As for age, the YM group (57%) has representation in the sample above the population (42%), as well as the BB group (25% versus 20% in the population). The distribution of the variable income in the sample also does not follow the characteristics of the population. These differences are due to the sampling procedure, which had as its starting point a group of students from a high purchasing power faculty.

The sample size as defined by the "10 times rule" should be ten times the largest number of arrows pointing to a construct. In the present case, the PI receives four arrows, which would give a sample size of 40 elements. Ringle et al. (2014), however, suggest that to be a more consistent model it is interesting to use double or triple that value (120 elements). For G. Power, for an alpha of 0.05, an effect of 0.3, and power of 0.95, the size should be 111. By the criteria of Cohen (1992) for the significance level of 5% and minimum  $R^2$  of 0.10, the sample should be 113, with four as the maximum number of arrows pointing to a construct (number of independent variables). As the smallest group analyzed was that of the generation BB, with 249 elements, the sample size does not constitute a problem.

Hair et al. (2012) indicate that the distribution of the sample should be analyzed about skewness and kurtosis. The sample had a skewness of -1,607 to 1,078, and kurtosis of -0.989 to 3.769, for the various indicators. According to Hair et al. (2012), skewness values greater than |1| indicate skewed distribution, and kurtosis values above 1 indicate a leptokurtic distribution and below -1 a platykurtic distribution. The variables that exceed the limit values, both for skewness and for kurtosis, are INV01, INV02, INV03, INV04, INV05, ETH2, ETH4, PI1, PI2, all leptokurtic. They are 9 of 31 variables. The values achieved do not indicate a perfectly normal distribution, but the problem is much less severe in PLS-SEM. In any case, it is necessary to look carefully at the results of these variables.

The analysis of PLS-SEM follows the procedures indicated by Hair et al. (2012, p. 429). Figure 3 shows these configurations and those used for analysis.

\*\*\*\*\* **FIGURE 3 ABOUT HERE** \*\*\*\*\*

The model was built with the reflective latent variables SCC (self-country connection), SBC (self-brand connection), ETH (ethnocentrism), PI (purchase intention), and the formative index INV (involvement), and is presented in Figure 4. The indicators used to measure each construct are found in the Methodology chapter.

\*\*\*\*\* FIGURE 4 ABOUT HERE \*\*\*\*\*

### ***Outer Model Analysis - Reflective***

The measurement model (outer model) evaluation involves examining the individual indicators' reliability, the reliability for the composition of measures of each construct (i.e., the internal consistency reliability), as well as the measurements convergent and discriminant validities.

The indicators' reliability was determined by the factorial loads of each indicator in relation to the construct. A common rule of thumb is that standardized external loads should be 0.708 or more (Hair et al., 2016). The highest result in the reliability indicator was obtained for SCC4 ( $0.852 = 0.72$ ) and the lowest for SCC5 ( $0.652 = 0.42$ ). The criterion for a good reliability indicator (factorial squared load  $\geq 0.70$ ) was reached in two of the indicators - in most of the indicators - the result was between 0.60 and 0.68. However, Hulland (1999) points out that for exploratory studies, such as the one being analyzed, loads above 0.40 are acceptable. The lowest squared load obtained was 0.42, which indicates enough levels of reliability of the indicators.

The reliability analysis of data internal consistency is made through the analysis of the Cronbach's alpha and composite reliability. The criteria for accepting these both measures are between 0.70 and 0.90. The results are within these parameters except SCC and SBC. Although results above 0.90 can be interpreted as scales that have redundant indicators, Hair et al. (2016) warn that composite reliability tends to "overestimate the reliability of internal consistency, resulting in comparatively higher estimates" (Hair et al., 2016, p. 112). Thus, the results indicate that the measurement model presents reliable internal consistency without adjustments.

Convergent validity measures the extent to which a measure positively correlates with alternative measures of the same construct. The results, all above the AVE criterion  $\geq 0.50$ , indicate that, on average, the constructs explain more than 50% of the variance of the indicators, and there is less variance explained by the errors of the items. That is: the constructs explain what they are meant to explain.

Establishing discriminant validity implies that a construct is unique and truly distinct from other constructs by empirical patterns, and captures phenomena not represented by other constructs in the model. There are two ways of measuring discriminant validity (Chin, 1998). The first is the analysis of cross loads. In this case, the cross-load analysis suggests that the discriminant validity was established, since no load exceeds that of the construct indicators themselves. The second approach to assess discriminant validity is the criterion of Fornell and Larcker (1981), which verifies whether the square root of the AVE values is higher than its highest correlation with any other construct. The results for the Fornell-Larcker analysis established the discriminant validity. That is: the constructs are unique and distinct.

### ***Outer Model Analysis - Formative***

The CTA-PLS (Confirmatory Tetrad Analysis), performed with 5000 bootstraps, confirmed that the INV construct does not fit as reflective, but as formative, since the tetrad test of the bias-corrected confidence interval was significantly different from zero. This fact confirms the theory.

According to Hair et al. (2016), many researchers use the same criteria to evaluate formative constructs. The authors indicate the following steps to analyze the results of the formative constructs: a) examine collinearity between indicators; and b) examine the significance and relevance of indicators of the formative construct.

High correlations between items in formative models are not expected, as opposed to reflective indicators, which are essentially interchangeable. High correlations between two formative indicators (collinearity) may prove problematic from a methodological and interpretative point of view. The assessment of collinearity is done by analyzing the VIF of the formative indicators, which represents how much the standard error was increased by the presence of collinearity. The results showed a maximum VIF of 2.87, below the criterion of 5, indicating that collinearity is not a problem for the INV formative construct.

Another criterion for the formative construct evaluation is the outer weight, which measures whether each indicator contributes to the construct and whether these weights are significantly different from zero. Only the indicators INV01, INV07, INV09, and INV10, presented significant weight. The other indicators, although they have outer loadings between 0.50 and 0.70 and significant, are not of significant relative importance, and, therefore, will be removed from the model for future analysis. The exclusion of these items is based on Zaichkowsky's theory (1994). The original scale divides the ten indicators into two groups: cognitive involvement and affective involvement. Of the four indicators retained, three are from the cognitive group, and one is from the affective group. Thus, the construct involving the product category can be characterized as cognitive involvement.

### ***Inner Model Analysis – Structural Model***

The steps to test the inner model are: a) to evaluate collinearity; b) to evaluate the relevance and significance of the relationships in the model; c) to evaluate the  $R^2$  level; d) to evaluate the size of the  $f^2$  effect; and e) to evaluate the predictive relevance  $Q^2$  (Hair et al., 2012, 2016). These steps will be discussed below.

The analysis for the model collinearity is analogous to that done for the formative constructs. The values found for VIF in the model are from 1.00 to 1.19, all below the criterion ( $<5$ ), so there is no need to eliminate constructs, merge predictors or create second-order constructs: the model follows unchanged.

The relationships of the structural model (or path coefficients) represent the hypothetical relationships between the constructs. The path coefficients with standard values close to  $|1|$  represent strong, positive or negative relationships, and tend to be statistically significant.

Table 1 shows the results of the direct, indirect and total effects of the relationships, associated with the hypotheses.

\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\*

It is not enough if the coefficient is strong or weak; it must be statistically significant since its value indicates the extent to which the exogenous construct is associated with the endogenous

construct. In marketing, researchers typically assume a significance level of 5%. However, this level does not always apply. Studies that involve experiments assume a level of significance of 1%, whereas in studies of an exploratory nature, researchers generally assume a level of significance of 10%. Ultimately, the choice of level of significance and type of test (one or two tails) depends on the field and the purpose of the study (Hair et al., 2016). In the present study, of an exploratory nature in which one intends to evaluate if effects are greater than others, not only different, a level of 10%, one-tailed was used.

Only the total effect  $ETH \rightarrow PI$  is not significant to at least 10%. The other total effects are all significant, being stronger ( $SBC \rightarrow PI = 0.38$ ;  $SCC \rightarrow INV = 0.24$ ), or weaker ( $SBC \rightarrow ETH = 0.06$ ;  $SCC \rightarrow ETH = -0.09$ ), direct ( $SCC \rightarrow SBC = 0.37$ ), or indirect ( $SCC \rightarrow PI = 0.04 + 0.17 = 0.21$ ). Thus, the model shows moderate to low effects, but is significant in its structure.

Table 1 results indicate that there is mediation between  $SCC$  and  $INV$ , and between  $PI$  and  $SCC$  and  $SBC$ . It is important to note that, while the indirect effects [H1b]  $SCC \rightarrow INV$  and [H2b]  $SBC \rightarrow PI$  only intensify an already statistically significant effect, the indirect effect [H1a]  $SCC \rightarrow PI$  raises the direct effect that was 0.04 and not significant to 0.20 and significant, which changes the interpretation of the relationship, which, through mediation by  $SBC$  and  $INV$ , may become relevant. It would be in line with the proposal of Diamantopoulos et al. (2011), that the country-of-origin effect manifests indirectly, through other factors, such as brand image and product category evaluation, and through more affective and emotional factors, such as country and brand connection with self and involvement with the product category.

For ethnocentrism ( $ETH$ ), the most relevant relation is  $SCC \rightarrow ETH$ , with a direct and total negative and significant effect to at least 5% (-0.10 and -0.09, respectively). This result advances the theory on ethnocentrism, reinforcing that the individual who has a connection of his/her identity with some foreign country will tend to be less ethnocentric in its decisions of consumption.

Table 2 shows the  $R^2$  results for the model.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

The value of  $R^2$  ranges from 0 to 1, with higher levels indicating greater predictive accuracy.  $R^2$  values of 0.20 are considered high in disciplines such as consumer behavior (Hair et al., 2011; Henseler et al., 2009), which is the case of the present research. In any case, the results obtained for  $R^2$  cannot be considered good. Only  $PI$ , which is the dependent variable with several arrows towards it, reached a level that could be considered good in consumer behavior surveys. It indicates that, with restrictions, the model can reasonably predict the purchase intention.

However, selecting a model based exclusively on the  $R^2$  value is not a right approach. The addition of constructs (not significant) to explain an endogenous latent variable in the structural model always increases its  $R^2$  value. The greater the number of paths pointing to a target construct, the higher is its  $R^2$  value. Top tier journal editors and reviewers increasingly encourage the inclusion of model  $f^2$  size in the model analysis (Hair et al., 2016).

After assessing the  $R^2$  values of all endogenous constructs, the magnitude of the change in  $R^2$  value should be evaluated when an exogenous construct is omitted from the model. This measure is known as the size of the  $f^2$  effect. Table 3 shows the results for  $f^2$ .

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

The change in  $R^2$  values is calculated by estimating the PLS path model twice: the first time includes the exogenous latent variable; the second time excludes the exogenous latent variable. The guidelines for evaluating  $f^2$  are that values of 0.02, 0.15 and 0.35, respectively, represent small, medium, and large effects of the exogenous latent variable (Cohen, 1988). Effect size values less than 0.02 indicate no effect. Only SCC  $\rightarrow$  SBC presented moderate effect (0.16), while SBC  $\rightarrow$  PI was close (0.12). With weak effect: SCC  $\rightarrow$  INV (0.03); SBC  $\rightarrow$  INV, INV  $\rightarrow$  PI (0.04).

Hair et al. (2016) also recommend evaluating the value of  $Q^2$ , which is an indicator of predictive power or predictive relevance outside the sample. When a PLS path model exhibits predictive relevance, it accurately predicts unused data in model estimation. Table 4 shows the results for  $Q^2$ , calculated using cross-validated redundancy.

\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\*

Values of  $Q^2$  greater than 0 suggest that the model has predictive relevance for a given endogenous construct. In contrast, the values of 0 and below indicates a lack of predictive relevance (Chin, 1998). The endogenous construct that the model can best predict is purchase intention (PI  $\Rightarrow Q^2 = 0.12$ ). Also, above 0 are the endogenous SBC and INV constructs ( $Q^2 = 0.07$  and  $0.04$ , respectively). ETH has no predictive relevance.

### **Mediation Analysis**

For the mediation analysis, the indirect effects were opened on specific indirect effects, identified with bootstrapping of 5000 samples. Table 5 shows the result. All identified mediations are initiated by the exogenous variable SCC and are composed of only one variable or a set of variables.

\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\*

SBC proved to be the main significant mediator with the highest indirect effects. It mediates significantly ( $p < 0.01$ ) the relations [H2d] SCC  $\rightarrow$  SBC  $\rightarrow$  PI (0.13), and [H2e] SCC  $\rightarrow$  SBC  $\rightarrow$  INV (0.08). That is, the connection of the individual's self with the country has an impact on the intention to buy, and on the involvement with the product category, mainly intermediated by the connection of the self with the brand.

INV also has a significant effect at 1% on the mediation [H3b] SCC  $\rightarrow$  INV  $\rightarrow$  PI (0.03) and [H3c] SBC  $\rightarrow$  INV  $\rightarrow$  PI (0.02), but this effect is weak. That is to say: the involvement with the product category affects the impact that the connection of the self with both the country and the brand has on the intention to buy, but in a weak way.

ETH does not play a significant role in mediating model variables.

The analysis of the total effects after mediation was done by crossing the effect (which measures the size of the impact of one variable on the other) and  $f^2$  (which measures the force of that impact). The impact of the effect was classified as high ( $> 0.30$ ), intermediate (0.10 to 0.30), and low ( $< 0.10$ ), and as significant ( $p < 0.1$ ), or not significant ( $p > 0.1$ ). The force of effect ( $f^2$ ) was classified as large (0.30), medium (0.15), and small (0.02) (Cohen, 1988). Table 6 shows the results.

\*\*\*\*\* TABLE 6 ABOUT HERE \*\*\*\*\*

The effect that is confirmed with direct, high, significant impact with medium force is [H1d] SCC-> SBC, followed by [H2a] SBC-> PI, with high, significant, medium effect mediated by INV (Table 5 [H3c]). That is: the individual connects his/her self with the country, with the country's brand, and decides to buy the product (SCC-> SBC-> PI) with some consideration for involvement with the product category.

Another group of variables has intermediate and significant effect, but of small strength: [H1b] SCC-> INV, [H2b] SBC-> INV, [H3a] INV-> PI. That is: the individual connects his/her self with the country, which entails greater involvement with the country's product category; also connects his/her self with the country's brand, which also entails more involvement with the country's product category; the higher involvement with the country's product category influences its decision to purchase the country's product (Table 5 [H3b] SCC-> INV-> PI; [H3c]). SBC-> INV-> PI). The SCC total effect on the purchase intention [H1a] SCC-> PI, has significant intermediate effect, and is mediated by SBC and INV (Table 5 [H2d] SCC-> SBC-> PI [H3b] SVV-> INV-> PI). As the p-value of  $f^2$  is not significant, it cannot be assessed if the effect would have force. That is, in connecting his/her self with a country, the individual will be prone to buy a product/brand of that country, but it is not possible to know if this effect is large or small.

The other impacts (all related to ETH) presented varied results and are analyzed case by case. As expected, [H1c] SCC-> ETH has a negative impact, significant, intermediate, but without force. The more the individual connects his/her self with a foreign country, the less ethnocentric he/she will be, but without conviction. In the case of the connection of the self with the brand [H2c] SBC-> ETH, however, the impact that resulted was, contrary to what was expected, positive, but not significant and without force. The impact of ETH on PI [H4a] ETH-> PI was also positive but low, not significant, and without force.

### ***Moderation Analysis***

The purpose of moderation analysis is to identify which variables and which relationships are affected by the moderating variable "generation," either as to the direction or strength of a relationship between an independent variable or predictor and a dependent variable or criterion. The total sample of 809 components is divided initially into 560 YM and 249 BB. For comparison purposes, 264 elements of the YM sample were randomly drawn so that the sample was equivalent in size to that of BB because, for some tests, the sample size interferes in the results (S.E., t-test). The model already adjusted with the reduction of INV indicators was replicated for each generation. This topic evaluates Hypothesis 5.

The first analysis compares the total effects of each relationship between the two generations evaluated. As for mediation, the analysis of total effects for moderation was done by crossing the effect (which measures the size of the impact of one variable on the other) and  $f^2$  (which measures the force of that impact). The results are shown in Table 7.

\*\*\*\*\* **TABLE 7 ABOUT HERE** \*\*\*\*\*

ETH is the variable that presented signal change between generations (SCC-> ETH), although only the YM generation presents the expected relation, which is the SCC to impact on ethnocentrism, in a negative and significant way. The BB generation, in addition to the result not being the expected negative, is still not significant. That is, the more the YM connect to a foreign country, they would tend to be less ethnocentric. However, the latent variable ETH did not present statistical significance in any other effect, for any of the generations, as occurred with the general model.

The self-connection with the country showed an impact on the purchase intention (SCC-> PI), higher for the BBs (0.29 x 0.14 YM). BBs also tended to consider more the product category in the purchase decision (SCC-> INV = 0.31; INV-> PI = 0.25), significantly and with small force.

YMs show a greater impact of the self-brand connection in the intention to buy (SBC-> PI = 0.48, significant and with medium strength), and this connection is impacted by the connection they have with the country (SCC-> SBC = 0.37, medium force). For the BBs, in turn, the self-country connection also has a high impact, with force tending to great, in the self-brand connection (SCC-> SBC = 0.44).

It can be concluded that, in general, YM give more value to the connection they have with the brand in their intention to buy, while the BB value more their involvement with the product category in their intention to buy.

The R<sup>2</sup> is presented in an equivalent way for both generations. Except for ETH, all are significant, with p < 0.01. For the BB generation, the PI and SBC constructs have the best result, with 23% and 20% of their variance explained by the predictor variables, respectively. For the YM generation, the model can explain 20% of the variance of PI, and 12% of SBC, lower than for BB. Even though it is relatively low, R<sup>2</sup> points out that PI, the variable resulting from the model, is predicted to be practically the same for both generations, and that the connection of the self to the brand is best explained to the BB generation. Table 8 shows the results for R<sup>2</sup>.

\*\*\*\*\* TABLE 8 ABOUT HERE \*\*\*\*\*

Finally, when comparing the differences between the total effects for YM and BB, it is possible to identify which relationships are affected by the different generations. A one-sided test was performed for the difference of means. The choice between unilateral or bilateral p-values depends on the hypothesis to be studied. If the hypothesis is not specific and only states that the means in the two groups are unequal, then a bilateral p is appropriate. However, if the hypothesis specifies that the mean of one group is higher than that of another, as in the present study, then a unilateral p can be used (Ludbrook, 2013).

The standard error value (S.E.) was calculated according to Formula 1.

$$\text{Formula 1} \quad S.E. = \frac{StDev}{\sqrt{n}}$$

The t-test value was calculated according to Formula 2 (Chin 1998).

$$\text{Formula 2} \quad t = \frac{Path_{YM} - Path_{BB}}{\sqrt{\left[ \frac{(m-1)^2}{(m+n-2)} * S.E._{YM} + \frac{(n-1)^2}{(m-n-2)} * S.E._{BB} \right]} * \left[ \sqrt{\frac{1}{m} + \frac{1}{n}} \right]}$$

Table 9 shows the result of the comparison between the total effects per generation.

\*\*\*\*\* TABLE 9 ABOUT HERE \*\*\*\*\*

All relations have been different between generations, except for SBC-> ETH - both generations have the same relation between the connection they have with the brand and ethnocentrism: the higher the connection, the less is the ethnocentricity.

These results reinforce the outcomes and conclusions related to the impacts and forces of relations, at any level of significance (1, 5, or 10%). The size of impacts is significantly different between the constructs considered in the model.

Different generations connect with countries and brands and engage with product categories with different intensities. The country of origin is more important for the BB than for the YM, while the brand is more important to the YM.

### ***Hypotheses Testing***

The hypotheses of the model are divided into three groups: hypotheses related to effects, hypotheses related to mediation, and hypotheses related to moderation. The results have already been reported in the previous topics, and in the sequence are tables that summarize the support (or not) of the variables. Table 10 shows the results for hypotheses related to effects, with the total effect, the p-value (represented on the side of the effect), and the force of the effect ( $f^2$ ).

**\*\*\*\*\* TABLE 10 ABOUT HERE \*\*\*\*\***

The hypotheses H1d and H2a (country > brand > purchase intention) are supported with significance and average strength. The hypotheses H1b, H2b, and H3a (country > product category, brand > product category, product category > purchase intention) are supported with significance and weak strength. The hypotheses H1a (country > purchase intention), and H1c (country > ethnocentrism) are supported with significance, but without force. The hypotheses H2c and H4a, both related to impacts of and on ethnocentrism, are not supported.

Table 11 shows the results of the hypotheses concerning mediations, with the indirect effect, the p-value (represented on the side of the effect), and the confidence interval, as recommended by Hair et al. (2012).

**\*\*\*\*\* TABLE 11 ABOUT HERE \*\*\*\*\***

The main mediating effect is of SBC between SCC and PI (0.10 to 0.15) - the connection of the self with the brand mediates the connection of the self with the country and the intention to buy. SBC also does, but with lesser intensity, the mediation between SCC and INV (0.08) - the connection of the self with the country affects the involvement with the category of product through the connection of the self with the brand. The involvement with the product category mediates both the country and the brand connections with the intent to buy, but with a small impact, although significant. The hypotheses H2f, H4b, and H4c were not supported, and all are related to ethnocentrism.

Table 12 shows the results of the hypotheses regarding the moderation carried out by the generations in the model relations, with the total effect for each generation, the t-test, and the result.

**\*\*\*\*\* TABLE 12 ABOUT HERE \*\*\*\*\***

Except for H5g, all the hypotheses regarding the moderation carried out by the different generations in the relations of the model were confirmed by the test of the difference between the paths. Generations, therefore, tend to act differently regarding the importance of brand, country and product category in their intention to purchase. For the YM, the connection with the country impacts their connection with the country's brand, which has a strong impact on the purchase intention. For the BBs, the connection with the country already has a total effect on the purchase intention, also mediated by the connection with the brand. However, in the case

of this generation, the involvement with the product category is also important for the intention to buy, unlike the YM.

A sentence that would summarize the results of the model is:

*"I enjoy Italy, I like pasta a lot, I prefer Barilla."*

These results vary by generation. For the YM, the connection with the brand is a preponderant factor for the purchase intention. For BBs, the country and the product category are the most relevant. For the YM, the phrase summarizing the results would be:

*"[country doesn't matter] I connect to Apple, I have my iPhone"*

For the BB, the phrase would be:

*"I admire Germany, I'm a car enthusiast, I want a German-branded car."*

## **CONCLUSION**

The first objective was to identify consumer self-country connection effects in his/her intention to purchase global brands. The results confirmed that the SCC influences, albeit indirectly, the consumer's intention to buy products from that country, and are in line with the literature, which indicates that the country does not directly impact the purchase intentions of consumers, and that their influence occurs on other constructs, which, in turn, strongly influence purchase intentions (Diamantopoulos et al., 2011).

The second objective was to identify the effects of consumer self-brand connection in his/her intention to purchase global brands. The results showed that the consumer's SBC is the construct that has the highest impact on the consumer's intention to buy a product/brand from a foreign country (Diamantopoulos et al., 2011; Escalas & Bettman 2003).

The third objective was to identify the mediating effects of consumer involvement with product category in his/her intention to buy global brands. The results showed that the involvement with the product category has a direct effect on the purchase intention and affects the SCC and SBC impact on intention to buy, but weakly (Carneiro & Faria, 2016).

The fourth objective was to identify the mediating effects of consumer ethnocentrism in his/her intention to purchase global brands. This objective is in line with the recent research that deals with consumer dispositions and their effect on consumer decisions regarding local and global brands (Prince et al., 2016; Zeugner-Roth et al., 2015). However, the test of the model did not reveal the mediating effects of ethnocentrism in the intention to buy.

Finally, the fifth objective was to identify the moderating effects of different generations on the intention to buy global brands, considering recommendations for market segmentation in COO studies (Samiee, 2010; Usunier, 2006). The results showed that, except for the SBC impact in ethnocentrism, in all relations specified in the research model, the generations behave in a significantly different way. For the Younger Millennials, the connection of their selves with the brand is the most influential factor for their buying decision, while for the Baby Boomers their self-connection with the country of origin and their product category involvement are more important for their decision making.

As a contribution, a fact that can be highlighted is that the research design on COO effect should not be done without considering the personal aspects of the consumer, especially psychological

aspects (in this case, self-connection with country and brand, and involvement with product category), or psychographic factor (generations). Much of the research on CoO effect neither segment consumers nor considers their feelings and personal characteristics (Bartsch et al., 2016; Carneiro & Faria, 2016; Samiee, 2010). We demonstrated that the connection of the individual's self and his/her involvement with products or brands has the power to impact purchase decisions, as well as rational and cognitive aspects, such as evaluation of the country's image and evaluation of product quality. Research design should, therefore, treat consumers in a segmented way and take their feelings into account.

As for research design, we also showed that studies dealing with generations in consumer behavior should intensify the comparison between generations, just as they do in human resources (Lyons et al., 2015), to provide subsidies to better support the generations description, especially the generation that succeeds the Millennials, not yet described in detail in the literature.

Another contribution highlights the SCC scale application. Deepening the knowledge of consumer motivations using the SCC scale can contribute to better communication in building brands with a specific country of origin or developing a national brand image. For consumers with high SCC with their own country, companies could emphasize the "domesticity" of their brands and adopt "national buying" campaigns. On the other hand, for low SCC consumers with their own country, such campaigns would not work. Foreign brands, in turn, could identify the level of consumers' connection with their country of origin, to develop communication campaigns. Countries wishing to build a brand image may consider identifying the level of consumer connection with them before developing communication efforts around the world.

As the last contribution, we highlight that the constructs that impact the intention to buy are different across generations. This observation reinforces the importance of market segmentation in global and local brand marketing communication. Contrary to recent research (e.g., Kantar, 2017), Younger Millennials are linked to brands, but only to those with which they make a connection. Therefore, connecting to the identity of younger consumers is critical to the success of brands.

As a first limitation, the non-representative sample can be pointed out, due to the non-probabilistic sampling procedure, which does not allow the generalization of results. Future studies to confirm the conclusions could be made using research institutes to apply procedures that would guarantee the sample representativeness.

Another limitation would be the research application in only one country, which does not allow to evaluate the conclusions' cross-cultural validity. Future studies should be conducted in partnership with researchers from several countries, both emerging and developed, to assess whether the results obtained are independent of cultural factors in a specific country.

Still, as a limitation, the research dealt, by operational implications, with only one consumer disposition - ethnocentrism. Although this disposition was the most present in international marketing research, others were not evaluated in the model, so that the questionnaire would not become even longer and lead to withdrawals. Other dispositions can be evaluated in future studies, such as cosmopolitanism, xenocentrism, patriotism, nationalism, replacing ethnocentrism in the model.

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## TABLES

**Table 1** - Direct, indirect and total effects

Hypothesis	Path	Effect		
		Direct	Indirect	Total
H1a	SCC -> PI	0.04 <sup>ns</sup>	0.17 <sup>***</sup>	0.20 <sup>***</sup>
H1b	SCC -> INV	0.16 <sup>***</sup>	0.08 <sup>***</sup>	0.24 <sup>***</sup>
H1c	SCC -> ETH	-0.10 <sup>***</sup>	0.02 <sup>*</sup>	-0.09 <sup>**</sup>
H1d	SCC -> SBC	0.37 <sup>***</sup>		0.37 <sup>***</sup>
H2a	SBC -> PI	0.34 <sup>***</sup>	0.04 <sup>***</sup>	0.38 <sup>***</sup>
H2b	SBC -> INV	0.20 <sup>***</sup>		0.21 <sup>***</sup>
H2c	SBC -> ETH	0.06 <sup>*</sup>		0.06 <sup>*</sup>
H3a	INV -> PI	0.18 <sup>***</sup>		0.18 <sup>***</sup>
H4a	ETH -> PI	0.03 <sup>ns</sup>		0.03 <sup>ns</sup>

Sample mean, bootstrapping 5000

<sup>ns</sup> non-significant; <sup>\*</sup>p<0.1; <sup>\*\*</sup>p<0.05; <sup>\*\*\*</sup>p<0.01

**Table 2** - R<sup>2</sup> - Coefficient of determination

Construct	R <sup>2</sup>	Confidence interval	
		10%	90%
SBC	0.14 <sup>***</sup>	0.11	0.17
INV	0.10 <sup>***</sup>	0.07	0.12
ETH	0.02 <sup>ns</sup>	0.003	0.02
PI	0.20 <sup>***</sup>	0.16	0.23

Sample mean, bootstrapping 5000

<sup>ns</sup> non-significant; <sup>\*</sup>p<0.1; <sup>\*\*</sup>p<0.05; <sup>\*\*\*</sup>p<0.01

**Table 3** - Effect size f<sup>2</sup>

Hypothesis	Path	Force f <sup>2</sup>	Confidence interval	
			10%	90%
H1a	SCC -> PI	0.00 <sup>ns</sup>	0.00	0.01
H1b	SCC -> INV	0.03 <sup>**</sup>	0.01	0.05
H1c	SCC -> ETH	0.01 <sup>ns</sup>	0.00	0.02
H1d	SCC -> SBC	0.16 <sup>***</sup>	0.12	0.20
H2a	SBC -> PI	0.12 <sup>***</sup>	0.09	0.16
H2b	SBC -> INV	0.04 <sup>**</sup>	0.02	0.06
H2c	SBC -> ETH	0.00 <sup>ns</sup>	0.00	0.01
H3a	INV -> PI	0.04 <sup>**</sup>	0.02	0.06
H4a	ETH -> PI	0.00 <sup>ns</sup>	0.00	0.01

Sample mean, bootstrapping 5000

<sup>ns</sup> non-significant; <sup>\*</sup>p<0.1; <sup>\*\*</sup>p<0.05; <sup>\*\*\*</sup>p<0.01

Table 4 – Q<sup>2</sup> – Predictive relevance

	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
SCC	4.854	4.854	
SBC	5.663	5.258	0.07
INV	3.236	3.073	0.05
ETH	4.045	4.031	0.00
PI	2.427	2.134	0.12

Table 5 - Mediation - specific indirect effects

Hypothesis	Path	Indirect effect
H2d	SCC -> SBC -> PI	0.13 <sup>***</sup>
H2e	SCC -> SBC -> INV	0.08 <sup>***</sup>
H2f	SCC -> SBC -> ETH	0.02 <sup>ns</sup>
H3b	SCC -> INV -> PI	0.03 <sup>***</sup>
	SCC -> SBC -> INV ->	
H3c	PI	0.02 <sup>***</sup>
H4b	SCC -> ETH -> PI	-0.0 <sup>ns</sup>
	SCC -> SBC -> ETH ->	
H4c	PI	0.00 <sup>ns</sup>

Sample mean. bootstrapping 5000

<sup>ns</sup> non-significant; \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

Table 6 - Classification of model effects

Hypothesis	Effect		Classification (a)	Force f <sup>2</sup>	
	Direct	Total		Effect	Classif. <sup>(a)</sup>
H1a: (SCC) positive (PI).	0.04 <sup>ns</sup>	0.20 <sup>***</sup>	intermediate mediated	0.00 <sup>ns</sup>	-
H1b: (SCC) positive (INV).	0.16 <sup>***</sup>	0.24 <sup>***</sup>	intermediate mediated	0.03 <sup>**</sup>	small
H1c: (SCC) negative (ETH).	-0.10 <sup>***</sup>	-0.09 <sup>**</sup>	intermediate mediado	0.01 <sup>ns</sup>	-
H1d: (SCC) positive (SBC).	0.37 <sup>***</sup>	0.37 <sup>***</sup>	high direct	0.16 <sup>***</sup>	medium
H2a: (SBC) positive (PI).	0.34 <sup>***</sup>	0.38 <sup>***</sup>	high mediated	0.12 <sup>***</sup>	medium
H2b: (SBC) positive (INV).	0.21 <sup>***</sup>	0.21 <sup>***</sup>	intermediate direct	0.04 <sup>***</sup>	small
H2c: (SBC) negative (ETH).	0.06 <sup>*</sup>	0.06 <sup>*</sup>	low direct	0.00 <sup>ns</sup>	-
H3a: (INV) positive (PI).	0.18 <sup>***</sup>	0.18 <sup>***</sup>	intermediate direct	0.04 <sup>**</sup>	small
H4a: (ETH) negative (PI).	0.04 <sup>ns</sup>	0.04 <sup>ns</sup>	no effect	0.00 <sup>ns</sup>	-

Sample mean, bootstrapping 5000; <sup>ns</sup> non-significant; \* p<0,1; \*\* p<0,05; \*\*\* p<0,01 <sup>(a)</sup> Cohen, 1988

**Table 7 - Comparative - effect and f2 between generations**

Hypothesis	YM (n= 264)			BB (n= 249)		
	Total effect	f <sup>2</sup>	Classif <sup>(a)</sup>	Total effect	f <sup>2</sup>	Classif <sup>(a)</sup>
H1a SCC -> PI	0.14**	interm.	0.00 <sup>ns</sup>	<b>0.29***</b> high	0.01 <sup>ns</sup>	-
H1b SCC -> INV	0.18**	interm.	0.00***	<b>0.31***</b> high	0.06*	small
H1c SCC -> ETH	<b>-0.20***</b> interm.	0.03**	small	0.08 <sup>ns</sup>	low	0.01 <sup>ns</sup>
H1d SCC -> SBC	<b>0.37***</b> high	<b>0.14***</b> medium		<b>0.44***</b> high	<b>0.25***</b> med./high.	
H2a SBC -> PI	<b>0.48***</b> high	<b>0.14***</b> medium		<b>0.30***</b> high	0.08**	sma./med.
H2b SBC -> INV	0.21***	interm.	0.05**	0.17**	interm.	0.03 <sup>ns</sup>
H2c SBC -> ETH	<b>-0.10<sup>ns</sup></b>	low/int	0.00 <sup>ns</sup>	<b>-0.10<sup>ns</sup></b>	low/int	0.01 <sup>ns</sup>
H3a INV -> PI	0.15***	interm.	0.04*	<b>0.25***</b> med/high	0.08**	sma./med.
H4a ETH -> PI	0.06 <sup>ns</sup>	low	0.00 <sup>ns</sup>	0.00 <sup>ns</sup>	low	0.01 <sup>ns</sup>

Sample mean. bootstrapping 5000; <sup>ns</sup> non-significant; \* p<0.1; \*\* p<0.05; \*\*\* p<0.01 <sup>(a)</sup> Cohen. 1988

**Table 8 - R<sup>2</sup> - generation**

Construct	YM		BB	
	Sample (M)	P Values	Sample (M)	P Values
ETH	0.01	0.13	0.02	0.30
INV	0.10	***	0.13	***
PI	0.20	***	0.23	***
SBC	0.14	***	0.20	***

**Table 9 - Differences between generations - t test**

Hypothesis	Total		StDev		S.E.		t-stat
	YM	BB	YM	BB	YM	BB	
H5a SCC -> PI	0.14**	<b>0.29***</b>	0.07	0.07	0.0041	0.0042	25.78
H5b SCC -> INV	0.18**	<b>0.31***</b>	0.08	0.07	0.0050	0.0044	19.74
H5c SCC -> ETH	<b>-0.20***</b>	0.05**	0.06	0.08	0.0038	0.0032	56.17
H5d SCC -> SBC	0.37***	<b>0.44***</b>	0.06	0.05	0.0036	0.0035	14.04
H5e SBC -> PI	<b>0.48***</b>	0.30***	0.06	0.06	0.0037	0.0039	32.25
H5f SBC -> INV	<b>0.21***</b>	0.17**	0.08	0.08	0.0048	0.0048	5.78
<b>H5g SBC -&gt; ETH</b>	<b>-0.10<sup>ns</sup></b>	<b>-0.05<sup>ns</sup></b>	<b>0.06</b>	<b>0.11</b>	<b>0.0039</b>	<b>0.0039</b>	<b>0.73</b>
H5h INV -> PI	0.15**	<b>0.25***</b>	0.07	0.06	0.0044	0.0039	17.49
H5i ETH -> PI	0.06 <sup>ns</sup>	0.09 <sup>ns</sup>	0.05	0.10	0.0028	0.0035	5.38

Table 10 - Test of hypothesis – total effects

Hypothesis	Total effect	Force f <sup>2</sup>	Result	
			significance	force
H1a: (SCC) positivo (PI).	0.20 <sup>***</sup>	0.00 <sup>ns</sup>	supported	no
H1b: (SCC) positivo (INV).	0.24 <sup>***</sup>	0.03 <sup>**</sup>	supported	small
H1c: (SCC) negativo (ETH).	-0.09 <sup>**</sup>	0.01 <sup>ns</sup>	supported	no
H1d: (SCC) positivo (SBC).	0.37 <sup>***</sup>	0.16 <sup>***</sup>	supported	medium
H2a: (SBC) positivo (PI).	0.38 <sup>***</sup>	0.12 <sup>***</sup>	supported	medium
H2b: (SBC) positivo (INV).	0.21 <sup>***</sup>	0.04 <sup>**</sup>	supported	small
H2c: (SBC) negativo (ETH).	0.06 <sup>*</sup>	0.00 <sup>ns</sup>	not supported	no
H3a: (INV) positivo (PI).	0.18 <sup>***</sup>	0.04 <sup>**</sup>	supported	small
H4a: (ETH) negativo (PI).	0.03 <sup>ns</sup>	0.00 <sup>ns</sup>	not supported	no

Table 11 - Test of hypothesis - mediation

Hypothesis	Indirect effect	Confidence interval		Result
		10%	90%	
H2d: (SBC) positive mediator (SCC) (PI).	0.13 <sup>***</sup>	0.10	0.15	supported
H2e: (SBC) positive mediator (SCC) (INV).	0.08 <sup>***</sup>	0.06	0.10	supported
H2f: (SBC) negative mediator (SCC) (ETH).	0.02 <sup>ns</sup>	-0.01	0.04	not supported
H3b: (INV) positive mediator country (SCC) (PI).	0.03 <sup>***</sup>	0.02	0.04	supported
H3c: (INV) positive mediator (SBC) (PI).	0.02 <sup>***</sup>	0.01	0.02	supported
H4b: (ETH) negative mediator (SCC) (PI).	-0.0 <sup>ns</sup>	-0.01	0.00	not supported
H4c: (ETH) negative mediator (SBC) (PI).	0.00 <sup>ns</sup>	0.00	0.00	supported

Table 12 - Test of hypothesis - moderation

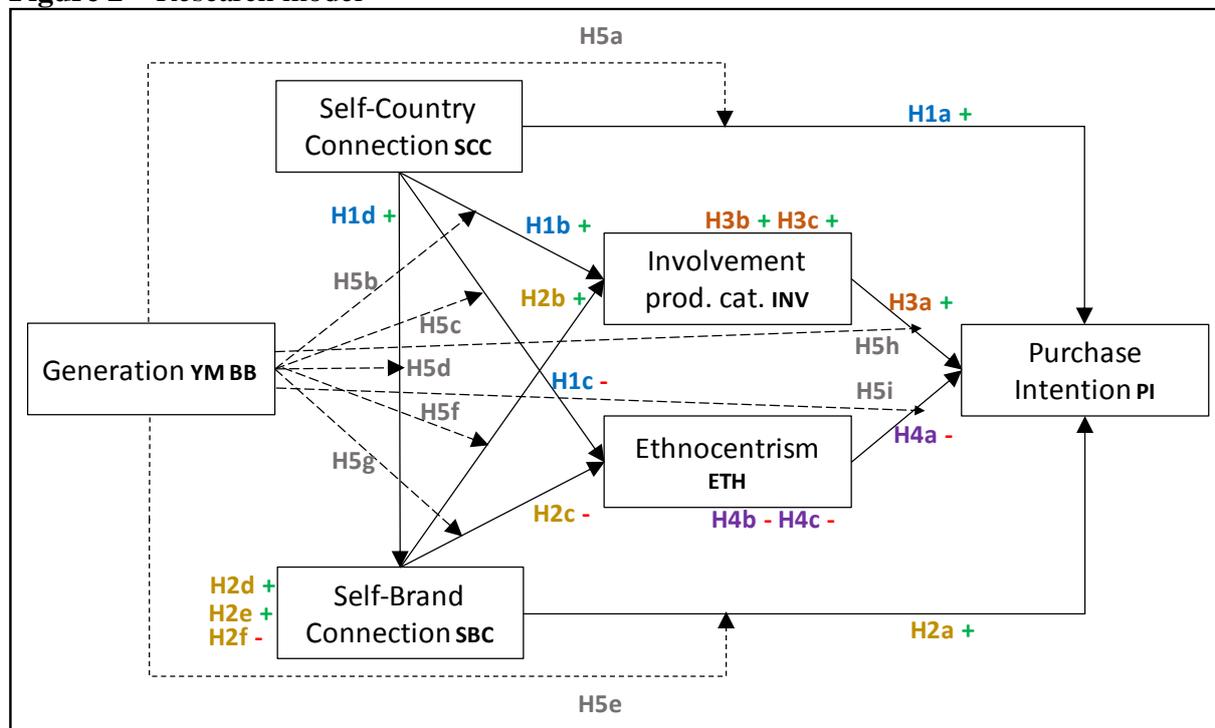
Hypothesis	Total effect		Difference teste t	Result
	YM	BB		
H5a: (SCC) (PI) ≠ (YM / BB)	0.14 <sup>**</sup>	0.29 <sup>***</sup>	25.78	supported
H5b: (SCC) (INV) ≠ (YM / BB)	0.18 <sup>**</sup>	0.31 <sup>***</sup>	19.74	supported
H5c: (SCC) (ETH) ≠ (YM / BB)	-0.20 <sup>***</sup>	0.08 <sup>ns</sup>	56.17	supported
H5d: (SCC) (SBC) ≠ (YM / BB)	0.37 <sup>***</sup>	0.44 <sup>***</sup>	14.04	supported
H5e: (SBC) (PI) ≠ (YM / BB)	0.48 <sup>***</sup>	0.30 <sup>***</sup>	32.25	supported
H5f: (SBC) (INV) ≠ (YM / BB)	0.21 <sup>***</sup>	0.17 <sup>**</sup>	5.78	supported
H5g: (SBC) (ETH) ≠ (YM / BB)	-0.10 <sup>ns</sup>	-0.10 <sup>ns</sup>	0.73	not supported
H5h: (INV) (PI) ≠ (YM / BB)	0.15 <sup>**</sup>	0.25 <sup>***</sup>	17.49	supported
H5i: (ETH) (PI) ≠ (YM / BB)	0.06 <sup>ns</sup>	0.09 <sup>ns</sup>	5.38	supported

**FIGURES**

**Figure 1 – Trends in CoO effect research and article objectives**

Trend	Author	Objective
Consumer subconscious or unconscious aspects	Balabanis apud Lu, Heslop, Thomas, and Kwan 2016	Identify consumer self-country connection effects in his/her intent to purchase global brands
Aspects related to brand	Diamantopoulos, Schlegelmilch, and Palihawadana 2011	Identify consumer self-brand connection effects in his/her intent to purchase global brands
Aspects related to the product category	Carneiro and Faria 2016	Identify mediating effects of consumer involvement with product category on his/her intent to purchase global brands
Consumer socio political characteristics	Zeugner-Roth apud Lu, Heslop, Thomas, and Kwan 2016	Identify mediating effects of consumer ethnocentrism on his/her intention to purchase global brands
Market segmentation	Samiee 2010	Identify the moderating effects of consumer generation (Boomers and Younger Millennials) on his/her intent to purchase global brands

**Figure 2 – Research model**

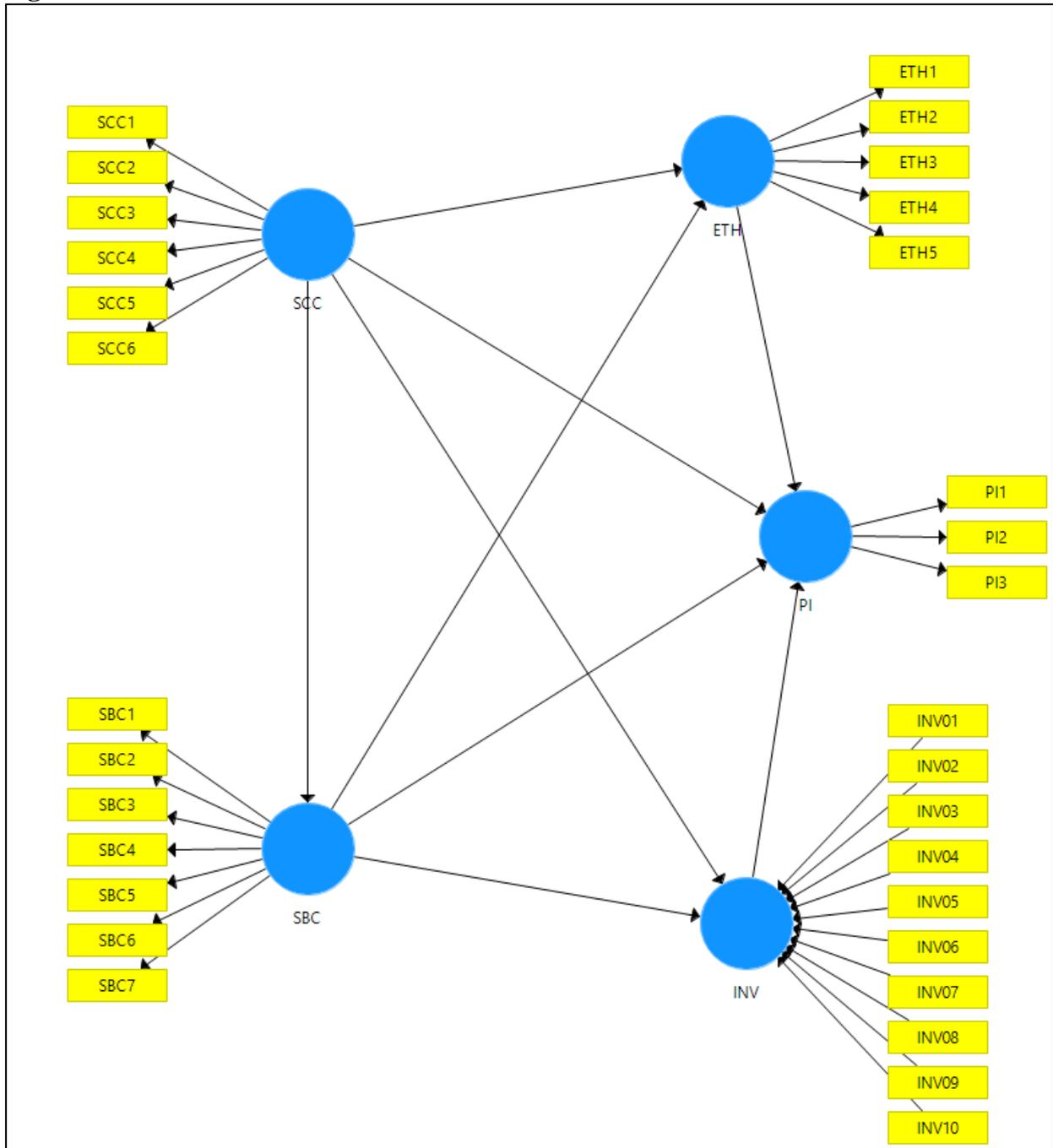


**Figure 3 - Configurations PLS-SEM**

PLS Algorithm Settings		Recommendations <sup>(a)</sup>
Data metric	Mean 0. Var 1	
Initial Weights	1.0	1 (each of the outer weights)
Max. number of iterations	300	300
Stop criterion	$10^{-7}$	$< 10^{-5}$
Use Lohmoeller settings?	No	
Weighting scheme	Path	Path weighting scheme
Bootstrapping Settings		
Complexity	Complete Bootstrapping	
Confidence interval method	Bias-Corrected and Accelerated (BCa) Bootstrap	
Parallel processing	Yes	
Samples	5000	5000
Sign changes	Individual Changes	Individual sign changes
Significance level	0.05	
Test type	Two Tailed	
CTA-PLS	5000	Reject reflexive $\neq 0$
<b>Software</b>	SmartPLS (v. 3.2.7.)	Report software (version)

<sup>(a)</sup> Hair et al. 2012

Figure 4 - Model PLS-SEM



*Track 04 Consumers & Brands*

**ID #759**

**Adopting the right online advertising appeal does matter? And the moderator effects of brand type and brand knowledge**

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**Ben S.C. Liu** (Quinnipiac University, USA)

**Yuli Cao** (Nanjing University of Finance & Economics, China)

**Abstract**

*The purposes of advertising are to influence prospective consumers' awareness, attitudes, and buying behavior; these correspond to the three major functions of advertising: cognitive (attention, knowledge, and understanding), affective (attitude), and conative (behavior).*

**Keywords:** Online Advertising; Brand Type; Brand Knowledge.

**Acknowledgments**

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## **INTRODUCTION**

The purposes of advertising are to influence prospective consumers' awareness, attitudes and buying behavior; these correspond to the three major functions of advertising: cognitive (attention, knowledge, and understanding), affective (attitude), and conative (behavior).

Emergence of social media platforms has fundamentally altered the marketing communication infrastructure and led to widespread use of social media by marketers to promote products; this trend has stimulated scholars' interest in investigating the effect of online advertisements on brand attitudes and purchase behavior (e.g., Hanshen et al., 2018; Kaplan and Haenlein, 2009; Kim and Ko, 2012).

Admittedly, social media marketing offers marketers better communication grounds with consumers to cultivate brand loyalty beyond traditional methods (Jackson, 2011; Akhtar, 2011). However, the content of the online advertisement is critical to attract and retain attention and consumers tend to filter out those advertising messages whose content that is not relevant to them (Brito, 2011). Providing relevant content is thus fundamental to online advertising strategies that are designed to build brand equity.

Advertisements can provoke three types of responses from audience: arousal response, cognitive response, and affective response. These responses have a direct impact on the formation of brand attitude. Previous studies have reported a positive and direct relationship between consumers' attitude towards traditional advertisements and brand attitudes (eg. Moe and Fader, 2004; Raney et al., 2003) which subsequently will have a direct impact on purchase intentions (Mackenzie and Lutz, 2989; Stayman and Aaker, 1989). These relationships are assumed to hold in online advertising. Li et al., (2002) found a major and positive influence of online advertising on brand attitude. However, the factors that can moderate these relationships have received inadequate attention.

Though online advertisements can influence brand perception among the target audience, such an impact should be subject to the appeal of the advertisement. Marketers use different types of advertisement appeals to provoke interest, facilitate information process, and connect to consumers. Online advertisements provide not only information to the consumer but also an experience that can generate positive feelings like pleasure, enjoyment, arousal... and so on (Novak et al., 2000; Eroglu et al., 2003; Menon and Kahn 2002; De Wulf et al., 2006). In order to be effective, an advertisement must be created with the right content and design, which together form an attractive appeal to catch the attention of its readers (Cravens & Piercy 2009). Advertising appeals can be classified in different types, but most can be grouped under the emotional/hedonic appeals versus the rational/utilitarian appeals category. So far, there has been no consensus on which type of advertisement design is more effective in provoking the attention of the audience. For instance, Panda et al. (2013) have reported that emotional appeals are used more often than the rational ones to arouse consumers' attention. Other studies found emotional appeal advertisements more powerful in triggering information processing (Phuc, 2011) and are more flexible to suit the taste of audiences and provoke emotional connections than advertisements with a rational appeal (Syahlani 2007; Wang and Lin, 2011). In contrast, Sadeghi et al. (2015) found rational appeals more relevant and powerful in attracting greater attention from consumers.

However, brands in nature can be perceived by consumers as either an emotional or functional/utilitarian brand. An interesting but under-researched question is, to be consistent, whether an emotional brand should adopt emotional advertisement appeal and, in contrast, a functional brand should use rational/utilitarian appeal. Are emotional brands adopting an

emotional advertisement appeal will be more effective in shaping consumers' brand attitudes than adopting a functional/rational appeal? Whether an analogy can be applied to rational brands in that a functional brand using rational/utilitarian advertisement appeal will be more effective in influencing brand attitudes than using an emotional appeal. The present study is specifically designed to answer the questions above. Based on the literature review, the following theory-based hypotheses are developed for testing:

- H1:** *Positive arousal response to the online advertisement will have positive impact on brand attitude.*
- H2:** *Positive cognitive response to the online advertisement will have positive impact on brand attitude.*
- H3:** *Positive affective response to the online advertisement will have positive impact on brand attitude.*
- H4:** *More favourable brand attitude will provoke a higher level of purchase intention.*
- H5:** *Advertising appeal has moderator effect on the relationships among responses to online advertisements, brand attitude, and purchase intention.*
- H6:** *Consumers' per-conception of the brand will moderate the effect of brand attitude on purchase intention.*

Diagram 1 describes all the aforesaid hypothetical relationships.

## **RESEARCH METHOD AND FINDINGS**

Our research contains two phases and all data collection activities were undertaken in Nanjing, a large metropolitan city located between central and eastern China. The city has a population over 8 million and close to 15% of the population are young and affiliated with universities, either as students or staff, offering an ideal research context for investigating advertising browsing and buying behavior for cosmetics and fashions.

The research was undertaken in three phases. In Phase I, we first selected 20 popular cosmetics and fashion brands based on the feedback from a group of university students who were majored in marketing. We then visited the website of these brands and found 12 of them placed the same advertisement for at least two weeks. We assumed good exposure of these online advertisements which might also reflect the advertising appeals commonly employed by the brand, given the considerable length of the advertising period. We thus incorporated these 12 brands in the questionnaire which employed a measurement tool for hedonic versus utilitarian brands to collect information from approximately 250 young consumers, who were target consumers of cosmetics and fashion products, with survey interviews. A total of 240 completed questionnaires were used for statistical analysis. The EFA results suggest a 3-Factor solution with an accumulated explained variance of 69.268%. Factor I contain the measures of various functional benefits and is thus defined as the "Functional" factor. Both Factor 2 and 3 are formed by emotional or psychological benefits and are defined as Excitement versus Beauty factor respectively. All these factors make up of the Utilitarian-versus-Hedonic scale.

In Phase 2, we classified all the twelve brands under these three brand types and interviewed a sample of 180 respondents, whose demographic characteristics were similar to that of those interviewed in Phase I, for their comments on the effects of the online advertisement on major brand equity, including liking, preference, reputation, and influential. We based on the findings to define the brand status of individual brands and classified them in two groups: strong brands versus weak brands. We also asked respondents to indicate the level of agreement with each

measure of the Utilitarian-versus-Hedonics scale based on their perception of the online advertisements placed by these 12 fashion and cosmetics brands. Then, we computed the aggregated factor means for each online advertisement; those advertisements obtained higher factor mean on the Function factor were classified as using “utilitarian appeals” whereas those rated high on both Excitement and Beauty factors were considered as adopting “hedonic appeals”. Finally, we constructed a 2 x 2 dichotomous matrix based on product type (Fashion versus cosmetics) and advertising appeal (utilitarian – hedonic) and accordingly all these twelve online advertisements were assigned to the corresponding cell. The online advertisement of four brands were selected for survey research in Phase III: a) Fashion and Utilitarian, b) Fashion and Hedonic, c) Cosmetics and Utilitarian, and d) Cosmetics and Hedonic.

In Phase III, four types of questionnaire, each of which included the online advertisement of one of the four selected brands, were designed to measure consumers’ responses and attitudes towards the online advertisement and the buying intention via both online survey and face-to-face interviews. For face-to-face interviews, all respondents were sampled with a mall-intercept technique with a convenience sampling method. A total of 311 completed questionnaires were collected via these two data collection channels, and 292 were usable. An ANOVA test was performed and found the differences in the answers to the majority of questions through the aforesaid survey techniques were statistically insignificant, and we thus pooled together the data to form one sample for statistical analysis.

As indicated in Diagrams 1 and 2, all hypotheses, except H1, are all supported. All measurement scales display a high level of reliability, and the model fit is at acceptable level.

Diagram 1: Model on the relationships among responses to online advertisements, brand attitude, and purchase intention

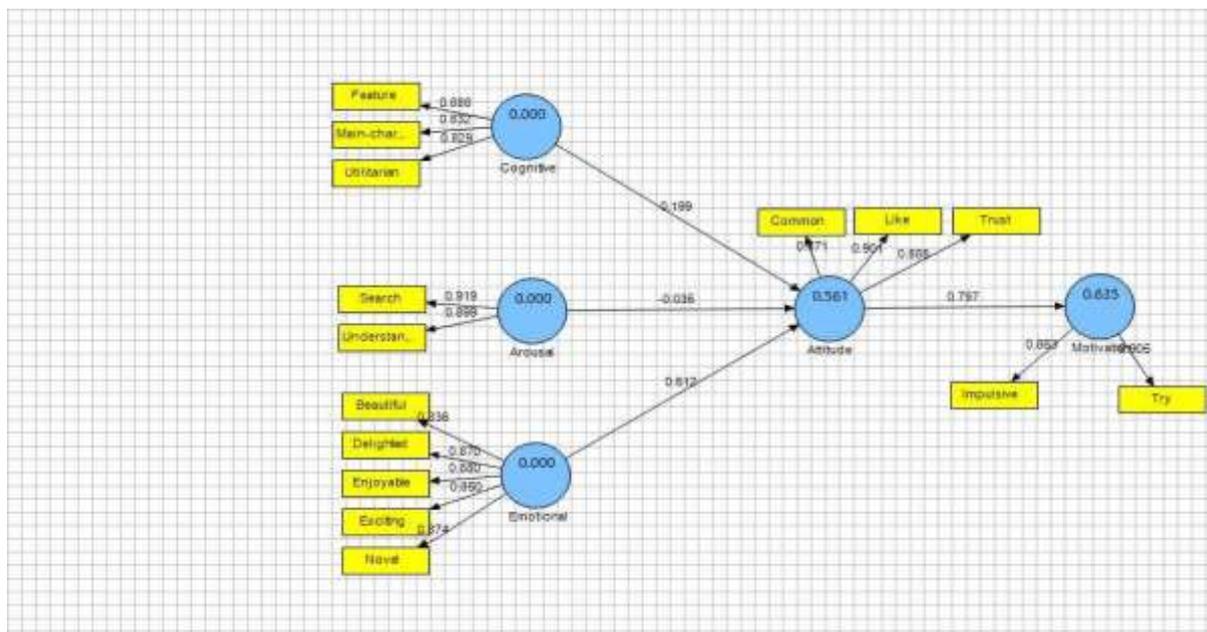
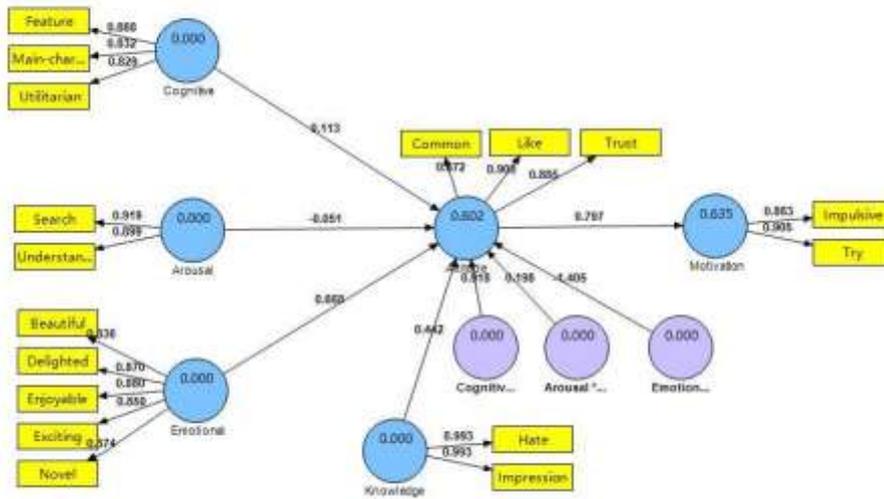


Diagram 2: Model on the moderator effect of previous knowledge of the brandrelationships among responses to online advertisements, brand attitude, and purchase intention



(References will be provided upon request)

## **Track 05**

# ***Culture and Consumption***

*Track 05 Culture and Consumption*

**ID #545**

**Chinese consumers' leisure constraints on Ski Tourism**

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**Rong Hu** (Beijing Normal University, Zhuhai, China)

**Abstract**

*Ski tourism in China is expected to celebrate its advancement when opportunities are opened up in a series of favorable events such as the approaching Beijing Olympic Winter Games. With data collected from 521 online questionnaires and 7 interviewers, this research aims to fill the gap academically and practically by understanding the leisure constraints of ski participants. By SPSS and AMOS analysis, confirmatory factor analysis was employed. The result proved to show warranted convergent validity and discriminant validity; the model fit is acceptable and has good construct validity. New constraint factors are also briefly explored with regard to Chinese skiers. Given the immature development of ski tourism industry in China, practical suggestions are proposed with collaborated efforts from ski resort managers, event marketers, and ski destination governments.*

**Keywords:** Leisure constraints; Ski tourism demand; Chinese consumers; Confirmatory factor analysis.

**Acknowledgments**

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## **INTRODUCTION**

Ski tourism in China is expected to celebrate its advancement when opportunities are opened up in a series of favorable events such as the approaching Beijing Olympic Winter Games. A significant body of literature is available on consumer's demand for ski tourism (Picking, 2011; Dawson, Scott & Havitz, 2013). Findings often focus on the supply-side as well, factors such as climate change are mentioned several times (Hopkins et al. 2013; Berghammer & Schmude 2014). However, little research focuses on factors that stop people from attending such kind of activities. And few researchers apply the way of study on Chinese consumers. The article is designed in accordance with the theory of leisure constraints (Craw et al., 1991). In their article, leisure constraints consist of three types: interpersonal constraints, intrapersonal constraints, and structural constraints. Gilbert and Hudson (2000) apply the theory into the ski and develop the theory of leisure constraints on the ski. Our research focuses on finding out factors that prevent Chinese consumers from skiing. By SPSS and AMOS analysis, confirmatory factor analysis was employed. New constraint factors are also briefly explored with regard to Chinese skiers. Given the immature development of ski tourism industry in China, practical suggestions are proposed with collaborated efforts from ski resort managers, event marketers, and ski destination governments.

## **LITERATURE REVIEW**

### ***Leisure constraints***

Constraints on leisure have received growing attention from international academics since the 1980s. Crawford and Godbey (1987) gain extensive support by improving the concept of leisure constraint in the way that constraint factors are in a hierarchical construct, and intrapersonal and interpersonal factors have a significant impact on leisure preference. Model-based empirical studies also provide insight into the conceptualization of leisure constraints. Kay (1991), Scott (1991) and Jackson (1998) hold that constraints do not necessarily hinder or reduce leisure involvement as it can be improved by negotiation strategies such as cognitive and behavioral strategies. Hubbard and Mannell (2001), Loucks-Atkinson (2007), White (2008) and Lee (2009) further modifies the models of leisure constraint negotiation and explained negotiation efficacy for potential participants. Researchers (Williams et al., 2004; Winter, Jeong & Godbey, 2004) with close attention to structural factors point out that these factors have different intensity of constraints on outdoor recreation participants. Factors like time dimensions, travel cost, geographical accessibility, knowledge, and facilities are believed the strongest constraints. Stanis et al. (2009) express their disagreement by listing interpersonal factors as the strongest constraints that are followed by structural and last intrapersonal factors.

Besides the interest in model construct and conceptualization of leisure constraint, research on constraint factors plays a crucial role in the field. Most importantly, these factors and their impacts are discussed from different perspectives of subject groups. The uniqueness of leisure constraint for female has been explored by Henderson (1991), Jackson (1995), and so on. They propose that women are more constrained than men due to structural factors like time and financial shortage that are usually accounted for by housework and domestic responsibility (Brown et al., 2001; Skowron, Stodolska & Shinew, 2008). Meanwhile, cultural beliefs and values (Viriden R J, Walker G J., 1999) and sexual assaults and violence (Crompton J L, Kim S, 2004) are widely concerned. By examining women with infertility, Parry D C. (2005) points out active leisure spaces, times, and activities is able to empower women to resist pronatalist ideology. In traditionally male-dominated ice hockey, cohort effects are identified evident for

women's choice and friends or family members have an impact on their degree of participation (Auster C J. 2008). Taking youth into consideration, the findings of Shannon C S, et al. (2009) notice evident roles facilitators played in younger youths' access to and enjoyment of volunteer experiences as attitudes of adults affect their perception of personal abilities. Similarly, James K (2000) suggests strategies for improving girls' enjoyment in public swimming pool after discussing the impact of embarrassment have on the frequency and quality of their involvement. However, from the perspective of the aging population, researchers have agreed on the beneficial effects constraints can have for the sake of safety and conservation (Henderson & Ainsworth, 2002; Son, Kerstetter & Mowen, 2009) and as a result, should be managed and recovered accordingly (Kleiber et al. 2008).

Relationship between leisure constraints and service supply and policies has also been concerned. Allison and Hibbler (2004) demonstrate five primary organizational barriers to disenfranchised groups: the changing faces of the community, the changing faces of the management and staff, deferred program responsibility, language barriers, and negative attitudes and stereotypes held by some management and staff. Besides, both governmental budget in parks and financial aids are crucial constraints for low-income or less-educated people and females from rural areas (Ostergren, Solop & Hagen, 2005; McCarville R., 2008).

### ***Leisure satisfaction***

As early as the 1980s, Beard and Ragheb (1980) propose the definition and the leisure satisfaction scale (LSS), both of which are widely accepted all over the world, especially the six components in LSS, namely the psychological, educational, social, relaxation, physiological and aesthetic dimensions consisting of 59 items. Although the measurement was largely based on subjects of students, it was soon applied to other studies on leisure satisfaction in aspects of ethics, races, the elder, the disable, and so on.

Intensive interests have been observed in demographics, personal, and involvement factors related to leisure satisfaction. No consistent pattern can be achieved in terms of demographic impact on satisfaction. For example, Paiva et al. (2009) notice satisfaction scores increase in young-adult-to-adult group and decrease in adult-to-old group, which means age can have both positive and negative impact. This is consistent with the result from Brown and Frankei (1993), who also reveal gender differences in the impact of participation that is believed more important for females' satisfaction. Nevertheless, pictures presented by other researchers are different in that both age and gender yield no impact on leisure satisfaction while higher educational level, higher income, married status, well-being, and less children are significantly correlated with the level of happiness and satisfaction (Tsou & Liu, 2001; Lapa T Y, et al., 2012). As shown by Tsou & Liu, (2001), the effects from personal characteristics are the fundamental difference in terms of satisfaction. Given that leisure and travel involvement is concerned with social judgement and participating behaviors (Havitz & Dimanche, 1997), Chen Y C, et al. (2013), by exploring the relationships among leisure motivation, leisure involvement, and leisure satisfaction, concludes that when leisure involvement is considered, no significant effect on leisure satisfaction is noticed from leisure motivation, but a significant effect on leisure involvement is marked. Therefore, serious leisure participants usually have significantly greater leisure satisfaction and subjective well-being than non-serious leisure participants (Liu & Yu, 2015). On the basis of the job demand-control-support model, Lin et al. (2015) examine work-to-leisure conflict as a partial mediator between job stress variables and leisure satisfaction, which provides managerial suggestions on job design and high co-worker support.

Leisure satisfaction has become a component of life satisfaction and living quality. Positive relationship is realized between couple leisure patterns and marital satisfaction (Johnson, Zabriskie & Hill, 2009), but also be applied to a range of romantic partners as the partner effect model indicates moderate participant satisfaction and gender has a near-significant relationship with relationship satisfaction, though individual leisure satisfaction would not necessarily influence both an individual and a partner's relationship satisfaction (Berg, Schneider & Allison, 2001). What's more, Agate (2009) sheds light on the relationship between leisure satisfaction and satisfaction at the parent, youth, and family levels, revealing that compared to balance family pattern, core family leisure satisfaction was most correlated with satisfaction with family life. In addition, because of the active/challenging nature and the more passive/recuperative nature of leisure activities (Trenbth & Dewe, 2002), the importance of coping with work-related stress via leisure satisfaction has long been explored by work stress researchers. Chuns, et al. (2012) further help facilitate growth-related changes in social relationship, personal resources, life philosophy and feasibility by elaborating on how frequent participation in some types of leisure activity (such as civic activities, indoor and outdoor activities, and entertaining activities) and leisure satisfaction contribute to stress-related growth so as to improve living quality ultimately.

### ***Revisit Intention***

Extant research in this field focus on loyalty and willingness to revisit, and the factors of revisit intention. Tourists loyalty refers to actual revisit behavior as well as revisit attitudes such as revisit intention and recommendation intention, which is extended from the two-dimensional loyalty model of Day (1969) and Backman & Crompton (1991).

Factors like risk avoidance, emotional affiliation, and social needs (Gitelson & Crompton, 1984) have an influence on revisit intention. Moreover, the level of overall satisfaction and the number of previous visits considerably have an impact on repeat visits both in a mature and a less-developed destinations, with a stronger relationship for mature destinations (Kozak, 2001). Nevertheless, perceived attractions in destinations are more influential than overall satisfaction from the perspective of Seoho & Kaye (2006). When it comes to revisiting intention to restaurants, Yan, Wang & Chau (2015) advance that food quality, price and value, service quality, and atmosphere are the antecedents, and that restaurant type plays a moderator role in customer satisfaction with service quality, atmosphere, and price and value on revisit intention. Proposing a framework of antecedents of intended revisit timing (the time interval between the current visit and the intended next visit), Huang et al. (2014) found the consistent positive relationship between travel distance and the intended revisit timing and positive attitudes of loyal visitors (more than 5 visits) are also regarded as a significant factor.

### ***Ski tourism demand***

As a tourism segment particularly vulnerable to climate change, the adaptation measures to changes in demand side have been brought into sharp focus within ski tourism studies. The worries are supported by an analysis of visitation patterns by Pickering who claims that although visitors' stay length increases, the number of visitor days decreases, and snowmaking provides a short-term gain only in higher-altitude resorts and fails to offset costs in lower-altitude resorts (2011). Consistent with this, Paunović & Radojevič's seasonality of demand analysis illustrates highly unsustainable development in comparison of the basic market and seasonality of demand indicators in two mountain destinations in Serbia (2014). Dawson, Scott & Havitz (2013) hold a slightly positive attitude to climate change because demand is not likely

to decrease proportionately to the projected decrease in supply in the short term if the geographical market shift is considered.

Some scholars expound on the decline of ski tourism in light of supply-side. While tourism representatives focus on snow reliability and availability of alternatives, the social context of vulnerability creates difficulty in forecasting the outcomes and behaviors in relation to relative vulnerability (Hopkins, D., Higham, J., & Becken, S., 2013). By labeling the 'Christmas-Easter shift' (a trend to an intra-seasonal postponing of optimal ski resorts' opening days), Berghammer & Schmude (2014) advance the current understanding of climate change effects on the tourism supply-side.

Previous researches provide abundant insights into ski tourism; however, as the literature review demonstrates, the measure of ski leisure constraints is a multi-faceted phenomenon and uniqueness of Chinese skiers likely exists, the remainder of the article explores this supposition.

## **METHOD**

A mixed-mode survey that combines both computer survey and self-administered survey is first conducted. Based on the literature, a questionnaire is developed by the software WJX and then distributed via Wechat. For the sake of identifying ambiguities and other problems, a pilot test of the questionnaire has been run with 98 respondents. When necessary revisions are completed, the final version is distributed to a large population online. It is a self-conducted survey, which means the respondent completes the survey on his or her own. The authors also carry out some face-to-face interviews to complete the survey results as well. All the items in concern with the leisure constraints on ski are measured on a Likert 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) in order to acquire the degree of agreement. The research uses confirmatory factor analysis to see the leisure constraints of the ski.

Using the method of convenience sampling, 521 effective responses were collected. Of all the respondents, 45.5% of them are male, and 54.5% are female. More than 85% of the respondents' age range between 20 and 50. The average monthly income falls between 5,000 to 10,000 yuan. 36.1% of them work in state-owned entities or private-owned firms. Most of the respondents are with higher education background More than half of them has a bachelor's degree, and 30.9% has a master's degree and above.

### **\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

When it comes to ski participants, 48.8% of them has never visited a ski resort before. And 92.5% of the respondents are beginners. On the purpose of visiting the resort, 64.4% of them want to go for a ski, while the rest just want to play with snow. 92.9% of them visited the resort less than 5 times per year, and 4.4% visited the resort more than 10 times per year. Most of them expect the entrance price of the ski resort to be less than 200 yuan.

To test the sample's offending estimates, two criteria are employed: whether there is negative error variance; whether the standard coefficient is exceeding or very close to 1 (Bagozzi & Yi, 1988). The results of Table 2 show that there are no negative squared multiple correlations, and the standardized regression weights range between 0.466 and 0.853, which indicates that there are no offending estimates.

### **\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

After collecting the survey results, we use SPSS and AMOS to do the confirmatory factor analysis. Based on the original scale on ski constraints (David & Simon, 2000) and pilot test of Chinese consumers' constraints on ski tourism, we reorganized the scale and omitted some

factors that have similar meanings. Figure 1 is the structure of CFA. Table 3 represents the scale of the constrains of ski tourism.

\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\*

## **FINDINGS AND DISCUSSION**

### ***Confirmatory Factor Analysis***

Table 4 and Table 5 show that both the whole scale's and subscale's Cronbach's Alpha are higher than 0.7, which means the scale is highly reliable.

\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* TABLE 6 ABOUT HERE \*\*\*\*\*

Convergent validity was assessed based on three criteria: the average variance extracted is greater than 0.5, with the range between 0.36 and 0.5 is acceptable; the primary factor loadings are greater than .50, and the standardized loadings are significant at the .001 level. Table 6 presents the factor loadings, dimensionality, and scale reliability. The lowest average variance extracted is 0.4588, which is close to 0.5, is acceptable. And the factor loadings are between 0.463 and 0.849, with only one factor loading lower than 0.5 but quite close. All the standardized loadings are significant at the 0.001 level.

Discriminant validity is warranted, as the square of the correlation of each pair of factors is less than the variance extracted for each factor. In addition, each of the three sub-scales is reliable, as Cronbach's alpha and composite reliability are greater than the 0.70 threshold. (see Table 4,5,6)

Table 7 presents the measure of model fit. For CMIN, it is held that the lower, the better. After modification, GFI is 0.942 larger than 0.9, AGFI is 0.917 larger than 0.8, RMSEA is 0.062 smaller than 0.08, CFI is 0.95 larger than 0.9, PCFI is 0.751 larger than 0.5 and CMIN/DF is 2.974 smaller than 3. To sum up, the model fit measurement of the scale is acceptable, and the model has good construct validity.

\*\*\*\*\* TABLE 7 ABOUT HERE \*\*\*\*\*

The modification in the aforementioned model reminds us of the possible particularity of leisure constraints in Chinese skiers that are not included in the existing scales. As an exploratory part of the research, semi-structured interviews with 7 skiers were conducted to understand more reasons that prevent them from attending ski activities. These interviewees were recruited using purposive sampling as they are selected from various parts of mainland China and display different levels in the ski. Interviews via Wechat voice system or by telephone were recorded and the emerging items were classified into the three categories of intrapersonal/interpersonal/structural factors respectively, serving as a supplement of the scales (Table 8).

These factors are directly quoted or abstracted from the comments and description of interviewees. Meanwhile, it is noteworthy to mention the role of family because they are shaped by historical, cultural, social and economic contexts (Wu & Wall, 2016). The extended family structure and the importance of family reunion in spring festival holiday remain unchanged in many traditional Chinese families, which reduces possibilities to attend outdoor activities in

consideration of the inconvenience of traffic and accommodation of a group of people and the health of the elder and the kids in the family.

**\*\*\*\*\* TABLE 8 ABOUT HERE \*\*\*\*\***

Interestingly, the concern of children receives no agreement in relation to constraint. There are worries that children are vulnerable to freezing temperature or not equipped with appropriate skiwear accordingly; nevertheless, some parents attach significance to the opportunity of taking exercises and developing new skills by skiing in early childhood. In addition, due to the influence of public ownership in its economic development, there remains preference of state-owned companies to private-owned ones.

## **THEORETICAL AND MANAGERIAL IMPLICATIONS**

The research contributes to the literature in two ways. First of all, while previous studies have elaborated on ski tourism development and leisure constraints primarily in European countries, the study updates the literature by testing its application in China.

What's more, this research offers scholars for the first time with insights into Chinese ski constraints. Although skiers around the world bear many similarities in concern, the newly proposed 12 items provide a finer understanding of factors in the Chinese context. In order to understand Chinese ski tourism or ski leisure research, it is vital to be aware of the distinctive features, such as the extended family structure, growing aging population and influence of cultural traditions (Wu & Wall, 2016).

By understanding the reasons that impede Chinese consumers' participation in ski tourism, ski resort managers can have several options to attract potential customers. Many of the constraints are within the reasonable control of a company. Thus, to improve the quality of hardware and software is in the first place. Larger ski resorts with better snow (snowmaking included) and matching equipment help lessen the risks of injuries to skiers themselves and other consumers. A team of qualified and experienced coaches also releases tension and creates interests. Finally, managers may strategically segment their services to skiers at different levels as alternatives.

Marketing efforts are necessary to raise awareness and interest of visitors. As far as the public is concerned, non-profit presentations and trial lessons should be attractive to those with an apparent lack of basic knowledge of skiing. It is believed that such incentives will motivate people to be more involved in ski tourism. Resort information and promotions should be propagated at ski resorts, travel hotspots such as heritage sites and parks as well as public transports and convenience stores. Apart from traditional media such as flyers, posters and newspaper, visual and new media can be loaded up to advertising. Internet and social media often exert profound effects on consumers at the age range of 20 to 40 who compose the mainstream and the most frequent visitors to ski resorts.

Managers and marketers are suggested to collaborate with government of the ski resort cities to build up a convenient, friendly and open-minded image to skiers all over the world. For instance, investment to improve infrastructure construction and transport facilities may contribute to easy access and satisfaction of ski tourism. Event organizers would utilize the seasonal activity to create more events in various fields of sports, arts or gastronomy. On the one hand, skiers and tourists may be more willing to travel afar when abundance in activities provides alternating options that cater to a variety of interests. On the other, all-rounded

initiatives demonstrate to potential consumers the positive perception of its economic, cultural, and spiritual strengths.

## **LIMITATIONS AND FUTURE RESEARCH DIRECTIONS**

The current study examines the scales of ski leisure constraints in China. However, the findings of this exploration should be interpreted with caution. First, data collection was limited to 521 respondents, and the sample sizes of some remote and less developed locations are relatively small; therefore, they are not fully representative of the corresponding general population. Second, the generalizability of the results is limited to mainland Chinese skiers, excluding those from Hongkong, Macao, and Taiwan. Furthermore, given the primary concern of the study, the new Chinese-specific factors we introduced into the scales are not tested with reliability and validity, awaiting further verification.

Future research is encouraged to have empirical validation of the emergent framework of constraint factors in the context of the wider population, which would add to the practical application and academic appreciation. As consumer intentions and behaviors vary, understanding of which factors is more prevalent in different consumer segments is predictive of consumers' actual behavior.

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**Table 1. Participant details**

Subject	Items	Frequency	Effective %	Cum.%
Gender	Male	237	45.5	45.5
	Female	284	54.5	100
Age	<20	43	8.3	8.3
	20-30	150	28.8	37
	30-40	225	43.2	80.2
	40-50	72	13.8	94
	>50	31	6.0	100
Income(RMB)	<5000	214	41.1	41.1
	5001-10000	205	39.3	80.4
	10001-15000	60	11.5	91.9
	15001	42	8.1	100
Work	state-owned entities	188	36.1	36.1
	Private firms	105	20.2	56.2
	Self-employed	76	14.6	70.8
	other	152	29.2	100
Education	Middle school	15	2.9	2.9
	high school	45	8.6	11.5
	bachelor	300	57.6	69.1
	master and above	161	30.9	100
Participance	yes	267	51.2	51.2
	no	254	48.8	100
Skill level	beginner	482	92.5	92.5
	advanced	39	7.5	100
Purpose	ski	293	56.2	56.2
	play with snow	228	43.8	100
Visit times	0 times per year	273	52.4	52.4
	1-5 times	211	40.5	92.9
	6-10 times	14	2.7	95.6
	>10 times	23	4.4	100
Expected price(RMB) ski	<100	34	34.7	34.7
	100—200	37	37.8	72.4
	200—400	20	20.4	92.9
	>400	7	7.1	100

Table 2. Offending estimates of leisure constraints

Items	Standardized Regression Weights	Error variance
Intrapersonal		
A1	0.604	0.127
A2	0.658	0.117
A3	0.689	0.101
A4	0.795	0.081
A5	0.814	0.068
A6	0.807	0.07
Interpersonal		
A7	0.463	0.119
A8	0.727	0.093
A9	0.816	0.095
A10	0.648	0.137
Structural		
A11	0.518	0.117
A12	0.665	0.087
A13	0.849	0.064
A14	0.694	0.083
A15	0.695	0.084

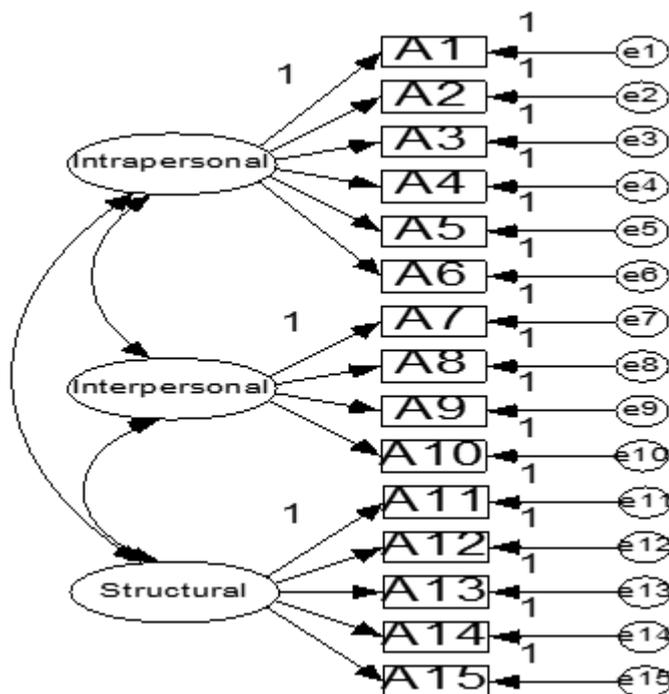


Figure 1. Structure of CFA

**Table 3. Constraint types of ski tourism**

Factor category	Items
Intrapersonal	1. Afraid of injury 2. Will get cold and wet 3. Harder to learn than other sports 4. Afraid of heights 5. Don't fancy the physical challenge 6. Self-conscious or embarrassed learning
Interpersonal	1. Can't find others to go with 2. Partner is not interested 3. Too many family commitments 4. Family are too young
Structural	1. Don't have enough money 2. Concerned about the lack of snow 3. Too much planning involved 4. Don't have enough time to go 5. Too many other leisure commitments

**Table 4. Result of Reliability test**

Cronbach's Alpha	items
.872	15

**Table 5. Result of Reliability test for different constraint types**

Types	items contained	Cronbach's Alpha
Intrapersonal	6	0.874
Interpersonal	4	0.746
Structural	5	0.809

**Table 6. Scale validation**

	None standard estimate	S.E.	C.R.	P	Standard estimate	SMC	C.R.	ave
Intrapersonal							0.8727	0.5364
A1	1				0.604	0.365		
A2	1.087	0.089	12.191 ***		0.658	0.433		
A3	1.097	0.087	12.604 ***		0.689	0.475		
A4	1.337	0.096	13.888 ***		0.795	0.633		
A5	1.311	0.093	14.085 ***		0.814	0.662		
A6	1.299	0.093	14.009 ***		0.807	0.651		
Interpersonal							0.7655	0.4588
A7	1				0.463	0.215		
A8	1.597	0.168	9.517 ***		0.727	0.529		
A9	1.885	0.192	9.819 ***		0.82	0.672		
A10	1.681	0.185	9.087 ***		0.648	0.420		
Structural							0.818	0.4792
A11	1				0.518	0.268		
A12	1.222	0.117	10.408 ***		0.665	0.442		
A13	1.534	0.133	11.559 ***		0.849	0.720		
A14	1.293	0.121	10.65 ***		0.694	0.482		
A15	1.296	0.122	10.66 ***		0.695	0.484		

**Table 7. Model Fit**

Description	CMIN	CMIN/DF	GFI	AGFI	RMSEA	CFI	PCFI
Before Modification	390.784	4.492	0.906	0.87	0.082	0.907	0.752
After Modification	246.863	2.974	0.942	0.917	0.062	0.95	0.751
criteria		<3	>0.9	>0.8	<0.08	>0.9	>0.5
fit or not		fit	fit	fit	fit	fit	fit

**Table 8. Chinese-specific constraint factors of ski tourism**

Factor category	Items
Intrapersonal	<ol style="list-style-type: none"> <li>1. have had injures.</li> <li>2. Not comfortable with a hired skiwear.</li> <li>3. Easily exhausted with physical exercises.</li> <li>4. don't like the place / people there.</li> </ol>
Interpersonal	<ol style="list-style-type: none"> <li>1. Have no trust in a ski coach who is not introduced by my friends.</li> <li>2. Worried about troubles of hitting into others.</li> <li>3. Find few online comments or via word of mouth.</li> </ol>
Structural	<ol style="list-style-type: none"> <li>1. The snow in the resort is not good enough.</li> <li>2. The service (including traffic) is not good enough.</li> <li>3. The equipment is not good enough.</li> <li>4. Knowledge about the activity is limited.</li> <li>5. A private-run ski resort is not reliable.</li> </ol>

*Track 05 Culture and Consumption*

**ID #553**

**Sustainability as a propulsor of the engagement of social media users**

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**Abstract**

*Social media is an attractive communication channel for disseminating content about corporate sustainability to stakeholders. The present study analyzed the users' engagement in the publications about the sustainability of companies of the portfolio ISE (Corporate Sustainability Index) in social media. An exploratory, quantitative, descriptive, and netnographic study, with the object of study being 34 companies belonging to the ISE portfolio. Data were collected from 2,232 publications on 3 social media (935 on Facebook, 1135 on Twitter and 162 on Youtube). The results present an overview of the presence of companies in the ISE portfolio in social media, the frequency of publication of content on business sustainability and indicate the existence of a significant statistical difference in the engagement of social media users when the publication deals with business sustainability. Operationally, the engagement is larger in terms of average dislikes, views, and comments.*

**Keywords:** Sustainability. Engagement. Social media marketing. ISE portfolio.

**Acknowledgments**

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## **INTRODUCTION**

Advances in information technology and the Internet have caused changes in the marketing communication model of companies, regardless of the size or branch of activity (Hanna et al., 2011). Specifically, in the field of digital marketing, advances in social media have provoked the use of new channels of online communication in product promotion and the relationship with consumers (Singh, 2017). It is a fact that social media has become popular with consumers and organizations around the world (De Vries et al., 2012). In Brazil, about two-thirds of consumers have access to the Internet, and the average access time per day is more than four hours and thirty minutes (Brazil, 2017).

Harris and Rae (2009) have highlighted the power of social media in organizations' marketing communications, as they are an economical, fast alternative and enable interactive communication. Perhaps that's why organizations are increasingly using social media to get business and relationships with customers and suppliers. It is also known that consumers use online social media to interact and share information and to discuss issues such as environmental sustainability (Vafaei et al., 2016). Having knowledge about the aspects that influence the behavior and engagement of social media users can help in the competitiveness of companies in the digital environment.

In recent decades, companies have become more active in publishing reports and content on corporate sustainability, some of which have been used to improve reputation and stakeholder relationships (Kolk, 2008). Currently, environmental sustainability is perceived as a relevant issue that affects the organization's market performance and image with stakeholders (Reilly and Hynan, 2014). The growing concern of society with environmental and energy conservation has led companies to rethink their sustainability strategies and practices (Lee, Lam, 2012). In Brazil, for example, the Corporate Sustainability Index (ISE) initiative led by BM & FBOVESPA seeks to foster an investment environment aligned with the demands of the sustainable development of today's society, and to broaden the understanding of the practice of committed companies and groups with environmental sustainability (BM & FBOVESPA, 2017).

Companies need to disclose their sustainability practices, and stakeholders are interested in this subject (Vafaei et al., 2016). Social media is being used by many companies as a channel for disseminating their sustainability practices. According to Heller Baird and Parasnis (2011), social media is currently one of the main channels of communication and relationship with consumers. However, the literature on the subject still offers little information on how to incorporate social media into the marketing strategies of organizations. Lodhia (2014), for example, suggests the need for studies that consider the Internet's potential in communicating social and environmental issues. Already Zahid et al. (2017) point out a gradual interest in research focused on consumer behavior in relation to the communication of "green" products. There was also a growing interest in the impact of marketing on promoting and maintaining the ecological balance (Chamorro et al., 2009). Thus, as a means of disseminating content on sustainability, social media can be allied in obtaining a positive image and in strengthening the relationship with stakeholders, as well as in gaining consumer engagement (engagement, involvement) in the digital environment.

In view of the presented context, it was decided to carry out the present study with the following research question: Is there a significant statistical difference in the users' engagement in sustainability publications by the ISE (Corporate Sustainability Index) portfolio in social media? Thus, the overall objective of the study is to analyze the users' engagement in

sustainability publications by companies of the ISE portfolio in social media. Specifically, the research seeks to identify the social media most used by companies; raise the frequency of publication of content on sustainability by companies in the main social media; to verify the engagement of social media users in content publications on sustainability.

## **THEORETICAL FOUNDATION**

The present study is based on theories and concepts of sustainability and social media and was elaborated, predominantly, from specialized references and results of international scientific studies aligned with the purpose of the study.

### ***Sustainability***

The commitment of the international community signed at Rio+20 has shaped global efforts for sustainability and sustainable development. According to Doyle (1992) and Menon and Menon (1997), society's concern with environmental sustainability has influenced the competitive practices of global organizations. And the growth of the environmentally-conscious consumer market has fueled demand for eco-friendly products, especially in more developed countries (Zahid et al., 2017).

The concept of sustainability has been widely discussed for about 30 years, mainly due to the growing interest in the subject by consumers and organizations (Baldassarre, Campo, 2016). For Awudu and Zhang (2012), sustainability means meeting the organization's environmental management needs with economic prosperity and quality of life, but without compromising the ability of the environment for future generations. Corporate sustainability, as proposed by Van Marrewijk (2003), can also be understood as voluntary activities related to social and environmental concerns in the company's business operations and interactions with stakeholders. These activities transcend legal compliance and profit-making and focus on human potential, social responsibility, and care for the planet.

Society wants companies to increasingly use environmental and natural resources in a sustainable way. According to Ko et al. (2013), government concerns about the environment and consumer demand for sustainable products are driving companies to invest in sustainable practices and to run their businesses in a "green" way. Moreover, as Menon and Menon (1997) pointed out, regulatory pressures on the environmental impact of corporate practices have influenced the organizations' investments and strategies. There have also been changes in companies regarding responsibility for the environment and society, with increased investments in sustainable practices and orientation towards long-term profitability with sustainability (Boztepe, 2012).

Baldassarre and Campo (2016) argue that sustainability is becoming relevant in the field of marketing and can be particularly important in the relationship of companies with some stakeholders. Consistent with this, Vafaei et al. (2016) pointed out that companies are introducing sustainability practices in their marketing strategies, seeking a sustainable competitive advantage. Perhaps because of this, the study by Kolk (2008), which analyzed the sustainability reports published by the companies of Fortune Global 250, found a considerable increase in the number of sustainability reports published by the analyzed companies, and that the themes most covered are: community involvement/philanthropy (97%); health and safety (91%); equality of opportunity / diversity in the workplace (88%); employee satisfaction (67%); human rights (55%).

Given the importance of the theme and the pressures of society, there is also a need for companies to invest in the development of an organizational culture oriented towards environmental sustainability. Today it is understood that companies need to satisfy the needs and desires of their target customers and profitably, while preserving the resources of nature and considering the limitations of the environment. Previous research has pointed out that consumers are looking at environmental issues and that they observe the sustainability practices of the brands and products they consume (De Andrade Guerra et al., 2017; Barbosa et al., 2017). Due to its popularity and characteristics, social media can contribute to the promotion of the sustainability practices of brands and products of the organizations and, eventually, to win the engagement of consumers in the digital environment.

### ***Social media and sustainability***

Social media platforms enable the organization to develop personalized marketing communications and interaction with consumers, as well as to increase user engagement in Internet publications (Hanna et al., 2011). It is known that social media has transformed the way people and companies connect, communicate and interact in the digital environment (Kaplan & Haenlein, 2010) and that corporate social media investments have increased substantially in recent years (Rydén et al. al., 2015). Social media like Facebook, Twitter, and YouTube are increasingly being used by companies in their marketing, advertising, and promotion strategies. They have transformed the Internet from an information platform to a platform for interaction and influence (Hanna et al., 2011).

Filo et al. (2015) define social media as media technologies that facilitate interactivity and the development (and sharing) of content between users, whether individuals or organizations. Kaplan and Haenlein (2010) define social media as a group of Internet applications that are based on the foundations of Web 2.0 and allow the creation and exchange of content by users. Social media marketing is understood as an interdisciplinary and multifunctional concept that involves the use of social media (often in combination with other communication channels) to reach the organization's market goals and create value for stakeholders (Felix et al. 2017). In a simpler way, Neti (2011) defines it as a strategic process of promoting the company and its products through social media.

There are several categories of online social media, including sharing media, blog/microblog, social bookmark, virtual community, social network and virtual world (Rydén et al., 2015). In this paper, we present the results of the study. Companies have realized the potential of social media as a business and relationship channel (Smith et al., 2012) and use them to broaden their customer base and develop relationships with consumers and other stakeholders (Rydén et al., 2015). In fact, social media allows companies to conquer new businesses, serve new markets/clients, and develop communication actions in an interactive and personalized way (Filo et al., 2015).

The study by Erdoğan and Cicek (2012) analyzed the effect of social media marketing on customer loyalty via questionnaire (338 respondents) and through multiple regression analysis. The results show that customer loyalty to the brand is positively influenced when the company: conducts campaigns that are advantageous to users; offers relevant content; publishes popular content; is present on several online platforms and offers branded app to be installed on mobile electronic device. To do so, companies need to know the interests of their target users and publish content that is up-to-date and aligned with the interests of users.

A study by Dixon et al. (2015) analyzed the use and perceived efficacy of social media in the context of American universities, through a survey of 158 marketing professionals. The results

revealed that social media is perceived as important by most of the researched professionals and has been effective in achieving the marketing objectives established by the researched institutions. He also pointed out that most respondents rated Facebook and Twitter as "very successful" or "extremely successful" as a marketing tool. The study by Williams et al. (2014) analyzed the use of social media in the dissemination of sustainability practices by organizations and revealed that the interactive nature of social media facilitates the dissemination of products and ecologically correct actions and favors the promotion of the identity and sustainable actions of the organization.

It is a fact that organizations need to communicate their social and environmental practices in the media used by their stakeholders (De Villiers and Van Staden, 2011). Studies indicate that the Internet and social media are increasingly being used by society and are channels of communication considered useful and accessed by consumers, especially by young people (Robelia et al., 2011; Lodhia, 2014). Thus, companies can improve their marketing campaigns and increase the spread of their social and environmental practices by investing in online social media. On the subject, Lyon and Montgomery (2013) pointed out that online social media can even improve the quality of communication actions with the market and increase user engagement in publications on environmental and sustainability practices.

According to Gümüs (2017), one of the main advantages of social media for companies is the possibility of publishing content aimed at certain target audiences, in an economical way and encouraging user engagement, whether by tasting, commenting or sharing content. It is believed that consumers expect companies to be responsible for their operations and activities that affect the environment (Zahid et al., 2017), and that the greater their interest in the subject, the more organizations tend to publish their practices and sustainability content in their marketing communication (Vafaei et al., 2016).

There are currently several companies that use social media in corporate communication (external and internal) of their practices and performance in relation to sustainability (Reilly and Hynan, 2014, Baldassarre, Campo, 2016). According to Lyon and Montgomery (2013), the more the company has sustainable practices, the more it tends to use social media in marketing communication with its stakeholders. Companies can use social media to disseminate environmental actions, sustainability content, and their sustainable products, stimulating the engagement of target users.

The study by Reilly and Weirup (2012) examined the relationship between corporate culture, sustainability, and the use of social media in the context of global companies (11 organizations). The results indicate that there is variation in the sustainability practices of the companies surveyed and that there is a link between sustainability practices, social media use, and corporate culture. Already the study by Zahid et al. (2017) explored the factors that determine the intent to purchase "green" products and the practice of corporate social media marketing. It is a quantitative study, with data collection via questionnaire (347 participants) and the participation of clients of three cosmetic stores. The results suggest that consumers are concerned about the environment and that they reflect this in their cosmetic buying behavior; that the company's attitude towards the environment influences consumer behavior; that higher-income buyers are more likely to buy products/brands that are considered sustainable. For this, the company needs to position itself as effectively sustainable and promote its sustainability practices with the desired consumer.

## **METHODOLOGICAL ASPECTS**

This study is classified as exploratory, quantitative, descriptive, and in the form of netnography, as proposed by Kozinets (2010). The use of netnography was directly and non-participatory in the collection of data on publications in the online environment, an adaptation of the ethnographic method used by anthropology in studies on culture and behavior of social groups. We opted for the quantitative approach, as defined by Saunders et al. (2016), due to the need to obtain numerical data for analysis through statistical techniques and hypothesis testing. We also chose the descriptive research because the study required data on the characteristics of company postings and on the behavior of social media users to analyze engagement in sustainability publications.

The study object comprises the 34 companies of the Corporate Sustainability Index (ISE) portfolio present on BM & FBOVESPA on the base date of May 15, 2017, available on the link [www.bmfbovespa.com.br/pt\\_br/produtos/indices/indices-de-sustentabilidade/indice-de-sustentabilidade-empresarial-ise-composicao-da-carteira.htm](http://www.bmfbovespa.com.br/pt_br/produtos/indices/indices-de-sustentabilidade/indice-de-sustentabilidade-empresarial-ise-composicao-da-carteira.htm). According to the BM & FBOVESPA (2017), the ISE portfolio is "a tool for comparative analysis of the performance of companies listed on BM & FBOVESPA under the corporate sustainability aspect, based on economic efficiency, environmental balance, social justice, and corporate governance". The companies present in the ISE portfolio tend to report to the public their actions and performances in social and environmental areas, through sustainability reports and are usually present in social media. The analysis unit comprised the content/message published by companies on brand pages in social media in the last 2 months (March and April / 2017). Table 1 contains the list of companies present in the Corporate Sustainability Index (ISE) and participants of the present study.

The collection method involved the direct non-participant observation, structured and supported by a structured collection instrument (Observation Record Form). The collection instrument was used to record the data about social media used, type of content published and behavior of users (eg, reply, retweet, share, likes, dislikes, views, and comments), these variables being defined from the works of Cvijikj and Michahelles (2013) and Luarn et al. (2015). The data were collected manually (without access to reports or electronic applications of analysis), between May 23 and June 13, 2017. In the data collection, the publications of simple profile or cover image exchange were disregarded; publications made by others or publications in response to the user (such as retweet or replying to); sharing of the company's publications. In total, data were collected from 2,232 publications of the 3 main social media companies (935 publications on Facebook, 1,135 on Twitter, and 162 on YouTube).

Regarding the method of analysis, descriptive statistics techniques were used to measure the social media most used by companies and the frequency of publication of content on sustainability by companies (absolute frequency and relative frequency). To identify the publication with sustainability content, it was based on the objectives of the 2030 Sustainable Development Agenda, prepared by the UN (2015), as presented in Figure 1.

To test the hypothesis of research, the statistical technique called the t-test for independent groups was used. These tests apply to sampling plans where we want to compare two independent groups. In this study, the groups were formed by engagements in social media that were allocated to one of the two treatments under study. Unlike the case of paired data, this test does not require that the samples have the same size (Barbetta, 2007).

The research hypotheses established from the objectives of the present study are as follows:

**H<sub>0</sub>** = *there is no significant statistical difference in the engagement of social media users in relation to posts about sustainability;*

**H<sub>1</sub>** = *There is a significant statistical difference in the engagement of social media users in relation to sustainability posts.*

One of the assumptions of the t-test is that the variances of the two groups are equal. Thus, this hypothesis was tested by means of the Levene test. Subsequently, from the test result, we chose the test result t assuming equal variances or assuming different variances. When parametric assumptions are met, Student's t-test for independent samples is more suitable for comparison of group means.

In the decision to reject or accept the formulated hypothesis, the p-value was used as a reference for statistical comparison. The value of p is the probability, when H<sub>0</sub> is true, of observing a sample as different as or different from the sample surveyed. The value of p describes the "rarity" of the sample obtained. Thus, if  $p \leq \alpha$ , the sample is sufficiently rare to reject H<sub>0</sub> (Barbetta, 2007). Excel and SPSS software were used to perform the mean difference calculations (t-test for independent groups) and to test the validity of the hypotheses. Thus, if  $p < \alpha$ , the hypothesis H<sub>0</sub> was accepted.

## **PRESENTATION AND ANALYSIS OF RESULTS**

This section contains the results of the study, including data collected on social media most commonly used by business research, the frequency of sustainability publications, and test results on social media user engagement hypotheses. At the end, it also contains the analysis of the results.

### ***Results of most commonly used social media***

The first specific objective of the study is to identify the social media most used by ISE portfolio companies. Table 1 shows the social media used by the companies surveyed, including the number and percentage of the company by social media, and the average number of followers. In total, there are twelve social media used by all the companies surveyed, but only three media are used by the majority: Facebook (85.3% of companies), Twitter (70%) and Youtube (67.6%). The social media less used by the companies researched are Flickr, Pinterest, SlideShare, Issuu, Periscope, and Snaphat. One of the companies surveyed (Laboratory Fleury) discloses on its website that it is present in the Periscope media, but the link provided directs to a nonexistent page.

Regarding the average number of followers per page, the most notable social media are Facebook (with 2.001.345 followers), Instagram (369,107), and Google+ (338,114). Facebook is the most popular social media because it has an average number of followers greater than the sum of the other media used. In addition, eleven companies in the ISE portfolio (32.4% of them) are present on Facebook with more than one million followers. There are also eleven companies present on Instagram and six on Google+, with a large following. While YouTube (3rd most used) is in 6th place in the ranking by average-number of followers.

### ***Results of publications about sustainability***

The second specific objective of the study is to raise the frequency of publication of content on sustainability by companies of the ISE portfolio in the main social media used. Thus, Graph 1 presents the percentage of publications that addressed the sustainability theme in the Facebook, Twitter and YouTube media, and the percentage in relation to the total of publications analyzed

(2,232 publications). In total, only 11.7% of the companies' publications in the analyzed period address sustainability. The vast majority of them (88.3% of the publications) deal with other matters, such as information content (e.g., products, services and other company information) or promotional content (e.g., promotions, sweepstakes or company discounts).

Of the total of 935 publications made on Facebook, only 14.9% of them present content related to sustainability; 85.1% of the publications address other issues. Of the 162 videos published on Youtube, only 12.3% have content related to sustainability; 87.7% of them address other issues. Twitter, the social media with the largest number of publications analyzed (1,135), has the lowest percentage of publications on sustainability, only 9.1%.

It should also be noted that of the 29 ISE portfolio companies present on Facebook, four did not publish any content on sustainability and that one of them (AES Tiete) did not publish in the analyzed period. On Twitter, of the 24 companies analyzed, eight did not publish any content on sustainability, and one of them (Fleury) made no publication during the analyzed period. On YouTube, of the 23 companies analyzed, fourteen did not publish content on sustainability, and three of them (Copel, Eletrobras and Fleury) did not publish in the analyzed period.

Graph 2 presents the ISE portfolio companies with more publications on sustainability in the two main social media used (Facebook and Twitter). The companies that publish the most about sustainability on Facebook are: Fibria (pulp industry), Braskem (chemical/petrochemical), Fleury (medicine/health), Eletrobras (electricity), Banco do Brasil (financial institution) and Copel (electricity). On Twitter, the companies that most published on the subject are: BRF (food), Telefonica (telephone services), Cemig (electricity), EDP (electricity) and Fibria (pulp production).

### ***Results of the hypothesis test on user engagement***

The last specific goal of the study is to verify the engagement of social media users in content publications on sustainability. Thus, the following contains the results of the hypothesis tests about the engagement of the users of the main social media used by the companies of the ISE portfolio. We want to check statistically whether sustainability posts get more engagement from users than posts that address other issues (e.g., products, services, promotions, and other company information). The research hypothesis to be tested is as follows:

**H<sub>0</sub>** = *there is no significant statistical difference in the engagement of social media users in relation to posts about sustainability;*

**H<sub>1</sub>** = *There is a significant statistical difference in the engagement of social media users in relation to sustainability posts.*

To reject or accept the mentioned hypotheses, the p-value was used. When there is a value of  $p \leq \alpha$ , the sample tends to be sufficiently rare to reject  $H_0$ . Table 2 presents the results of the calculated t-test of the three main social media in relation to the users' engagement in sustainability posts, and if the hypothesis  $H_0$  was rejected. The results suggest the existence of social media users' engagement, since the value of  $p \leq \alpha$  (0.00361). Thus, it is recommended the non-rejection of  $H_1$ , the hypothesis that there is a significant statistical difference in the engagement of users of social media analyzed in relation to posts about sustainability.

Later, a t-test was performed to analyze the existence of engagement by type of interaction of the users, be it reply, retweet, share, likes, dislikes, views, and comments. Table 3 presents the results of p of the social media Twitter, YouTube, and Facebook, by type of engagement. The

results suggest the non-rejection of  $H_0$  for the interactions: the average of reply, an average of share, mean of retweet, and average of likes. In contrast, the data suggest the non-rejection of  $H_1$ , the hypothesis that there is a significant statistical difference in the engagement of social media users in relation to sustainability posts, for the interactions: average dislikes, average views, and average comments.

Thus, the results of the statistical tests presented suggest the importance of sustainability publications in the marketing communication of ISE portfolio companies and the possible influence of sustainability posts on the engagement of social media users Twitter, YouTube and Facebook. The next section details the analysis of these results.

## **DISCUSSION**

Kaplan and Haenlein (2010) stated that organizations need to be on social media where their target audience is present, and each social media attracts a particular group of users (consumers). The results of the present study revealed that most ISE portfolio companies are present in social media; about 91% of companies surveyed are present in at least one social media and all companies are present in 12 social media. The study also revealed that the three most used social media are Facebook, Twitter, and Youtube, which corroborates with the statement by Pham and Gammoh (2015) that these are currently the most used social media by organizations. Despite being a relatively recent phenomenon, the adoption of social media by companies of the ISE portfolio is surprising and has become popular in a few years, confirming what was pointed out by De Vries et al. (2012).

It was also noted that there is a high amount of company publications on social media Facebook and Twitter in the analyzed period - 2 months. According to Smith et al. (2012), Facebook and Twitter are social media that offer good opportunities for companies to connect with consumers, gain visibility into the digital environment, and build the brand image they want. These two social media had 2,070 publications in the period surveyed, and some of the companies published more than 100 times in these media in the analyzed period. It has also been noted that many companies in the ISE portfolio publish daily on Facebook, perhaps because their users require new and constantly updated content, as Reilly and Hynan (2014) said.

There are also some companies from the ISE portfolio that did not make publications in the social media during the analyzed period (14 of them on Youtube, 8 on Twitter, and 4 on Facebook). One of them has been updated for more than 1 year without updating your YouTube posts (the last video was published on March 7, 2016); one of them indicates on your web/site a link to a non-existent social media page. The absence of new publications in social media tends to reduce the number of followers and negatively affect the company's image in the digital environment (Gümüs, 2017).

Although some companies in the ISE portfolio publish relatively similar content in social media used, the results indicate that Facebook is the social media with the highest percentage of sustainability publications (14.9%), followed by YouTube (12.3%), and Twitter (9.1%), and that the practice of publishing companies has some variation in the different social media. These findings confirm the results of Smith et al. (2012), according to which the content published by companies in the digital environment tends to vary according to the social media used.

Regarding user engagement, the results indicate that there is a statistically significant difference in users' engagement in sustainability posts in the three main social media analyzed and that this engagement is greater in dislikes (views) and comments. This may indicate that the

sustainability theme is perceived as relevant by social media users of the ISE portfolio companies and that sustainability posts may have an influence on the engagement of users of Twitter, YouTube, and Facebook. Therefore, these companies should continue to invest in the publication of sustainability content in social media, observing the interests of their users regarding the moment of the posting, type of media and type of content. Previous studies have suggested the importance of knowing the interests of users of the digital environment, as this favors engagement in publications and interaction with the brand (Erdoğan, Cicek, 2012, Smith et al., 2012, De Vries et al., 2012; Cvijikj, Michahelles, 2013).

The results of the study also showed that some companies published the same content repeatedly, one of which published the same content on five different days (March 7, 17 and 28; April 22 and 27). Such companies need to review this practice in social media since it is known that repeated publication of content tends to discourage users' access and reduce the number of followers (Gümüş, 2017). In addition, the significant difference in users' engagement in sustainability publications (as pointed out in this study) shows that there are users interested in the theme and that this failure of companies can negatively influence the decision and behavior of users in the relationship with the company, as already alerted by De Andrade Guerra et al. (2017) and Barbosa et al. (2017).

## **FINAL CONSIDERATIONS**

The present study analyzed the users' engagement in publications about sustainability in social media by companies of the ISE portfolio. To do so, the data collection sought to: identify the most used social media; identify the frequency of publication of content on sustainability in the main social media; to verify the engagement of social media users in sustainability publications. These study objectives were achieved.

The results of the study revealed that the vast majority of companies surveyed publish on at least one social media and that Facebook, Twitter and YouTube are the most widely used media. There are eleven ISE portfolio companies present on Facebook with over one million followers. He also pointed out that 11.7% of company publications deal with sustainability and that Facebook is the social media with the highest percentage of publications on the subject (14.9%). The results also pointed out that there is a significant statistical difference in the engagement of users of social media more used in relation to the posts about sustainability, and that this engagement is greater in dislikes, views and comments.

As a theoretical contribution, the study collected evidence on ISE portfolio publications in social media and on users' engagement in relation to sustainability publications, a topic that has not yet been studied in specialized literature, according to De Vries et al. (2012). The statistical tests of the study revealed that sustainability publications are important in the marketing communication of ISE portfolio companies because they influence the engagement of social media users Twitter, Youtube, and Facebook. The study also contributed to stimulate new research on the subject and allowed the identification of new directions for future research.

As a managerial contribution, the study revealed to managers of ISE portfolio companies that their publications on sustainability are relevant, as there are users interested in the subject. He also pointed out that such publications can help to increase the number of views and comments by social media users who are less likely to dislikes interactions. In addition, to get more engagement on Facebook or YouTube in the form of comments, social media managers at these

companies can publish more content about sustainability in social media and align the format of their publications (posting time, media type and type of content) to the interests of its users.

The present study contains some limitations that deserve to be highlighted. The study was conducted only with companies from the ISE portfolio (34 companies), based only on data collected in the two months (March and April 2017) and analyzed only the publications of three social media (Twitter, Youtube, and Facebook). Thus, future studies on the subject could analyze publications on sustainability in other relevant social media, such as Instagram and LinkedIn; analyze user engagement in relation to other variables, such as posting (eg, day of the week and schedule), types of media (eg, liveliness and interactivity), type of content published (eg, emotional, informational and entertainment); to verify the engagement of social media users in the publications of other segments of companies or countries.

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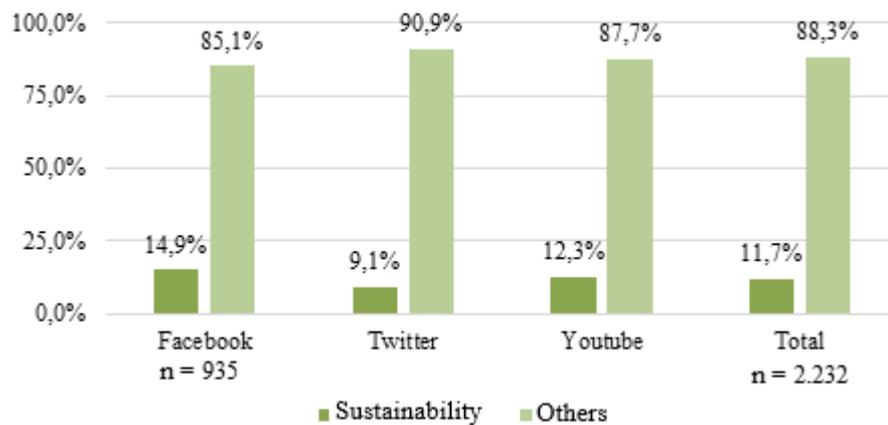
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Figure 1: ONU Sustainable Development Goals



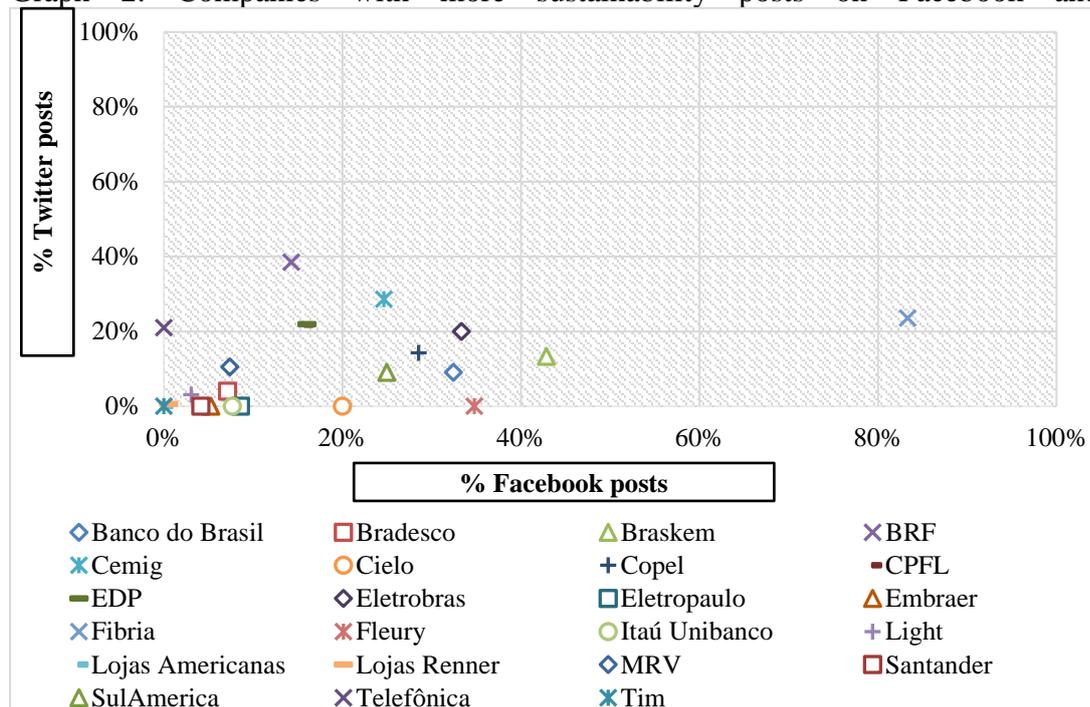
Source: UN (2015)

Graph 1: Posts percentage about sustainability in major social media



Source: prepared by the authors (2019)

Graph 2: Companies with more sustainability posts on Facebook and Twitter



Source: prepared by the authors (2019)

Quadro 1: List of companies in the Índice de Sustentabilidade Empresarial - ISE

Companies						
AES Tiete	BRF	Copel	Eletrobras	Fleury	Lojas Americanas	SulAmerica
B2W	CCR	CPFL	Eletropaulo	Itaú Unibanco	Lojas Renner	Telefônica
Banco do Brasil	Celesc	Duratex	Embraer	Itaúsa	MRV	Tim
Bradesco	Cemig	Ecorodovias	Engie	Klabin	Natura	Weg
Braskem	Cielo	EDP	Fibria	Light	Santander	-

Source: BM&FBOVSPA (2017).

Table 1: Quantity and percentage of companies by social media

Socia media	Companies (n)	%	Av. followers
Facebook	29	85,3%	2.001.345
Twitter	24	70,6%	125.542
Youtube	23	67,6%	40.182
Linkedin	14	41,2%	121.800
Instagram	11	32,4%	369.107
Google+	6	17,6%	338.114
Flickr	3	8,8%	242
Pinterest	1	2,9%	27.108
Slideshare	1	2,9%	54
Issuu	1	2,9%	45
Periscope	1	2,9%	*
Snapchat	1	2,9%	**

\*Link to page that does not exist.

\*\*Followers list is not public.

Source: prepared by the authors (2019)

Table 2: Social media and engagement

Social media	g1	Stat t	p (T<=t) one-tailed	t crítico one-tailed
	6,251	2,68733	<b>0,00361</b>	1,64509

Source: prepared by the authors (2019)

Table 3: Results of p-value by type of interaction in the three most used social media

Social media	Av. reply	Av. retweet/share	Av. likes	Av. dislikes	Av. views	Av. comments
<b>Twitter</b>	0,20057	0,07871	0,23035			
<b>Youtube</b>			0,07692	<b>0,00523</b>	<b>0,00285</b>	<b>0,03386</b>
<b>Facebook</b>		0,13489	0,26074			<b>0,04708</b>

Source: prepared by the authors (2019)

*Track 05 Culture and Consumption*

**ID #582**

## **Reasons to be a membership**

**Marcelo Curth** (Feevale University, Brazil)

**Alexandre Olkoski** (Feevale University, Brazil)

### **Abstract**

*This paper aims to study the behavior of the consumer in relation to the reasons that led him to become a member. For this, an exploratory survey was conducted with thirty-one supporters of a football club in southern Brazil. Five categories were classified as Emotional Aspects, Cognitive Aspects, External Influences, Situational Aspects, and Aspects related to the Event. The results highlighted that the motivation of the majority of the respondents to become a member of the club is related to Emotional Aspects, such as passion and love. It can also be said that the feelings generated by soccer are related to the emotional aspects, as presented the interviews with the supporters.*

**Keywords:** Membership. Consumer behavior. Sports marketing.

### **Acknowledgments**

-

## **INTRODUCTION**

The club's way of connecting with the public is the excitement that surrounds the supporter, invigorating the feeling of social belonging (Gastaldo, 2002), which makes him a participatory and loyal to his club.

In Sordi's perspective (2011), the biggest source of income of the Brazilian clubs comes from the money involved in sponsorship advertising actions. Afterward, according to the author, the partners are the biggest money generators for the institutions.

In this scenario, the importance of the consumer for the companies is highlighted, in the case of this monograph of the fan-supporters of the soccer clubs. It is emphasized that consumer behavior involves the intentions and feelings that are experienced in their consumption process and also, all environments that influence their thoughts, feelings, and attitudes, such as comments from others, advertisements, the appearance of products and prices (Peter & Olson, 2010).

In view of this understanding, the article seeks to answer the following question: What were the motives that led member-supporters of a club in southern Brazil to join the club?

## **THEORETICAL REFERENCE**

### ***Marketing***

Marketing is derived from the Latin term *mercari*, which means commerce, where it is made the exchange, sale, and commercialization. In Brazil, the word was translated as the *market* (Tavares, 2003). Cobra (2009) defines marketing as a method of exchange, in which two or more parties offer something of value to the other, in order to satisfy their needs and desires.

Curth (2014) states that concepts related to marketing have undergone serious changes to the present day and have undergone changes in the understanding of their applicability. In this line, Neto (2003) attributes another concept related to marketing: event marketing. The author points out that event marketing falls into the category of promotional marketing, due to its institutional nature, which values the brand of the sponsor and potentiates the advertisement, reinforcing the brand and improving the image before its public. The author explains that the concept of events is broad and used in different ways of promotional marketing, citing as examples, the sporting, social, cultural, and ecological.

According to Farias & Kovacs (2006), one of the pillars of the concept of marketing is consumer satisfaction. From this, the companies focus on the consumers, seeking to satisfy it, due to the competition in the increasingly fierce market.

For Espartel et al. (2009), consumer content has been the subject of great studies in the marketing field for years. Consumer satisfaction is used every day to express your feelings that refer to a series of affective bonds, from personal as professionals, to trade and exchange relationships.

Thus, it is perceived that the purpose of marketing seeks the satisfaction of human needs and desires, having the consumer as the main element. It turns out that the club's fan-members used for the article get what they need and want through the actions developed by the club's marketing through sports marketing, a concept that will be discussed next.

### ***Sports marketing***

Sports marketing is characterized by actions aimed at the practice and advertising of sports, sports clubs or associations, both for events and tournaments, as well as sponsorship of sports clubs (Soares, 2007).

According to Neto (1995), the main concepts of sports marketing are the image, sports as media and alternative communication. The image is characterized in the connection of a certain brand with the image of an athlete or the one of a sports club. According to Neto (1995), this association can be considered a decisive factor in the valorization and exposure strategy of the brand and the product, and it is possible, through sport, to preserve the brand of the organizations.

The second aspect defended by Neto (1995) – sport as media – is related to the alternative media that sports marketing can be characterized, since the sport is part of the news bulletin of the communication vehicles, being able to conquer different markets and specific publics. Thus, according to the author, sports publications can help in the dissemination and sale of advertising space for communication vehicles such as radio, newspaper magazine, and television.

Sport as alternative communication allows diversified advertising different from conventional advertising, through *merchandising*, and can advertise the brand or product in various ways. In addition, the brand can be displayed on athletes' uniforms and caps, in the static advertising where the competitions take place, as well as other modalities merchandising existing for each type of sport (Neto, 1995).

According to Stotlar & Dualib (2005), sports marketing can be considered an important tool for brand promotion, as it is related to the benefits of sports such as health, vigor, youth, persistence, and companionship while being a direct link with the brand of the sponsor.

According to Zem & Machado (2004), sports investors are large companies that wish to promote their brands through sport. However, the number of companies that act in this way is small and may be a consequence of the culture. Companies that invest in sports have some essential characteristics. They have strong brands and are looking for new ways to communicate with their audiences and in the markets where they work. They take advantage of sport as an alternative medium, highlighting the reinforcement and dissipation of the brand, and improving its image, trying to communicate better with current and future customers (Neto, 1995).

Azevêdo (2009) emphasizes that the sport of competition was professionalized during the last century. This professionalization has spawned a new line of sports consumption, such as recreational sports, sports in schools, and sports for health that add billions of dollars a year around the world. To the author, this was due to the qualified performance of the responsible marketing agents, who stimulated the consumption of sports products in an effective way, causing the sports habit to be followed by non-professional practitioners and transferred to the practice of sports products consumption, expanding to billions of people, which was previously tied only to professional athletes.

In addition, sports marketing can be applied through the promotion of events through boards where sports will be played, costing several teams of different modalities, combining advertising and sports action and licensing products using the sponsored brand (Zem & Machado, 2004).

Poit (2006) explains that the definition of sports marketing is one of the components of traditional marketing that takes over sports as a means of increasing, strengthening, organizing, expanding and protecting the image of an institution, personality, brand or merchandise. In addition, according to the author, sports marketing is associated with successful sporting events, champion athletes and more expressive modalities, and is considered as an alternative media because sports marketing has the ability to communicate advertising messages in large events' prestige in their sports broadcasts.

Companies are increasingly investing in sports marketing, since the brand of large organizations associated with the brand of large clubs can generate in the consumer the desire to acquire products of a specific brand, or in the case of partners, to have a preference for a particular brand or product, due to the benefit offered to that public, in the case of this monograph, fan-members of a football club.

### ***Consumer behavior***

For Curth (2014), consumer activities are the central field of consumer behavior because customer attitudes are related to how people, groups, and organizations buy and dispose of products, services, experiences, or ideas for the purpose satisfaction. The author categorizes aspects that interfere with consumer behavior in external influences and internal influences. For the author, external influences are formed by cultural factors, social factors, and personal factors. Internal influences are formed by psychological aspects such as motivation, beliefs and attitudes, perception, and learning.

They make up the cultural factors, the aspects understood by the individuals of the same group; subculture – groups that provide the socialization and identification of individuals, social classes or social divisions. In this respect, Curth (2014) also affirms that it is important to understand social classes since the consumption habits of individuals of the same social class are similar.

Social factors are formed by groups of which individuals are part and which are the cultural factor. In this sense, the family occupies the first place, because it is the most influential and significant group in what concerns the purchase of products and services in society.

In addition, there are reference groups, made up of friends and neighbors; aspiration groups, which are groups to which individuals expect to belong; and dissociation groups, which are formed by having rejected conduct and principles.

Curth (2014) further emphasizes that social role and status are important aspects that end up influencing consumer behavior. According to the author, individuals can be part of several social groups at the same time, developing in each group different social roles. A person can be a child, manager, and parent, for example, varying the status of this individual due to their actions in each social group.

According to the same author, personal factors encompass the consumer profile, such as age, life cycle, occupation, economic moment. In addition, self-image and personality particularize and exert influence over their behavior. However, he makes the point that the lifestyle that defines the standard of living of the consumer is unique for every human being, even if they are of the same age, social class, and so on.

Regarding internal influences, Curth (2014) points out that motivation stimulates the individual to go in search of the satisfaction of needs and desire. Attitude encompasses the preferences of the individual in relation to a product or object. Perception, however, involves how the

consumer receives, interprets, and draws conclusions about anything, based on their beliefs, attitudes, values, and personality.

Schiffman & Kanuk (2000) also mention that consumer behavior is driven by internal and external influences. For the authors, internal influences are the psychological factors, such as motivation, perception, learning, beliefs, and attitudes; while external influences are the cultural factors that involve culture and social, group living.

In addition, Giese & Cote (2000) explain that consumer satisfaction is manifested as an emotional or cognitive response through personal experience that determines satisfaction with the product or service. In this context, Oliver (1993) explains that consumers usually compare their pre-consumption expectations and post-consumption experience. Thus, it is perceived that this comparison can determine the consumer to remain a client of a given product or service and even a brand.

Schiffman & Kanuk (2000) emphasize motivation with an influential psychological factor in client behavior. The central points of motivation, according to the authors, are expressed by the excessive desire to acquire something or by customs in the day to day of individuals. The authors explain that people usually do not know what influences them to acquire something, but they are influenced by the need for self-actualization, social life, safety, and physiological needs.

Another psychological factor pointed out by Schiffman & Kanuk (2000) is the perception that implies the consumer's individual opinion about something. Perception can influence adherence to a particular brand, size, visual, color.

Cobra (1997) points out that the need for organizations to satisfy customers is not only to find what the consumer needs or to satisfy their desires since most consumers do not know what they really want. Thus, according to the author, the customer's contentment is linked to his feelings, since he takes actions imagining that he is satisfying his desires.

In this perspective, the American Marketing Association (AMA), according to Peter & Olson (2010), explains that consumer behavior includes the thoughts and emotions they experience and their way of acting in the consumption process. In addition, this behavior is surrounded by an environment that influences thoughts, feelings, and actions. As an example of this influence, we can cite comments from nearby people, advertisements, price information, packaging, product appearance. Peter & Olson (2010) also point out that consumer behavior is dynamic and includes interactions and exchanges.

Cobra (2009) complements that consumer behavior is influenced by the needs that trace basic human requirements, according to the pyramid theory of Maslow. For Cobra (2009), the physiological needs of individuals are characterized by the lack of food, water, air, clothing and shelter to survive in a rural or urban environment. In addition, humans also need education, recreation, and leisure, but these needs become desires when they are directed toward the contentment of specific goals (Cobra, 2009).

Peter & Olson (2010) explain that the concepts of affection and cognition are two elements of mental reaction. According to the author, the affection is related to the consumer's feelings regarding the satisfaction brought by a certain product, and the cognitive aspect, linked to the opinions of this consumer. Consequently, his behavior is linked to his physical actions, which can be analyzed and observed by other people. On the consumer environment, the author explains that this environment is formed by the external aspects and that end up exerting great influence in the way of thinking, acting and feeling.

According to Peter & Olson (2010), the marketing of companies needs to establish strategies with a primary focus on the consumer, through their behavior, environment, affection, and cognition. In the case of the analyzed sports context, football clubs need to understand the behavior of their fans so that clients perceive value, taking into account that these are motivated by different aspects inherent in each individual.

### ***The intention of consumer accession***

It is noted that the concepts of consumer behavior and the consumer's intention to join are strongly related since it is from the first that one can achieve their adhesion to a product, service or brand.

According to Rocha (2004), the consumer's intention to buy is intertwined with his behavior based on social, cultural, personal and psychological factors; factors of a political, economic, technological and environmental nature; as well as market factors such as product, price, promotion and distribution point.

Engel et al. (2000) define the consumer purchasing process in four stages: the first one is formed by the *inputs*; the second by information processing; in the next step the decision process takes place; and finally, the last step refers to the influence of the variables that influence the decision-making process of the consumer.

The motivation for the consumer to have the option to buy, according to Curth (2014), is encouraged by the need or the resolution of a problem, driven by internal and external stimuli according to their need. From this, the consumer starts looking for the necessary information to satisfy their needs and then evaluates the pre-purchase alternatives, such as different products, services or brands, opting for the product that can satisfy their needs in the best way.

Samara & Morsch (2006) mention that customer behavior can be seen as decision-making, logical and organized method of decision-making, where the purchase takes place. For the authors, clients do not make isolated decisions, many of them are influenced by sociocultural reasons such as social class, reference groups, culture, subculture, and family, among other representations that men and women play in society.

Schiffman & Kanuk (2000) point out that buying influence can often be generated by the individual's reference groups, such as family, friends, social classes, etc. These same authors explain that buying influence begins in childhood, from the limits that parents exert on their children, and when adults buy certain products for each other and their families. Thus, according to the authors, it is usually the family that is characterized as a reference group with greater control power.

For Schiffman & Kanuk (2000), social class is an important attribute with which the people that make up a particular group are identified by the purchasing power, skill, and prestige. The authors explain that the reference groups share the values of their culture, subculture, and social class. Therefore, decision-making for the purchase is related to the people closest to them and the feelings and behaviors of consumers.

For the authors Sheth et al. (2001), consumer behavior is influenced by the physical and mental activities that are performed by customers and by the consumer goods industries that generate decisions, purchase actions, product utilization, and services.

According to Mowen & Minor (2006), they point out that the consumer decision method includes the recognition of problems, so that, from this, the purchase takes place. This process

of decision-making is a constructive medium where customers make decisions constantly, with the buying process being influenced by the complexity of the problem (Mowen & Minor, 2006).

From this perspective, buying behavior can vary with the type of purchase decision. For, depending on the product, there may be different buying decisions – as in the case of high-value purchases, which involve a higher valuation of the product by the buyer (Kotler, 2000).

Teixeira (2010) mentions government policy as another factor that is strongly related to the consumption decision, characterized by monetary, fiscal, and public policies. The same author mentions that culture induces the purchase and consumption, even if it is not yet known to identify its influence, it is already seen by the studies on consumer behavior.

Engel et al. (2000) complement that, in addition to being interconnected to the consumption and disposition of products and services, consumer behavior is embedded in processes, which impact and proceed with these actions. Thus, the authors emphasize that the management of the brand image becomes relevant. Bauer et al. (2008) define the concept of image as the result of the association that the consumer has with respect to a product, which ultimately influences the purchasing process.

In addition to the image, one can highlight another important factor in the purchase process, as Mowen & Minor (2006) point out: brand loyalty. Brand loyalty is a commitment that the consumer signs, becoming loyal to a certain brand, regardless of whether the price has changed. In this respect, one can understand that the choice for a given product may not be related only to the commercial value.

For Teixeira (2010), even if it cannot be assured, the values exert a strong influence on consumer stimuli and behaviors in the adhesion. Francischelli (2009) complements that purchasing decision making occurs through the perception of one or more attributes. These attributes are represented by 'adjectives,' while being what the product is, its characteristics, components, and functions.

According to Peter & Olson (2010), the client behaves in a dynamic way, since the environment in which one lives constantly changes, either by the feelings, the way of acting of the clients and by the society, besides the internet, that provides faster ways to purchase products or services. Therefore, it can be seen that the consumer's intention to join cannot be seen separately from his behavior, as this will result in the decision and adhesion to the purchase.

Peter & Olson (2010) assert that consumer behavior for purchase is constantly changing. Thus, in addition to monitoring consumer behavior, it is relevant to establish strategies that have as a proposal to impact and influence the behavior of this consumer, so that the intention of membership is positive to this organization.

## **METHODOLOGY**

In the form that refers to the approach of the problem, the qualitative and research was applied exploratory. The research instrument was drawn up in two parts. In the first part we sought to identify the profile of the partner-supporter. The second part considered the key issues in order to meet the objectives of the article.

For the analysis of interviews regarding the key issue of this study – what motivated you to be a member of the club? – the criteria of categorization of contents proposed by Bardin (2011) were used. According to the author, most of the analysis processes are organized around the grouping of the common attributes of these elements. Categorization is an operation of classifying constitutive elements of a set by differentiation and then by regrouping according to gender (analogy), with previously defined criteria. The categories are rubrics or classes, which bring together a group of elements (registration units, in the case of content analysis) under a generic title, with the grouping done due to the common characteristics of these elements (Bardin, 2011).

In order to establish the categories elaborated from the contents of the interviews, the interviews were grouped by similarity in five categories explained below:

- a. Emotional Aspects:** It includes all the references related to the sensitization of the fan in relation to the feelings of passion and love to the club.
- b. Cognitive Aspects:** Covers all citations related to the facility to follow the games, from the moment of purchase to the promotional values of the ticket.
- c. External Influences:** It includes the mentions related to the influence of the family in the decision to become a partner.
- d. Aspects Related to the Event:** It includes the mentions related to the appreciation of the interviewee in relation to watching football matches.
- e. Situational Aspects:** Includes the mentions related to the phase of the team in competitions.

The sample of the present study is characterized by accessibility or convenience. The researcher selects the elements to which he has access, admitting that they can somehow represent the universe. This type of sample is applied in qualitative or exploratory studies, in which a high degree of accuracy is not necessary.

The interviews were conducted with 31 fan-members, and they were carried out around the stadium, parking lot, area *VIP* and bleachers. The data were collected through a tape recorder, in the moments that preceded the matches and in the interval of the games.

The invitation to the participants was carried out personally, through a *script* developed by the authors and which included the following information: a) personal presentation; b) presentation of the research objectives; c) justification and relevance of the research, and d) importance of the interviewee's collaboration. We interviewed 31 members who fit the research profile and accepted to participate, through the information presented.

Most of the interviewed people were people aged 26 to 30 (9 replies). It was identified that at ages ranging from 26 to 30 years, from 31 to 40 years, from 41 to 50 years and over 50 years, appeared in a balanced way, thus allowing the exposure of the information according to the generation of each individual.

The respondents are predominantly male (24 replies). The majority of respondents had their level of education comprised of Higher Education (18 replies). It is believed that the Higher Education has obtained a greater number of affirmations because it is consistent with the age group with the greatest response – from 26 to 30 years.

The salary range of respondents mostly varies between R\$ 2.001,00 to R\$ 4.000,00 (nine replies) and R\$ 4.001,00 to R\$ 8.000,00 (eight replies).

Most respondents became a club member between 2009 and 2016 (13 replies). It is also identified that in this period, started in 2009, the centennial year of the club, the club reached 100 thousand members, at the time, in sixth place in *the ranking* world.

From 2006 to 2008, six respondents composed associations, matching with associations until the 1990s (six replies). It is noteworthy that in 2006, the club won the most outstanding titles, with 44,000 members. In the same year, the club launched the campaign to reach the number of 100 thousand members, a brand achieved in 2009.

It is noteworthy that the associations made up to the 1990s, indicated by 6 respondents, are people who even before the club gaining visibility on the world stage in 2006, had already become members of the club.

It is observed that in the majority, the partners use and often the trip to the stadium. Of the total number of respondents, 14 said they monitor all club matches at the stadium.

### ***Characteristics and motivations for member accessories***

In this section, we present the profile of the interviewees as to the motivation to become a member of the International. Based on the answers to the key question in this study – what motivated you to become a club member? – five categories, namely: *Emotional Aspects*, *Cognitive Aspects*, *Foreign aspects*, *Aspects linked to the Event* and *External Influences* as a way of rating for the motivations. It also presents the respondents' knowledge of the advantages that the club offers and the satisfaction of the interviewees in relation to the amount paid *versus the* benefits that the club offers.

#### ***Emotional aspects***

In the Emotional Aspects category, all the references related to the fans' sensibility were related to feelings of passion and love for the club. For Neto & Carvalho (2006), the brand of the sport possesses attributes of great emotional values. It involves the *passion* of the crowd and the general public, creating a loyal relationship with its believing fans and practitioners.

According to the interviews conducted, respondents, when asked what motivated them to become members of the club, expressed unanimously: "*passion for the club*," noting the emotional values the supporter had made in relation to his club, establishing thus a loyalty relationship as cited by Neto & Carvalho (2006).

Respondents 04 and 17 mentioned that their decision to join the club was motivated by "*love of the club*" or "[...] *by the team*". The interviewee 27 mentioned that besides being motivated by the passion, his motivation to become a member of the club is also due to the moment of the union of the family generated by football: "[...] *I find the passion more to unite the family and more terms moments together like this.*"

Souza (2013) explains that the feeling of passion and idolatry, among fans and the team they cheer for, exceeds the limits of sports and acquires new proportions in the public sphere. It is

perceived that the Emotional Aspects express all the feelings, including the passion or the love that the fans have for their team. This feeling surpasses the limits established by the sport and represents more than living in the social environment (Souza, 2013).

### ***Cognitive aspects***

In the cognitive aspects category, all the answers that expressed that the main motivation in becoming a member is related to the facility for access to the stadium (*check-in*), promotional values of tickets and not need to stop in the queue for the purchase of tickets.

For the interviewee 07, the condition of a member has several benefits, being the small value for the amenities that the club offers: “[...] *The facilities that this condition offers. Being a member of the team puts you inside the club, the value is modest, and the facilities to be in the stadium and other great promotions that are made for who is a member of the team is very worth being a member.*”

Interviewee 10 pointed out that one of his reasons for joining the club was the price of ticket values: “[...] *he could come in more games by paying half the ticket.*” Churchill & Peter (2000) point out that the concept of customer value is defined in the "differences between customer perceptions of benefits and costs of purchase and use of products and services", in which consumers assess advantages and costs to acquire something, analyzing benefits and price in decision making.

In this sense, the interviewee 22 comments that the decision to become a member of the club was motivated by “*going to the game for a more affordable price, and being guaranteed entry.*” The guarantee of admission, as reported by the interviewee 22 makes reference to the system of *Check-In* made available only to the members via the club's website.

Churchill & Peter (2000) comment that the temporal cost involves the time consumed by the consumer in the adhesion of products and services. Time, as stated by Churchill & Peter (2000), is valuable for most people, so standing in a queue can be considered a waste of time. Interviewee 2, in addition to emphasizing the financial advantage of being a partner, mentions the convenience of not having to face queues for the purchase of tickets, in his words: “[...] *I come in almost every game, and then it was cheaper to be a partner than to pay for the whole game, especially for the convenience of having the membership card, you did not have to stand in line to buy the ticket and because it also became cheaper.*”

Likewise, respondent 8 comments that “*membership in becoming a member is related to*” *ease of coming to the games and helping the team.*”

Interviewee 11 mentions the value of the tickets during a South American competition when becoming a member was more financially advantageous than acquiring tickets at each match: “[...] *there was much cheaper being a member than buying the ticket for every game.*”

Thus, it is understood that the cognitive aspects find through the perception of the consumer, the value concept pointed out by Churchill & Peter (2000), in which consumers evaluate the benefits and costs in relation to a particular product, in the case of this monograph the advantages that the club offers to the condition of partner.

### ***Knowledge of the advantages the club offers***

The respondent public said they knew some of the advantages of being a member of the International (17 replies), against (13 replies) that said they knew all the advantages.

According to Matta et al. (2010), one of the most common benefits provided by clubs is the discount on the price of the ticket. In this sense, the majority of the interviewees who stated that they knew about some of the advantages or all the advantages of being a member, mentioned that they used more frequently the association for the purchase of discounted tickets, or depending on the modality, to have access to the stadium. The interviewee 30 mentioned: *“Yes, I know you have a discount on the health insurance company. The great benefit is the happiness of coming to the stadium.”*

Respondent 10 already mentioned knowing *“almost all of them (advantages), paying half a ticket and some discounts that the member may have in some stores.”* However, it should be noted that the advantages of being a member, as affirmed by interviewees 12 and 31, did not influence the choice of joining the club. Interviewee 12 said he knew the advantages of being a fan-supporter, but he used it more frequently to watch the games at the stadium: *“I know him, but that's not why I'm a partner, I use very little, but come in games.”*

The interviewee 31 stressed that being a club member is a financial responsibility that he makes a point of fulfilling in the same way that he fulfills his obligations in relation to his fixed expenses such as water and electricity. In addition, he emphasizes that regardless of the club's performance, his financial responsibility as an associate will always be fulfilled: *“Man, I'll be honest, I never got into those advantages, did you understand? For me the club is a matter of life, you know? And to be a member of the club is that neither pay rent, pay light, pay for water [...]”*

It can be seen that the concept of value proposed by Churchill & Peter (2000) is individual to each consumer. Some consumers pay attention to the benefits offered while for others, this set of advantages does not interfere with their choice.

### **External influences**

In the external influences' category, are citations referring to the family's performance, as parents and spouses, in the motivation of the respondents to become a member of the club.

Morgan & Summers (2008) comment that consumer buying adhesion is influenced by personality, learning perceptions and attitudes that make up internal factors, as well as external factors such as cultural influence, family or reference groups. Interviewee 30 comments on the influence of the father in his choice to become a partner: *“[...] Who most influenced me was my father, who was a Colorado that came in all and I came with him, long before the Falcon (club idol player in the 70's), was not even the club yet.”* The interviewee 31 comments that before reaching age 18, he was dependent on the father in the category of a member and upon reaching the age of majority the choice to remain a member was placed in his financial budget.

Schiffman & Kanuk (2000) also cite internal and external factors influencing consumer behavior. However, the authors complement that customs and beliefs continue as long as they result in satisfaction, passing from one generation to another. Interviewee 24 expresses that the tradition of being a member of the club came from his grandfather, who even contributed to the construction of the stadium and says that the tradition will not end in his generation: *“come from my father, my father fell on me and who knows, it's family, my grandfather put a brick in it.”*

Likewise, interviewee 9 states that the incentive to be a member of Inter came from his father. In addition, he points out that in his residence all are colored and that even the mother, even being of Uruguayan origin and supporter of the Penela team, is also a fan club member today.

Kotler (1998) classifies the family social group, in a family of orientation, formed by the parents and the family of procreation, composed of husband, wife, and children. Interviewee 19 comments on the influence of the husband and the benefits of being a member of the club: “[He] began to take me to the games, right, I have the benefits, if I were not a member I certainly would not be here today.”

In addition, the respondent 16 expresses in a considerable way the influence of the procreation family, as defended by Kotler (1998), regarding the frequency in attending the games of the club and the adhesion to be a partner: “My wife influenced me, she is more fanatical than I am.”

Thus, it is identified that the family is, yes, a social factor extremely relevant to all organizations, as it exerts a strong influence on consumer buying behavior. Being aware of this group can mean the organizations, the guarantee of future clients.

### **Aspects related to the event**

In this category, we present the citations in relation to the interviewee's appreciation for the taste of watching football matches. Huizinga (2007) states that the game stirs up many divergent feelings of people's daily lives. For him, the game is an activity or voluntary occupation, exercised within certain and certain limits of time and space, following rules freely allowed, but absolutely obligatory, endowed with an end in itself, accompanied by a feeling of tension and joy and an awareness of being different from everyday life.

From this perspective, it can be related to the definition of Venzon (1998), which explains that, from the understanding of the emotional aspects aroused by the simple fact of playing a ball with the opponent, the soccer game generates emotional involvement, which consequently will result in the action and choice of this individual. Respondent 20 states that his decision to join the club was not related to whether or team performance in that match, and simply watching a game influenced his decision: “[...] my motivation came from a game that I watched and that was very bad, I still liked to have gone, man I need to be a member of this here, from there I convinced myself to be a partner after the game that at first a lot Bad I liked to go.”

In this sense, there is the affirmation of respondents 03 and 23 who reported, respectively, that their decision to become a partner arose “mainly come in games, what motivates me most is the game,” “like football, passion for football.” Similarly, the 29 respondent stated that she was already a fanatical fan who always accompanied the games: “I was a fanatical fan, but then I do not know, to start attending, in fact always came in the chairs but was not a member, have the chair to start coming in the stadium.”

Therefore, it is perceived that sport is encouraged by the energy and momentum that it generates in humans, thus becoming an escape for people who seek in sports the escape of fatigue and yearnings of everyday life (Lawther, 1973).

### **Situational aspects**

The category situational aspects met the mentions concerning respondents becoming members of the International, from the time of the club, such as the achievement of an important title or a specific game, for example.

Rein et al. (2008) explain that the performance of a team in competitions is decisive in approaching and maintaining the loyalty of the fans. Respondent 14, who became a partner in 2009, the centennial year of the club, said that his decision to join the club was directly related to the team's performance.

Likewise, interviewee 21 reported that he became a member one month before the team's match in the Copa Libertadores final ("South America's most important championship): “[...] *was a month before final of the Libertadores, there was not, right.*”

Interviewee 12 explained that he had always wanted to join Inter, but his desire came to fruition when the club won the Copa Libertadores of America: “[...] *I always wanted to be membership, only when the team wins a great title I will join, and that's it, The club won the Libertadores I went there and I joined.*” The interviewee 13 said that after winning the 2006 Club World Cup, he decided to join.

Thus, it can be seen from the interviews that performance of the team is a relevant aspect for a club to have proximity and loyalty to its members, as Rein et al. (2008) have stated.

### ***Satisfaction in relation to the amount paid versus benefits for associates***

Most members mentioned they were satisfied with the amount paid monthly (25 replies): “*Yes, yes, perfectly, I think it's fair. For the convenience that I think fair.*” Interviewee 6 mentioned that in addition to being satisfied with the benefits offered by the club to the associate, there could be a better disclosure of the advantages: “*The price is good, I think it could have a greater dissemination of the benefits, for example, for me, it's just a discount in the shop, one thing or another there, and nothing else [...] should be more publicized, I get something in the email, email is already an outdated thing could use other social networks, you know, Facebook, WhatsApp, whatever, something like that.*”

It should be noted that the interviewees' points 6 regarding the communication channels used by the club are related to the respondent's age group – up to 17 years. However, it is possible that there is a lack of communication in the communication channels used by the club since most of the respondents stated that they know some of the advantages of the modality of membership (17 responses).

Therefore, it is noticed that the fan-supporters often accompany the team in the stadium, as this would be the main advantage of the category and enjoy some of the advantages of the modality that they integrate as club members.

However, it is perceived that the motivation to be a member of the club, as it is wanted to emphasize in this work, is not related to the advantages that the modality provides, the performance of the team, the conquest of titles or for the simple fact of liking to watch soccer, it is related to the emotions driven by enthusiasm and affection for the club, in the words of the respondents: “*passion for the club*” and “[...] *love for the club.*”

## **CONCLUSIONS**

It can be seen that the phenomenon of consumer behavior, in the case of this monograph, the behavior of the fan-supporter, can be influenced by several aspects, such as motivation, satisfaction, external influences, and internal influences.

Thus, the purpose of this article was to identify the reasons that led him to become a member-club supporter. Interviews were conducted with club members and, based on the data collected, the profile of the respondents and the analysis of the key issue being studied in this study were drawn – what motivated him to become a club member? – which originated five categories classified as Emotional Aspects, Cognitive Aspects, External Influences, Aspects related to the Event and Situational Aspects.

It is noted that the motivations of the club's supporters, as studied in this monograph, greatly exceed *Cognitive Aspects* – ease of access to the stadium *check-in*, promotional values of tickets and not need to stop in line for the purchase of admission – *External influences* – family performance, as parents and spouses – *Aspects related to the event* – appreciation of the interviewee for the taste of watching football matches – The situational *aspects* – moment of the club. It has been identified that the motives of the fan-supporters are directly connected to *the emotional aspects*, such as passion and love.

It is perceived that the feeling of passion and love expressed in the Emotional Aspects category is mentioned by Veríssimo (2010), as an intense passion that does not wear down over time.

This passion, according to Veríssimo (2010), does not go away, on the contrary, it remains the same as it began. Thus, fans who are passionate about an institution, become loyal and loyal to a club. In turn, this loyalty provides a greater approximation of the supporter with the institution through the condition of a partner, which can establish and intensify the links of relationship with its consumer (Neto & Carvalho, 2006).

However, from the data collected in this study, it is evident that the Emotional Aspects move and interfere directly in the choice of the independent supporter of Aspects Related to the Event and Situational Aspects, Cognitive Factors, External Influences. The passion is above reason and exerts total influence on the motivation of the associates.

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*Track 05 Culture and Consumption*

**ID #622**

## **Cultural dynamics and sustainable consumption: A perception of Brazilian students in Germany**

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### **Abstract**

*Consumer studies in the cultural perspective take for granted the notion of culture as a symbolic system. The present study analyzed the influence of cultural determinants on the sustainable consumption behavior of individuals temporarily immersed in a foreign culture. Based on the framework proposed by Ceglia et al. (2015) for cross-cultural research on sustainable consumption, the study investigated the influence of material culture and communication and language systems on the sustainable consumption behavior of Brazilian exchange students living in Germany. From a qualitative approach with in-depth interviews, the results show that participants perceive the impact of cultural differences on their consumption behavior, and that aspects of both material culture (eg, objects and institutions) and language and communication systems (eg, verbal and non-verbal communication) are related and influence their sustainable consumption practices, configuring a dynamic process of adaptation to the new cultural context in which they are inserted.*

**Keywords:** Sustainable Consumption; Material Culture; Artifacts; Language; Communication; Cross-Cultural..

### **Acknowledgments**

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## **INTRODUCTION**

Research on consumer behavior considers culture an important moderator of human behavior (Quezado et al., 2015; Romero et al., 2017) which is often addressed in international studies in this field (McCracken, 1986; Belk, 1988; Pons & Laroche, 2007).

According to Kroeber and Kluckhohn (1952), culture is a set of patterns of behavior, traditions, and values shared by a community. The literature regarding the value dimension of culture is consolidated. However, following the dimensions proposed by Craig and Douglas (2006), some issues related to material culture and artifacts as well as communication and language systems, which influence (and are influenced by) the behavior, are still little studied. Thus, the present study intends to investigate these aspects, based on the framework proposed by Ceglia et al. (2015) for cross-cultural research on sustainable consumption.

The study attempted to answer the following question: “How does the influence of communication and language systems as well as artifacts and material culture on sustainable consumption occur in different cultural contexts?” The objective of the study was to analyze the influence of these cultural determinants on sustainable consumption by comparing consumer behavior under different institutional contexts.

As argued by Shove et al. (2012), as a social practice, consumption dynamics are subject to the determinants of the cultural context in which they are performed. The material aspect is observed, for instance, when one consumes more than is considered necessary according to the existing moral standards (Miller, 2007). Communication, in turn, arises from the need to connect and interact with others, bringing together people who are isolated in some way (Hall, 1973). Such cultural influences are expected to be related to consumer behavior, reproducing a set of practices that are possibly different from those identified in the consumer’s culture of origin, and revealing a dynamic process of cultural reconstruction (Warde, 2014).

The study is structured in four other sections besides this introduction: the second section was dedicated to the theoretical underpinning that supported the empirical effort; the third section presented the methodological procedures; results are analyzed and discussed in the fourth section; a section dedicated to the conclusions and contributions, contributions and implications of the research ends the *paper*, followed by the references used.

## **THEORETICAL BACKGROUND**

In this section we will address the relationship between culture and consumer behavior; in addition, we discuss some studies that investigated the specific cultural dimensions, namely, material culture and artifacts, and systems of communication and language.

### ***Cultural dynamics and sustainable consumption***

Considered one of the most important research strands in marketing studies, the consumer behavior school has been gaining prominence since the last decades (Sheth et al., 1988). This notoriety stems from the importance of consumption in the contemporary world, being a phenomenon studied by several disciplines ranging from the social sciences to human sciences. This multidisciplinary nature has produced a very diverse research field (Warde, 2014).

Khan (2007) argues that the consumer is influenced by external factors such as culture, subculture, values, demographic factors, social status, and reference groups (e.g., friends and family). Intrinsic aspects can also shape consumer behavior, such as emotions, motivations, buying behavior or attitudes, perception, and learning. In this context, culture is considered an important moderating factor of human behavior (Masumoto & Yoo, 2006; Quezado et al.,

2015). It is constantly approached in international studies on consumption (McCracken, 1986; Pons & Laroche, 2007; Romero et al., 2017).

Culture is much studied in Anthropology and has recognized the importance in the Applied Social Sciences field. Conceptualizing culture is a challenging task (Fischer, 2009) since very broad definitions can neglect the distinction between culture, institutions and social structure, undermining the analytical utility of the concept (Polavieja, 2015).

One of the most important studies about culture definition was carried out by Kroeber and Kluckhohn (1952). The authors performed a critical review of about 160 conceptions and definitions of culture and created their own definition:

*Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of further action (Kroeber & Kluckhohn, 1952, p. 181).*

For Craig and Douglas (2006), the most widely accepted definition amongst those analyzed by Kroeber and Kluckhohn (1952) is the one proposed by Tylor (1896), for whom culture is a complex social and institutional manifestation which includes knowledge, belief, art, morals, law, traditions, and any other capacities and habits that man acquires in society.

From these discussions, we can observe the relationship between culture and people's behavior. In this sense, there are two main approaches in cultural sociology which investigate its role as a driver of human action: the first one attributes to culture a causal role of human behavior, which manifests as a consequence of a set of shared beliefs, attitudes, and values; the second approach regards culture as a restrictive force of this behavior, a set of symbols, tools, and skills by which people justify their actions (Polavieja, 2015).

Craig and Douglas (2006) grouped the studies on culture and consumption into three broad areas, defining them as components of culture, which constitute a framework for addressing consumer behavior in cross-cultural (or transcultural) contexts. These components are: (i) language and communication system, (ii) material culture and artifacts, and (iii) values and belief systems. Based on these three elements of culture, Ceglia et al. (2015, p. 419) proposed a framework for cross-cultural research on *sustainable* consumption, according to figure 1.

**\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

As can be seen, to the three components of the culture (Craig & Douglas, 2006), these authors linked two well-established theoretical-conceptual contributions from the behavioral approach of Psychology field: the Schwartz's (1994) theory of basic values, and the Ajzen's (1991) theory of planned behavior (TPB). According to Ceglia et al. (2015), two important basic values proposed by Schwartz (1994) – namely, benevolence and universalism – could be dominant in individuals who are supporters of sustainable consumption or are engaged in related practices (Dietz et al., 1998), such as the elimination of waste and the preservation of the environment. The authors further argue that subjective norms, perceived behavioral control, and attitude influence the individual's sustainable consumption behavior.

From a cross-cultural perspective for sustainable consumption, Ceglia et al. (2015) argues that the value system of an individual, as well as the aspects that drive its intention to manifest a given behavior – in this case, to consume in a sustainable way – are not capable, alone, of explaining its action (behavior) of sustainable consumption. Since individuals are subject to

cultural variables that influence their values, beliefs, and attitudes systems, their manifested behavior is assumed to be a consequence of the range of determinants discussed above (Ceglia et al., 2015).

In addition, the cultural context in which an individual is can contribute to building attitudes towards products and purchase and consumption decisions, whose meaning is acquired and shared by the members of a group (Hofstede, 1991).

Early discussions on sustainable development from the perspective of consumption were seen at the United Nations Conference on the Human Environment (UNCHE) in Stockholm, in June 1972. Another important milestone was the 1992 Rio Summit (ECO 92), in which the environmental impacts associated with certain patterns of consumption in industrialized economies were also discussed. In the following years, these reportedly unsustainable patterns of consumption were identified as the main cause of environmental degradation (Evans, 2011), so that the World Summit on Sustainable Development, which took place in 2002, put changing consumption patterns as one of its three main goals (Evans, 2011).

Also, in 2002, the Rio +10 Conference in Johannesburg, South Africa, shifted the focus of sustainable consumption policy from technological solutions and efficiency gains in resource use to the role played by individual consumers for sustainability (Evans, 2011).

In 2012, the Rio +20 Conference reinforced the term sustainable development as a development model "... that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987), a definition that is closely related to the sustainable consumption concept itself (Melo, 2013).

Different authors define sustainable consumption in many different ways. For this research, we consider the definition of Barth et al. (2014) to be the most appropriate because it takes into account the environmental, social and economic dimensions of sustainability. According to these authors, sustainable consumption simultaneously optimizes environmental, social and economic sustainability, as well as the consequences of the acquisition, use, and disposal of resources, in order to meet both present and future generations' needs.

In this context, this study was based on the framework proposed by Ceglia et al. (2015) and addressed sustainable consumption from the lenses of material culture and artifacts as well as language and communication systems. We focused on the cultural dynamics underlying the influence of material culture and artifacts and language and communication systems on behavior. More specifically, we analyzed how these components of culture influence sustainable consumption behavior.

### ***Material culture and artifacts***

Markus and Kitayama (2010) assert that culture is a set of material and symbolic concepts that give form and direction to behavior. According to these authors, the culture is located in patterns of ideas, practices, institutions, products, and artifacts.

Contemporary thought in Anthropology defines material culture as an "event" or "effect" that emerges from the performance of things, bodies, artifacts, and material spaces (Hicks, 2010; Mitchell, 2013). Kim (2017) argues that research on material culture and artifacts do not give due importance to the role of these elements within social movements, although the relevance of such movements in influencing the behavior of those who share the same set of values and principles is recognized. Ultimately, social movements influence markets and consumption practices (Hilton, 2007; Holt, 2012; Wahlen & Laamanen, 2015).

According to Craig and Douglas (2006), material culture incorporates the rituals, artifacts, institutions, and symbols of a given society, establishing rules and norms for both general behavior and specific occasions, such as weddings, funerals, festivals, among others. In a sentence, material culture directly affects the behavior of individuals who share such culture, and its symbols are one of the characteristics that distinguish it from other cultures (Luna & Gupta, 2001).

The meaning attributed to possessions is another integral component of material culture. Favorite objects, for instance, can be resignified to reflect local cultures (Craig & Douglas, 2006). As argued by Belk (1988), objects can be important elements for the identity construction of individuals and groups, since they are able to express their interests and preferences.

The consumption patterns themselves express lifestyles (Wahlen & Laamanen, 2015) and social classes of a culture (Holt, 1988), so that differences between participants and non-participants of that culture are imposed through these patterns. Veblen (1974) emphasizes this and suggests the existence of a higher class which, in order to show power, consumes differently from the differentiated class, a phenomenon called conspicuous consumption.

The rituals and institutions are important indications of the strength of cultural ties and of collective programming shared throughout the society. Gift-giving, for example, is one of the most studied social rituals (Teixeira & Freitas, 2011; Ladeira et al., 2016; Ássimos et al., 2017). In general, each culture develops its own gift-giving practices, by combining bonds of obligation and reciprocity consistent with the network of social relations within it (Craig & Douglas, 2006).

In turn, institutions are directly associated with individuals' consumption. They can influence the consumption in opposite ways, either through advertising campaigns in order to disseminate more conscious consumption practices (Scharf et al., 2017), or encouraging the compulsory purchase among university students (Felipe et al., 2017), for example.

Government is another institution influencing the consumer behavior, through initiatives such as regulation (Dernbachach & Mintz, 2011) and campaigns and public policies that promote the well-being in the society (Koontz, 2006). As institutions (Meyer & Laschever, 2016), social movements also influence on the behavior of people impacted by them, as happened with the environmental movement in the 1970s (Coglianese, 2001).

### ***Language and communication systems***

Communication studies examine the use of objects and language as culture transmitters. Communication is a key element of culture as it provides a mechanism for transmitting and interpreting messages related to the world around an individual (Babcock & Du-Babcock, 2001).

It occurs in a physical and social context, in which factors such as time, location, and intensity of social relations among its participants, in addition to the influence of competing messages should be considered (Ihtiyar, 2018). Members of a culture share a common key to interpret their social environment and establish rules to govern the interaction (Craig & Douglas, 2006).

In communications among members of different cultures (i.e., intercultural, or cross-cultural communications), difficulties in interpreting these rules and context are common, leading to a lack of understanding (Spencer-Rodgers & McGovern, 2002).

Modes of communication are an integral part of culture (Hall, 1973), and provide links within and between cultural units. Nonverbal forms of communication, for instance, have been studied in the field of organizational studies (Bonaccio et al., 2016).

Language, in turn, is a key component of communication, as it provides a mechanism for encoding and decoding messages within a given culture, the reason for which it becomes a cultural symbol capable to distinguishes cultures from each other (Luna & Gupta, 2001). Thus, a shared language is a key factor unifying members of the same culture and giving them meanings to objects and symbols.

Language plays an important role in the development of thought patterns and behavioral response, as well as in the transmission of cultural norms and patterns of behavior from one generation to another. In this way, language can connect members of a specific society and foster intragroup interaction, while hindering interaction with members from other societies or cultures (Babcock & Du-Babcock, 2001; Spencer-Rodgers & McGovern, 2002).

The linguistic structure exerts a key influence on the formation of cognitive processes, such as perception, judgment, and decision-making (Schmitt & Zang, 1998), brand recognition (Schmitt et al., 1994), and coding and retrieval of information (Tavassoli, 1999). Thus, language and communication systems contribute to the construction of meanings of consumer products (Luna & Gupta, 2001). In the same way, foreign language and loanwords can help to establish the identity of a local product (Craig & Douglas, 2006).

In the context of intercultural, differences in culture, values, traditions, and self-identification can act as barriers to effective communication. Often, the ways of expressing emotions, as well as the perceptions of oneself, other people, and phenomena are also different, which can result in poor understanding of communication. Nevertheless, even within a given culture, different groups and communities (i.e., subcultures) may have their particular modes of communication, linking and aggregating themselves internally, while segregating others at this time (Gazzola, 2016).

After examining the components of culture, their interrelationships and their influence on the human behavior and interactions, in the next section we discuss the methodological procedures employed to empirically analyze the influence of these elements on the consumer behavior among different cultural contexts.

## **METHOD**

Due to its qualitative nature, an exploratory and descriptive approach was used in the research (Gil, 2008), in order to analyze how the subjects understand and interpret the phenomenon under investigation. The information obtained in the research was about the daily life, consumption behavior, and experiences of Brazilian students living temporarily in another country.

To participate in the study, students had to have studied at German universities for at least one semester. These criteria derived from the ease of access to Brazilian students who have exchanged to that country, and the fact that Germany has a well-known tradition of sustainable consumption and production. In addition, one semester in the destination country is considered to be the minimum period for the student to elapse the enchantment phase with the new socio-political, economic and cultural context and incorporate into your daily life a more realistic,

bias-free view, increasing his ability to analyze and contribute to the study. Names were replaced by codenames to preserve the identity of the participants.

Data were collected through in-depth interviews with ten students (six women), aged between 22 and 26 years. The semi-structured interview script was developed according to the grand tour model (McCracken, 1988), in which more general questions are asked related to the analytical categories that emerged from the theoretical review. Firstly, an attempt was made to obtain a general survey of the students' experiences, and after that, from their speech, other questions were introduced regarding the categories. The interviews produced about 6.5 hours of recording, and their content was transcribed for content analysis.

The data were analyzed through a three-stage content analysis, as follows: (i) pre-analysis; (ii) exploitation of the material; and (iii) treatment of results, inference, and interpretation (Bardin, 2010). Adopting this method, the data were analyzed in order to identify categories of the theory that emerged from the data. The software ATLAS.ti, version 7.5.4, was used to perform this analysis.

## **ANALYSIS OF RESULTS**

Each subsection below presents the results related to one of the two components of the culture studied here, following the objective of the study.

### ***Artifacts and material culture as antecedents of sustainable consumption***

Content analysis has evidenced the relationship between material culture and sustainable consumption. As argued by Ceglia et al. (2015), an object (artifact) can represent or be part of a sustainable culture. Results show that the bicycle emerged as one of these artifacts. Despite having easy access to quality public transportation, German students prefer to adopt the bicycle as the main means of transport. In addition, the student's environmental awareness is also a contributing factor, as can be observed in the interviewees' statements.

*"[...] a lot of people stop using cars there to use their bicycles, it's absurd. Of course, once again, the city is thought to use a bicycle, you have bike lanes, for example, and they are on the sidewalk, not in the middle of the street [...]." (Jorge)*

*"[...]people there use the bicycle a lot, but I think it's because of a health concern, really, they take care of their health very much [...] but I think that this use of the bicycle also reaches the sustainable perspective, they're avoiding emitting CO<sub>2</sub> when using their bicycles. In college, the students could use the train, but they prefer to use the bicycle, I think it is a way to contribute to the environment." (Maria)*

Bicycles are used due to several factors, among them: (i) the legal and the environmental issues: depending on the year and the power, automobiles may be banned in some regions of the city, because they are responsible for a large amount of the CO<sub>2</sub> emission; (ii) habits oriented towards a healthy life: bicycle is an important means of transportation and a way to practice physical activities as well; and (iii) the public infrastructure makes this habit viable.

Some rituals that influence sustainable consumption were observed, like the separation of waste for recycling. In a country historically concerned with solid waste management, recycling is one of the aspects that the government prioritizes, as noted in the interviewees' speech.

"They are very keen to teach kids to recycle garbage., and they have the day of the week for collect plastic, glass, white glass, dark glass, that is, for the government to collect, it is necessary

that the population to dispose of in the days right, you know? So, they know the right days to put the right type of garbage in the right place to collect.” (Lucas)

In the interviewees’ speeches, it is noted that there is a ritual of separation and collection of household garbage. Each type of waste has its appropriate destination, one of up to four different dumpsters. The collection of the four types of garbage is also done on specific days. If people do not respect this right separation and the collection days, the government may fine them.

Here, another aspect of material culture is observed: institutions. Germany is considered one of the six most efficient countries in waste treatment, among all the member states of the European Union (EU).

According to Eurostat, the EU statistics body, in 2010, Germany has managed to recycle almost 50% of all the municipal waste, while the EU average is about 25%. Moreover, roughly 38% of European waste ends up in landfills, while in Germany, that rate is zero (DW, 2012).

As reported by Ibiapina et al. (2018), these statistics may be linked to a past of war. Germany was heavily punished with the end of the first and second world wars. As a result, German society developed in an environment of scarcity and constraints, where people had to make the most of each resource.

The government is one of the main institutions of national culture, governing social norms through law and regulations. The German government is an important agent inducing sustainable consumption since its influence can take place through punishments and fines, which is a state monopoly.

*“[...] Then you had to put the garbage in the right dumpster, because otherwise the government can fine you., if you put a glass in the wrong trash can, the fine equals 100 euros, for example. [...].” (Amanda)*

In addition to the government, that coercively stimulates sustainable consumption through fine and punishments, another institution emerged as encouraging sustainable consumption: family. The family is the first social environment of an individual, where the early relationships are built, and the development of the *self* begins (Belk, 1988). German families that host Brazilian students convey the beliefs, traditions, and habits that underlie their household trash separation rituals. Students learn what – and how – to do with each type of garbage, doing, and learning until it becomes a daily practice.

Another institution exerting influence on sustainable consumption are networks of supermarket retailers. However, unlike the coercive character employed by the government, retailers encouraged sustainable consumption in two ways: first, they encourage the adoption of returnable bags by charging for the plastic bags, thereby reducing the consumption of an offending item of the environment.

*“I thought it was very funny, there is no disposable bag as we have here in Brazil, there you have to buy and it’s something like 10, 20, 50 cents a returnable bag and then you will not buy one all the time you go to the supermarket, so you bought a returnable bag and reused it several times... So, like, you did not throw a bag out because you paid for that, I know that here (in Brazil) you are paying too, but there you saw it came out of your pocket directly, you paid 50 cents for that bag.” (Beatriz)*

Furthermore, retailers in Germany also collect both glass and plastic bottles for reuse. This collection is made through a machine that gives the customer a voucher with some credit value

– depending on the quantity and type of bottle deposited in the machine – to be spent inside the store.

*“[...] you buy a bottle, some beer, anything... and there, it says it costs 50 cents, but when you go to the cashier you have to pay 75, why 50 cents were just the content, then you have to pay the 25 for the bottle. Then you can dispose the bottle in the machine and get the 25 cents back, this all inside the supermarket.”*  
(Beatriz)

Within the material culture, as Holt (1988) posits, consumption patterns themselves demarcate the lifestyles and social class of culture. This pattern of consumption was observed mainly in food. According to the interviewees, food is different from the usual Brazilian practice: They care most for health and eat more healthfully. This pattern of consumption, ultimately, influences people from another culture, as can be observed in the interviewees’ speech.

*“[...] Everything around you in the environment influences, for example, once I got there at the university restaurant, then I opened a Big Mac, and then they said “you are going to eat this [obscenity] hamburger ??”; then I felt so bad, and I said “it’s just because I did not have time...”; “Even then you’re going to eat that crap that will kill you... this is not even real meat!” Several times they said “what [obscenity]!”, “what crap!”, so with these impulses, you start to think that it’s really a crap.”* (Jorge)

Social norms and rules are also part of material culture. They are not institutionalized in laws and regulations, but are followed by society, because they are rooted in its moral and traditions. Some rules and norms oriented to sustainable consumption were observed, as we can see in this quote of an interviewee.

*“[...] if you said that you are Brazilian and that you took two baths a day in Brazil, then they said that this is not very good for skin, that it did not need to, that it’s an unnecessary waste of water....”* (Pedro)

An interesting aspect that emerged from the interviews was the social responsibility related to sustainable consumption. German students stop buying certain brands or products when they know they have practices that go against their morals, even if it is a legitimate aspect in another country.

*“Many Germans avoid buying clothes at Zara, H&M, C&A stores because they end up seeing the news that factories use ‘almost slave’ labor. But for Germans it is slave labor. This year there was an accident at a store that makes products for Nike, Zara, and so on... So, I saw here (Brazil) people continued to buy from these stores, from those brands, but not there in Germany. If a store sells a particular product at a certain price, and another store that also has the same product sells it for half the price, they will investigate why it is so cheap ... and if they have any problems they avoid buying at this store.”* (Daiane)

A behavior that also caught the attention of the interviewees during their stay in Germany was the habit of leaving plastic bottles on the floor near the trash cans. In this way, street dwellers could collect them without handling the trash and then exchange them for discounts on purchases at the supermarkets. In other words, leaving “trash” on the ground, in this case, is an acceptable, even commendable practice, as it demonstrates social concern and awareness, rather than environmental, towards the most vulnerable.

### ***Language and communication systems as antecedents of sustainable consumption***

As noted by Ceglia et al. (2015), language and communication are cultural factors directly related to sustainable consumption. Language differences constitute an important barrier to

understanding messages during face-to-face communication between people of different national cultures.

In the context of the present study, the language was observed to be one of the limiting factors, since the students interviewed had no fluency in the German language (the courses they took during the exchange were taught in English). The participants' testimony pointed to this barrier.

*"[...] but for a long time I did not understand much, because I did not speak, I mean, I do not speak German." (Victor)*

*"[...] messages... I did not understand well, because it was all in German, and sometimes I did not understand." (Daiane)*

*"[...] since I did not understand much of German, it was a bit difficult." (Lorena)*

*"[...]the part of the bureaucracy to stay in the country, this only was resolved in the German language, and I was not fluent in German... so my buddy from there helped me." (Mariana)*

The language was only partly a barrier because the exchange students had more time with German students inside the university, and almost all of them spoke fluent English. In addition, even in everyday life, people, in general, knew how to speak English, as reported by a participant.

*"I find it annoying when, for example, an American comes (to Brazil) and does not know how to speak Portuguese... and we improvise to speak English, because, for me, I think wrong, I think when the person goes to a country, she has to know at least the language. So, in this sense, in Germany, I think that it's cool because I could go out on the streets and speak English with people, even their language was German." (Maria)*

In addition to this, there was also the social barrier by German culture itself. Different from Brazil, where people are more receptive, people in Germany are more introverted and more reserved. This characteristic has made it difficult for the exchange students to experience this culture component. According to an interviewee.

*"There were days I spent the whole day literally without speaking, I only spoke when I got home; (...) I explored the Brazilians who lived with me to talk to them. (...) I woke up at 8 o'clock in the morning, I went to university and spent all day there, then I went to the gym and went back home at about 23 o'clock, and I had not said a word with a human being, just "excuse me", "please", "thank you", but as I said, I did not have a dialogue with a human being." (Jorge)*

Specifically, there were aspects of nonverbal communication that were seen as influencing sustainable consumption behavior. Social coercion through gaze was one of these factors of nonverbal communication. This could be extracted from the speech of two interviewees.

*"[...] if someone throws trash on the floor, they get disapproving gaze [...]." (Jorge)*

*"[...] The ugly look is what I called "German look", the reproachful gaze that makes you feel a nobody, you're throwing trash on the floor, the guy will look to you in a terrible way [...]." (Pedro)*

Another aspect of nonverbal communication was the example German students transmitted, even without communicating directly, through by the very behavior that they manifest within their culture, working as a role model, albeit involuntarily.

*“I created a greater consciousness, but I think it was much due to what I was able to observe in the people, in the Germans themselves, so what people used to consume, what they chose in everyday life, sometimes I observed a lot, so, I started to consume in a more sustainable way.” (Daiane)*

We also identified the influence of aspects of verbal communication on the behavior of Brazilian students, such as direct conversations, in which Germans guided how the separation of garbage should be done, according to the regulations. Another example of verbal communication influencing Brazilians’ behavior was direct complaints: made whenever a Brazilian did something inappropriate, such as throwing trash to the ground. As we can see in the fragment of an interview:

*“There (in Germany) I saw an exchange student throwing some trash on the floor, someone soon came and said, “Hey, get that on the floor”, which is very different from here (Brazil)... if someone throw some trash on the floor here nobody says anything.” (Mariana)*

That is, both through disapproval gaze and direct complaints the Germans have created their means of social coercion so that people behave more sustainably. Thus, communication acts as a tool of social pressure for the person to adopt environmentally correct behaviors.

Other institutions, such as non-governmental organizations (NGOs) adopt art to communicate their actions and seek support from society for its causes. An artistic manifestation of an NGO called Sky Ocean Rescue placed a plastic whale in front of the German Parliament, with a plaque on which it was written: “The Plastic Whale is made of the same amount of plastic that gets into the ocean every second.” The plastic whale can be seen in figure 2.

**\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\***

This type of action aims to raise public awareness about the incorrect use and disposal of plastic objects, a very effective way to attract attention to the problem, joining art and environmental cause.

Another important finding that emerged from the analysis was the relationship between material culture and the language and communication systems. As previously discussed, the components of culture are intrinsically connected (Craig & Douglas, 2006; Ceglia et al., 2015).

In Sociology and Anthropology fields, there is an approach where discourses on culture and communication interlace and hybridize. Such an approach addresses the experience of the speaking subjects and the connection they establish with the social world. Discourses, interactions, influences, and cultural mediations are considered to be modes of transmission from the past to the present (Caune, 2008), in the case under investigation, the transmission of knowledge about sustainable consumption.

When we discussed the main institutions influencing sustainable consumption in Germany, it was clear that each of them has its own way of communicating with people. Government, NGOs, retailers, and family, as discussed above, are largely responsible for communicating with people and passing the guidelines for sustainable consumption to present and future generations.

Table 1 summarizes the main evidence identified for each culture component and how it influenced the consumption behavior of the exchange students when entering for a prolonged period in the German culture.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

From Table 1, we can see how cultural dimensions culturally affect consumer behavior towards sustainability. We observed that the influence of the dimension material culture and artifacts manifested through the awareness of a healthy life and environmentally friendly habits, of sustainable consumption rituals, as well as the pressure exerted by social norms; in turn, the influence of the dimension of language and communication systems was perceived through difficulty with the local language, partially circumvented with the use of the English language, as well as mechanisms of verbal and nonverbal communication that were used to exert social coercion, criticizing and articulating guidelines on expected behavioral patterns.

That is, in a diverse, socially constructed context – German culture – the consumer behavior of Brazilian exchange students is reflected in a set of practices that are performed, consciously or unconsciously, but that derives from a dynamic process of cultural and social construction (Shove et al., 2012; Warde, 2014), determined by the cultural dimensions discussed here.

## **CONCLUSIONS**

The objective of the study was to analyze the influence of cultural determinants on sustainable consumption, comparing the same culture in different contexts. Specifically, we intended to verify how the practices of sustainable consumption were perceived by Brazilian exchange students experiencing influences from another culture – German – considering two main components: material culture and artifacts, and language and communication systems.

It was possible to observe the changes in the sustainable consumption practices of the participants of the study, when subject to the culture of another country. Brazilian exchange students reported the cultural shock they experienced when spending some time studying and living in another country. In general, through interviews analysis, it was observed that cultural determinants and context directly influence the consumption of the individual, in the case of the study, making students more environmentally aware in different types of consumption, from feeding to clothing.

From a cross-cultural approach, the objective of the study was to analyze the influence of two components of culture, namely, material culture and artifacts, and language and communication systems, on sustainable consumption behavior. Results showed that there is a direct relationship between the elements of material culture and sustainable consumption, that is, institutions, objects, and patterns of consumption are some elements observed as influencing sustainable consumption. These components of the material culture are integrated into the exchange students' daily life, making them consume in a sustainable way, either to avoid fines or to manage social pressures.

In addition, results confirmed the relationship between language and communication and sustainable consumption. Language can be a barrier to the understanding of communications whose messages intend to encourage sustainable consumption. Both verbal and nonverbal communications were seen as a strong cultural element influencing sustainable consumption. The way institutions communicate was a remarkable finding, as they use different ways (e.g., education, encouragement or punishment) in order to influence the consumption of individuals and create more sustainable habits.

An interesting finding that emerged from the analysis was the relationship between material culture and communication and language systems. As in the framework proposed by Ceglia et al. (2015), results corroborate this cultural linkage. Each institution observed, such as

government, families, and so on (material culture) has its own strategy for communicating with exchange students.

The study had some limitations which may indicate future research tracks in the field: the restriction to Brazilian students of administration and business, as well as to German exchange programs made the research viable while, on the other hand, limiting its results. Future studies could analyze these cultural determinants in the view of Brazilian students in countries other than Germany, as well as to capture the perception of German students and other exchange students in Brazil. Such efforts will complement the studies undertaken and will consolidate a broader cross-cultural research agenda on sustainable consumption.

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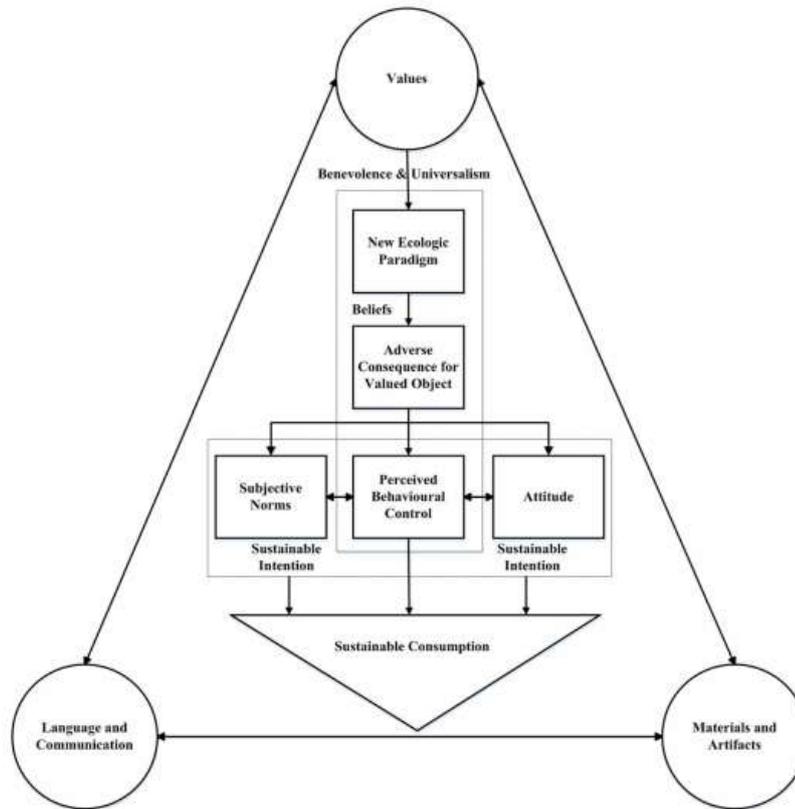
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## FIGURES

Figure 1 – Framework for cross-cultural research on sustainable consumption



Source: Ceglia et al. (2015, p. 419).



Figure 2 – Plastic whale

Source: Research data

Table 1 – Perception of cultural factors influencing the sustainable consumption behavior

Dimension Material culture and artifacts	Dimension Language and communication systems
<ul style="list-style-type: none"> <li>• Environmental and healthy life awareness;</li> <li>• Use of bicycles;</li> <li>• Infrastructure;</li> <li>• Food consumption standard;</li> <li>• Rituals:</li> <li>• Separation of waste for recycling;</li> <li>• Social norms:</li> <li>- Regulations and punishments (government);</li> <li>- Incentives to use returnable bags and pick up bottles (retail chains);</li> <li>• Awareness and social responsibility.</li> </ul>	<ul style="list-style-type: none"> <li>• Local language:               <ul style="list-style-type: none"> <li>- Difficulty in understanding messages and adapting to local norms and rules;</li> <li>- English as a means of integration</li> </ul> </li> <li>• Nonverbal communication:               <ul style="list-style-type: none"> <li>- Social coercion and disapproval;</li> <li>- German student as a role model;</li> </ul> </li> <li>• Verbal communication:               <ul style="list-style-type: none"> <li>- Orientations or direct complaints made by Germans to Brazilian students.</li> </ul> </li> </ul>

Source: Authors

*Track 05 Culture and Consumption*

**ID #632**

## **Korean Wave as transformer of the nation branding and the impact on the visibility of Korean brands in Brazil**

**Luiz Felipe de Almeida Correia** (ESPM, Brazil)

**Mario Henrique Ogasavara** (ESPM, Brazil)

### **Abstract**

*Asian popular culture has spread in different countries around the world through different phenomena such as music, dance, movies, soap operas, television series, celebrities, among others. One of the recent phenomena that has gained prominence is the Korean Wave, defined as the wave of expansion of Korean popular culture. The theme has already been studied in different aspects and around the globe, mainly in the expansion in other Asian countries. In order to contribute to the literature, this research project seeks to analyze Korean Wave as a transformer of the South Korea brand and how it influences the visibility of Korean brands in Brazil. To do this, we intend to conduct a quantitative approach based on data collection from a survey with people from two groups, one that has contact with Korean Wave and another that has no relation to Korean culture. The data will be analyzed later with statistical techniques to compare the opinion of the two groups regarding the image of South Korea and its brands. This study has important academic and managerial implications, as it aims to study the subject in a still unexplored scope: Korean Wave in Brazil and the visibility of Korean brands in the country.*

**Keywords:** Korean Wave; Hallyu; Nation Branding; Korean brands; South Korea; Brazil.

### **Acknowledgments**

I would like to thank the CNPq for the Program of "Iniciação Científica (IC)" for the financial support for this research.

## **INTRODUCTION**

The expansion of Korean culture is a phenomenon that has gained strength in recent years across the globe. Music, TV series and soap operas, cuisine, and Korean celebrities are some of the key factors in this growing success. This process of expansion of the Korean culture is defined by the term Hallyu, also known as Korean Wave. The term Hallyu was created in China due to the great success of Korean series in the country (KOREAN CULTURE AND INFORMATION SERVICE, 2011). The first major exponent of the Korean Wave was the Dorama Winter Sonata, which was very successful when transmitted in Japan, which led it to be exported to other countries, such as China, Egypt, Ghana, Thailand, Taiwan, Hong Kong and the United States (KIM et al., 2007).

Given a context of global expansion and no more regional, this research seeks to understand the role of Hallyu in the formulation of the South Korea Country Image and the latter in the construction of a Product Image for goods of the Asian country. The research seeks to observe such relationships in a Brazilian context, still little explored, and specifically analyzing the influence of Hallyu's 3 strands, music (K-Pop), series (Doramas), and Korean celebrities.

The study seeks to contribute to the literature, bringing the phenomenon to a Brazilian view, since the researches already done on the subject reflects mainly an Asian context and have little explored the reality in the Americas and more specifically in Brazil. As for the Asian continent, the study of Son and Kijboonchoo (2016) is an example of the literature already developed, where the authors sought to perceive the impact of the Korean cultural expansion on the intention of purchases of Korean cosmetics by the consumers of cities of Thailand. In the Brazilian context, the study by Cruz (2016) stands out, it seeks to understand the factors that make K-Pop successful in Brazil, a country so different from the cradle of this musical genre.

Therefore, this study is justified based on two aspects, the academic and the managerial. The first, as it seeks to expand the literature on Hallyu and how it operates as a modifier of the South Korea Country Image, in a context still little explored. The managerial relevance is due to the fact that it tries to demonstrate the influences of the Korean cultural phenomenon in the Product Image and in the Image of Korean Trademarks, which can mean a commercial opportunity for the two countries through Korean companies present in Brazil or even of companies that can still come to the country in the future.

In order to allow the progress and good understanding of the subject, the study defines and contextualizes its main objects of study, namely K-Pop, Doramas, Korean celebrities, Country Image, and Product Image.

K-Pop has as initial mark the group HOT, in 1996. In the 1990s and 2000s, the success of the musical genre led to expansion to neighboring countries, and in 2009, Wonder Girls featured in the Top 100 of Billboard's US magazine, being the first Korean group to achieve this, consolidating the expansion of the musical genre beyond Asia (MESQUITA, 2015). The Korean series, on the other hand, are considered the catalyst of the wave of cultural expansion of the country. The drama Winter Sonata was the forerunner of the event, with great success in Japan and generating in its society a positive impact on the image of South Korea (SUNG, 2010).

It was also defined Country Image as presented by Sung (2010). For the author, this would be the cognitive representation that an individual hold of a particular country, which this one believes to be true about a nation and its people. Finally, the Product Image was defined as the

beliefs and / or general perceptions held by consumers regarding products of a specific country (NAGASHIMA, 1970; PARAMESWARANA; PISHARODI, 1994).

Finally, regarding the methodology used in the study, it was decided for a quantitative approach, through data collection in an online survey and statistical analysis of the data obtained. The survey will be available on online platforms whose theme is the Korean Culture. The same will also be made available to people who have no contact with the theme in order to compare the Country Image and Product Image of the two different groups. The questionnaire seeks to answer specific objectives, which are exemplified in the framework in Figure 1.

It is intended to use for the data analysis the structural equation model (SEM), after confirming factorial analysis (CFA), composite reliability testing, AVE for convergent validity, the test of discriminant validity, and other tests necessary to reach SEM. The choice of the structural equation model is aimed at understanding through the perceptions of several individuals the real relationship between Hallyu and the Korea Country Brand, such as the visibility of Korean products in the Brazilian context as a result of this.

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**FIGURE**

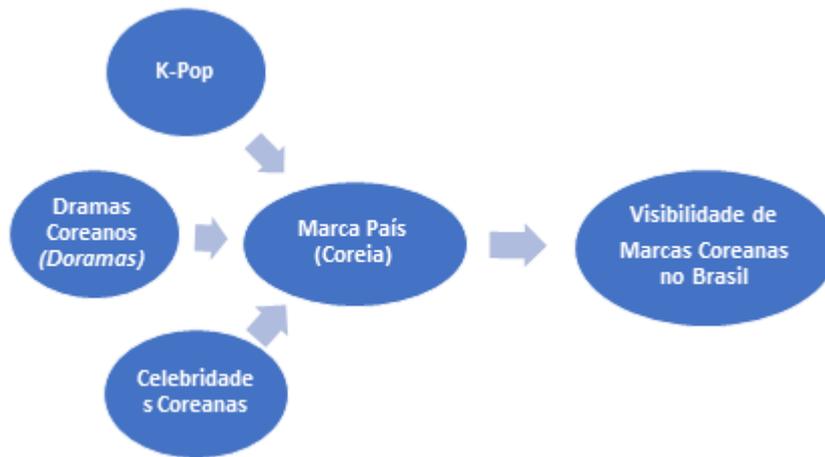


Figure 1 – Project Framework.

Track 05 Culture and Consumption

**ID #668**

## **Individual's perceptions towards responsibilities in sustainable consumption practices: The government, the others, or me?**

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### **Abstract**

*Some studies consider that the individual consumer is solely responsible for making consumer practices more sustainable. There is another stream of research, however, which argues that this goal could only be achieved with the participation of the government and the whole society. In this context, this study aimed to analyze the individual's perception towards his responsibility as a consumer, the responsibility of other people, and the responsibility of the government in perform sustainable consumption practices. In order to achieve this objective, the study employed a cross-section, quantitative, and explanatory approach carried out through a survey of 416 individuals in Fortaleza, the fifth largest city in Brazil. Data were analyzed through factor analysis and multiple linear regression analysis, and the results showed that (i) individuals engage more often in resource-saving and frugal consumption activities, while are refractory to engaging in recycling and ecological awareness activities; (ii) for all the 13 sustainable practices assessed, the responsibility that respondents attributed to themselves was greater than that attributed to government and to other people; (iii) individuals engage in sustainable behavioral practices always assign themselves the responsibility for performing them; (iv) individuals who attribute greater responsibility to others are less willing to practice sustainable behavior of ecological awareness and recycling, but more likely to engage in frugal behavior; and (v) the more responsibility individuals attribute to the government for perform resource-saving practices, the less they engage in such behavior. Research implications and limitations are discussed, and opportunities for further studies are suggested.*

**Keywords:** Sustainable consumption; Consumer behavior; Government; Public policy..

### **Acknowledgments**

-

## **INTRODUCTION**

There are two important points of view linking sustainability and consumption: the first, based on an ecological paradigm, argues that sustainable consumption is actually a non-consumption behavior; and the second, more flexible, consider sustainable consumption a new way to satisfy consumer needs, according to certain criteria and worldviews (Fuchs & Lorek, 2005; Lipovetsky, 2007).

In this second perspective, there are at least two streams in the literature that address attribution of responsibility: one that considers the individual consumer to be solely responsible (through behaviors or practices) for making consumer activity more sustainable, since the consumer makes decisions at all stages of consumption, namely acquisition, use and maintenance, and disposal (Jackson, 2004; Fraj & Martinez, 2007; Belz & Peattie, 2010; Evans et al., 2017); and another that points out that the individual consumer, only through his personal acts and practices, is not capable of promoting the sustainability needed to save the planet (Moisander, 2007), which will only be possible through the involvement of the government and other people in the social context.

In view of these considerations, the following research question emerges: *what is the individual's perception of the influence of participation of himself, other people and government in the performance of sustainable consumption practices?* In order to answer this question, the study aimed to analyze the individuals' perception of his own responsibility, the responsibility of other people, and the responsibility of the government in perform sustainable consumption practices.

Consumption decisions are influenced by several internal and external variables that act as incentives or restrictions on the individual's behavior. Therefore, promoting changes in current consumption patterns in order to make them more sustainable will only be possible by understanding these variables (Moisander, 2007; Silva, 2012; Ceglia et al., 2015). It is expected that the understanding of the individual consumer's perception of the influence of own participation, besides the other people's and government's ones in the performance of the consumption activities will guide these actors towards the adoption of more sustainable patterns of consumption.

## **ANTECEDENTS OF THE SUSTAINABLE CONSUMPTION BEHAVIOR**

Although the need to make consumption more sustainable is a consensus in the political, economic, scientific, and social spheres, the responsibility for achieving this goal is not yet clear. Some authors argue that the responsibility of making consumption activities more sustainable should be attributed to the individual consumer, who has the freedom to choose what – and in what quantity – to buy and consume (Jackson, 2004; Fraj & Martinez, 2007). In addition, as a result of the effective participation of consumers during the use, maintenance and disposal phases of the consumption process, their behavior will strongly influence the performance of sustainability throughout the life cycle of goods and services (Belz & Peattie, 2010).

On the other hand, some authors argue that consumers alone cannot efficiently promote sustainability, since culture, infrastructure, and political and economic circumstances could limit their decisions, which shows the need to stimulate more collective and social behaviors towards sustainable consumption (Moisander, 2007). Thus, debates on sustainable consumption

should include structural factors that impact individual consumer behavior, such as political power to intervene in the market (Sanne, 2002).

In this context, the government plays a fundamental role. As manager of social interests and guardian of the public patrimony, including environmental capital (Butzke & Pontalti, 2014), it has instruments such as laws and structures that could limit or prohibit, facilitate or stimulate certain behaviors that drive consumption for greater sustainability (Fuchs & Lorek, 2005; Dobson, 2007). Regarding environmental protection, the role of government is perceived in legislation, which imposes behavioral changes that would not occur voluntarily (e.g., reducing car use). Such legislative instruments force behavioral changes, transforming constraints, and responsibility into a legal requirement (Eden, 1993).

In addition to government influence, values, customs, cultural traditions, and social norms shape individuals' behaviors in a society, so that influence their consumption decisions as well (Phillips, 1997; Jackson, 2004). Therefore, just as human behavior tends to be socially constructed, the sustainable consumption practices must also be considered a social behavior, that is, a specific type of social consciousness that involves environmental concerns (Moisander, 2007).

According to Jackson and Michaelis (2003), understanding the diverse consumer cultures and the underlying values, worldviews, and narratives would be very helpful in developing an effective strategy for sustainable consumption and production. For these authors, consumer groups differ in their conceptions of sustainable development, the role played by consumption in their lives and the contextual factors that influence their choices. Whereas there are groups of people more sensitive to market incentives, others resist changing their habits voluntarily, unless forced by regulation. There are also groups that look for information and opportunities for activist engagement. As argued by Kolandai-Matchett (2009), sustainable behavior could also be supported by people less committed but sensitive to public policies so that they could change their habits towards sustainability.

Personal motivations relate to an individual's beliefs about the results of their behavior. In addition, there are indications that individuals who believe in their own responsibility for environmental impact issues are more likely to engage in sustainable practices and activities they believe are most effective for sustainability. Furthermore, they recognize a high level of control over the results of their consumption behavior as well as the effectiveness of such results (Barr & Gilg, 2006; Owen et al., 2012). In contrast, when there is little or no control over the results of their behaviors, they reduce belief in the effectiveness of their decisions, as their effort seems to be useless (Azjen, 1991; Eden, 1993; Portilho, 2008).

In view of these discussions, it is perceived that government and society, as well as the individual consumer, are responsible for efforts to disseminate more sustainable consumption practices, which supports the first hypothesis of this research:

***H1: The higher the frequency of sustainable consumption behavior, the greater the perception that the action depends on the individual himself.***

Consumer activities also involve many other factors besides individual behavior, such as the influence of cultural determinants. By addressing different theories on consumer behavior, Ceglia et al. (2015) proposed a framework for cross-cultural research on sustainable consumption that integrates the components of culture from Craig and Douglas (2006), the basic values from Schwartz (1994), the value-belief-norms triad from Stern and Dietz (1994) and Stern (2000), and the theory of planned behavior of Azjen (1991), as presented in figure 1.

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

According to Ceglia et al. (2015), the cultural elements of each country, such as language and communication systems, material culture and artifacts, values and beliefs influence each other, and are capable of shaping consumer behavior.

There is vast empirical evidence pointing to benevolence and universalism (Schwartz, 1994) as dominant values in consumers who assume environmental and altruistic attitudes (Stern et al. 1995; Dietz et al., 1998).

In turn, communications play an important role in disseminating cultural norms and patterns of behavior throughout society. Language and communication systems facilitate the understanding of information about the consequences of consumption activities, so that when communication is flawed or incomplete, the sustainable message may be distorted or even absent, disagreeing with public policies (Ceglia et al., 2015).

Thus, language and communication systems can contribute to shaping a new ecological paradigm (NEP) (Stern, 2000), which refers to how individuals perceive the world, and to their knowledge about the human being-environment relationship. As a view of the world, NEP is a belief strongly influenced by personal and social values, since people shape a new awareness of environmental problems and their consequences (Ceglia et al. 2015).

Perceived behavioral control refers to the perceived ease or difficulty of performing behavior based on past experience and resource availability. People are influenced by society and what the other people may think about their behavior, according to the subjective norms. Such norms represent a set of shared behavioral and moral standards exerting pressure in order to achieve social alignment and cohesion. People respond to such pressures by their attitude and perceived behavioral control (Azjen, 1991).

The studies by Azjen (1991), Stern and Dietz (1994), Stern (2000) and Ceglia et al. (2015) show the influence of society on consumer purchase decisions, which support the proposition of the second research hypothesis:

***H2: The lower the frequency of sustainable consumption behavior, the greater the perception that the action depends on the other people.***

Jackson and Michaelis (2003) highlight the intensification of social and environmental policies designed to stimulate or restrict certain behavioral conduct. To this end, the government relies on its legal, regulatory and supervisory powers, which include coercive instruments, the granting of subsidies and other advantages, as well as the provision of structures that favor or limit the behavior of individuals.

Butzke and Pontalti (2014) emphasize the role of the State in the promotion of sustainable consumption and mention article 225 of the Brazilian Constitution, which imposes on the Public Power and the whole society the duty to preserve the environment for present and future generations. Krause (2009) also highlights the role played by governments in promoting sustainable development through public policies such as educational campaigns and incentives to adoption of cleaner production technologies.

From these considerations derives the third hypothesis of this research:

***H3: The lower the frequency of sustainable consumption behavior, the greater the perception that the action depends on the government.***

## **Measuring sustainable consumption practices**

The intensity of sustainable consumption has been measured through various scales to identify the motives for which individuals engage in sustainable practices.

Ribeiro and Veiga (2011) created an instrument to evaluate the entire consumption cycle, including not only the moment of purchase but also the use and disposal of what remains after use. In addition, it includes aspects related to the concern with the use of natural resources, support to ecologically responsible companies, and the predisposition to adopt a less consumerist lifestyle. For these authors, sustainable consumption is a multidimensional concept, as shown in Table 1.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

Research has intended to assess the dimensional structure proposed by Ribeiro and Veiga (2011), as in the studies of Oliveira et al. (2014), Santos and Conke (2014), and Ronchi et al. (2016). All of them have validated the sustainable consumption scale and found that consumers do not perform sustainable behavioral behaviors at the desired frequency unless they perceive in these actions financial advantages gained from saving resources and reducing consumption.

Considering the four dimensions proposed by Ribeiro and Veiga (2011), it was necessary to unfold the hypotheses of the research relating the actors analyzed with each dimension of sustainable behavior. Table 2 presents this unfolding.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

Next section presents the methodological issues related to data collection and analysis.

## **METHOD**

The study employed a cross-section, quantitative, and explanatory approach carried out through a survey of 416 individuals over 25 years old (53% female, 55% up to 34 years, 75% with household income up to 2 minimum wages), with high school education, at least.

Data collection tool was a two sections questionnaire adapted from Ribeiro and Veiga (2011) and Fabricio et al. (2017): In the first section, the respondents indicated the frequency with which they execute the behavioral practices considered sustainable in their daily routines of consumption; in the second, they pointed out the level of responsibility or influence they attribute to other people, to the government and themselves for the effective performance of each of the practices.

The 13-items, 10-points scale (ranging from 1-“Never” to 10-“Always”) adapted from Ribeiro and Veiga (2011) and Fabricio et al. (2017) was employed in order to measure the frequency (intensity) of the individual’s sustainable consumption behavior. Each item (variable) describes a consumption practice related to one of the four dimensions of sustainable behavior discussed above. The table 3 shows the variables statements in the first section of data collection tool (items were sorted to avoid biased responses).

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

In the second section of the data collection instrument, the 13 behavioral practices of the Fabricio et al. (2017) and Ribeiro and Veiga (2011) were rewritten as impersonal statements, but the verbs representing behavioral action were replaced for the corresponding nouns in order

to measure the level of influence of the participation that the respondent perceives that should be attributed to the government, the other people and to himself, so that the behaviors are carried out. Now, the 10 points ranged from 1- “Does not depend” to 10-“Depends a lot”, as presented in the table 4.

**\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\***

The questionnaire was pretested from December 21 to 22, 2016 through a personal approach at large circulation sites in the city of Fortaleza, Brazil, and no changes were necessary. During the survey, between December 21, 2016 and January 19, 2017, 416 questionnaires were applied, 407 of which were used for data analysis.

In addition to evaluation of descriptive statistics, the data were analyzed through exploratory factor analysis, with the purpose of validating the dimensional structure proposed by the literature (Ribeiro & Veiga, 2011; Fabricio et al., 2017), and multiple linear regression analysis, which allowed to test the hypotheses of the research.

## **ANALYSIS AND DISCUSSION OF RESULTS**

Table 5 presents the descriptive statistics (means) for the evaluation of the intensity of sustainable consumption practices performed by the respondents, in addition to the level of dependency they attributed to the government, other people and themselves to that each of the 13 practices proposed to be effectively carried out.

**\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\***

In relation to the intensity of the sustainable practices carried out by the respondents, it was verified that the conducts related to the resource-saving dimension received the highest scores, indicating that these are the sustainable behaviors that they practice more frequently. This result is in line with the findings of Santos and Conke (2014), Oliveira et al. (2014), and Ronchi et al. (2016), in the sense that sustainable consumption behavior is more frequent when it has positive financial consequences for the individual. In line with the TPB (Ajzen, 1991), the individual recognizes the positive consequences of their behaviors, which increases their behavioral intent toward the perceived benefit.

On the other hand, the behaviors related to the recycling dimension received the lowest scores, which indicates that these are the behaviors adopted less frequently among the interviewees. Probably their sustainable intention of recycling, which is influenced by perceived behavioral control, subjective norms and attitude towards the recycling process (Ajzen, 1991; Ceglia et al., 2015), are not leading them to commit to this sustainable practice, and further studies could address the reasons for this.

Table 5 also presents respondents' assessments of dependency on government, other people, and themselves. For all of the 13 sustainable practices, in the four dimensions, a greater level of influence (dependency) was attributed to the individuals' action, as compared to the influences of government and other people. The dependency on other people for the practice of sustainable behaviors ranked second, with emphasis on somewhat higher scores attributed to the variables of the frugality dimension. The lowest dependence scores were attributed to government participation, mainly for frugality behaviors (FR1 (4.73), FR3 (4.28) e FR2 (3.82)), that is, the respondents perceive that the government does not influence the behavior of the individual for such practices to be performed.

In a sentence, the interviewees attributed to the individuals' action the greater responsibility for adopting sustainable behavioral practices. That is an interesting finding, as the sustainable performance, according to Jackson and Michaelis (2003) and Kolandai-Matchett (2009), depends both on people highly committed to the challenges of sustainability, as well as the less committed but not less important engagement of other individuals who contribute by accepting and supporting public policies and changing their behaviors and attitudes.

Factor analysis employed the principal components analysis associated with Varimax orthogonal rotation method, in order to obtain a solution with high discriminant validity among the factors extracted. The factorial solution for the grouping of the 13 behavioral practices resulted in the same four dimensions proposed by Ribeiro and Veiga (2011), confirming the dimensioning existing in the literature. Table 6 presents the factorial structure obtained.

**\*\*\*\*\* TABLE 6 ABOUT HERE \*\*\*\*\***

The total variance explained was 69,26%. The *Bartlett Test of Sphericity* was significant at the 1% level, confirming the existence of correlation among the manifest variables. The *Kaiser-Meyer-Olkin Measure of Sampling Adequacy* (KMO) statistics evaluates the degree of partial correlation between variables, and values below 0.600 are not considered acceptable (HAIR et al., 2005). KMO statistics was 0.833, confirming the adequacy of the sample for the factorial analysis.

Table 5 also shows that the commonality values of all variables, as well as the measures of scale reliability (Cronbach's alpha), of all of the four constructs, exceeded the minimum recommended in the literature, 0.500 for both (HAIR et al., 2005). These results confirm the adequacy of the factorial analysis performed.

A multiple linear regression analysis was performed to test the hypotheses of the research by assessing the respondents' perception regarding the level of influence of government, other people, and themselves in the performance of sustainable practices. The results of the regression analysis are presented in table 7.

**\*\*\*\*\* TABLE 7 ABOUT HERE \*\*\*\*\***

The first set of hypotheses for the four dimensions was not rejected, validating the hypothesis that individuals engage in sustainable behavioral practices always assign themselves the responsibility for performing them, which is in line with the results observed by Eden (1993) e Portilho (2008).

The second group of hypotheses, which deals with the responsibility attributed to other people for the performance of sustainable behavior, has rejected the hypotheses referring to the dimensions resource-saving and frugality and validated those referring to the dimensions of ecological awareness and recycling. These results confirm the thesis that individuals who attribute greater responsibility to others are less willing to practice sustainable behavior of ecological awareness and recycling. On the other hand, the refutation of the hypotheses referring to the resource-saving and frugality contradicts the findings of Portilho (2008) and Stern (2000) regarding the influences from the social context, contrary to the thesis that the greater the responsibility attributed to other people reduces the behavioral intention to engage in these two practices of sustainable behavior.

In the third group of hypotheses, only the one referring to the resource-saving dimension was not rejected, confirming the thesis that the more responsible individuals attribute to the government for perform resource-saving practices, the less they engage in such behavior.

However, it is worth mentioning that, contrary to expectations, there has been a positive influence of government responsibility on the individual's engagement in behavior related to ecological awareness and recycling.

Such results reinforce the arguments of Jackson and Michaelis (2003), Krause (2009) and Butzke and Pontalti (2014) regarding the need for government to take responsibility for promoting sustainable consumption development through public policies capable of influencing not only the efficiency of the production of goods and services but also the expectations, choices, decisions, and behaviors of individual consumers.

## **CONCLUSION**

This study aimed to analyze the individual's perception regarding his own responsibility as a consumer, the responsibility of other people, and the responsibility of the government in perform sustainable consumption practices.

By assessing the frequency with which respondents execute the behavioral practices considered sustainable in their daily routines of consumption, which is assumed to be a fit measure for intensity of the individual's sustainable consumption behavior, the results showed individuals engage more often in sustainable resource-saving and frugality activities, while are refractory to engaging in recycling and ecological awareness activities.

These two dimensions are also those in which respondents expressed the slightest perception of dependence on individual actions. In spite of this, for all the 13 sustainable practices, which are linked to the dimension's ecological awareness, resource-saving, frugality, and recycling, the responsibility that individuals attributed to themselves was greater than that attributed to government and other people.

Interestingly, ecological awareness and recycling dimensions are the ones that present the greatest difference between the average perception of individual responsibility for performing sustainable practices (8.04 and 7.83, respectively) and the intensity of the respondents' sustainable consumption behavior (5.88 and 4.89).

In relation to the hypothesis of the research, the ratification of the whole first hypothesis (H1a, ..., H1d) reinforces the importance of the less committed participation of people who choose to support sustainable causes simply by accepting and collaborating with public policies and changing their individual habits.

Regarding the second hypothesis, the positive influence of the perception of other people's responsibility for frugal consumption on the respondents' engagement in these practices led to the rejection of H2c, since a negative influence was expected. This suggests that subjective norms exert a greater influence than the perceived responsibility of other people on the intention and behavioral action of individuals.

It is also worth mentioning the positive influence of the government's participation in the performance of the sustainable behaviors of ecological consciousness and recycling, which led to the refutation of hypotheses H3a and H3d, respectively. This indicates that the more the individual perceives the sustainable performance of government, the more he is willing to engage in certain sustainable practices. Thus, it is important that the government, in addition to promoting public policies that stimulate the sustainable consumption, acts itself by performing such practices, in order to play a role model for society and foster a culture of sustainability.

This research contributed to the theory by adopting an innovative approach that brought together, for the first time, the three constructs concerning the influence of government, other people, and oneself on the individual's performance of sustainable behavior.

The study also showed the relevance of government influence on sustainable practices, which suggests its inclusion in theoretical models aimed at analyzing consumer behavior. The research findings may also guide the development of public policies focused on behavioral practices dedicated to recycling, ecological awareness, frugality, and resource-saving.

Future research may replicate this study in other regions, within and outside of Brazil, in order to verify the results found and discussed here. Intergroup comparisons, longitudinal and event studies would also be timely, both by controlling outcomes by demographic variables and by assessing individuals' perceptions before and after the adoption of public policies for sustainability or sustainable awareness campaigns.

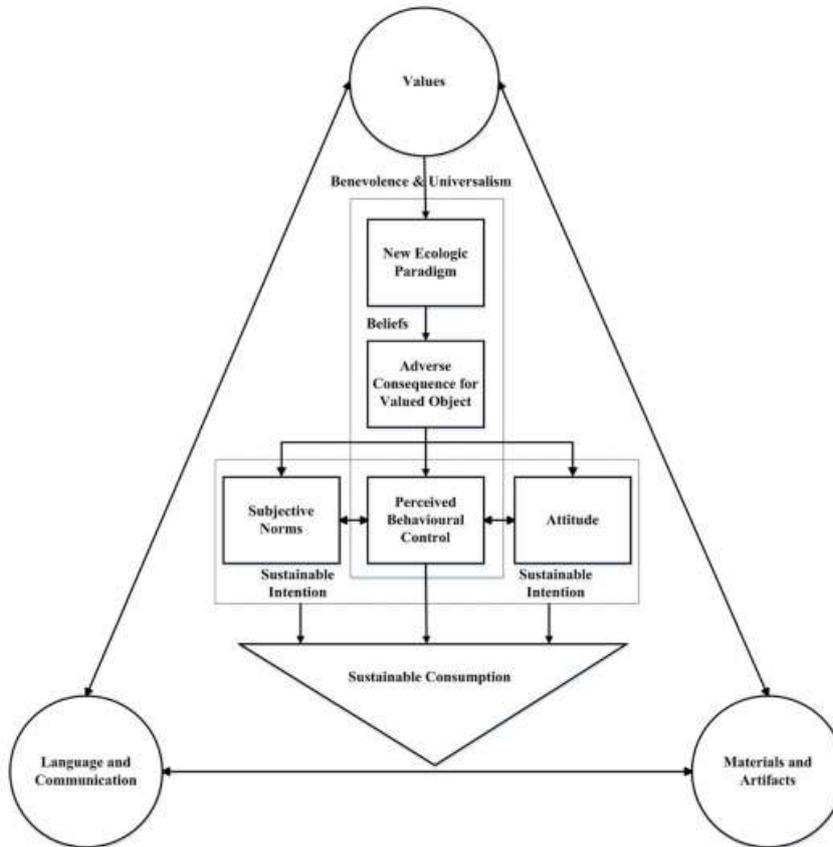
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## FIGURES & TABLES

Figure 1 – Framework for cross-cultural research on sustainable consumption



Source: Ceglia et al. (2015, p. 419).

Table 1 – Sustainable consumption dimensions

Dimensions	Definitions
Ecological awareness	Acquisition phase, indicating the preference of consumers for ecologically correct products and services.
Resource saving	Phase of use, commitment with the reduction of waste, one of the bases of sustainability.
Recycling	Disposal phase, highlighting the protection of the environment at the end of the life cycle of goods and services.
Frugality	Propensity to a more modest, less consumerism lifestyle, based on environmentally friendly behaviors. Refers to the purchase of secondhand goods and the concern to reuse products whenever possible.

Source: Adapted from Ribeiro and Veiga (2011).

Table 2 – Unfolding of the research hypotheses

H1: The higher the frequency of sustainable consumption behavior related to dimension...		... the greater the perception that the action depends on...
H1a	Ecological awareness (EA)	... the individual himself.
H1b	Resource saving (RS)	
H1c	Frugality (FR)	
H1d	Recycling (RE)	
H2: The lower the frequency of sustainable consumption behavior related to dimension...		... the greater the perception that the action depends on...
H2a	Ecological awareness (EA)	... the other people.
H2b	Resource saving (RS)	
H2c	Frugality (FR)	
H2d	Recycling (RE)	
H3: The lower the frequency of sustainable consumption behavior related to dimension...		... the greater the perception that the action depends on...
H3a	Ecological awareness (EA)	... the government.
H3b	Resource saving (RS)	
H3c	Frugality (FR)	
H3d	Recycling (RE)	

Source: The authors.

Table 3 – Items for evaluating sustainable behavior practices

EA1- In elections for public office, I prefer to vote for candidates who have strong positions in defense of the environment.
RS1- I turn off devices like television and computer when I am not using them.
FR1- I look for ways to reuse objects.
RE1- I separate metal objects (aluminum cans, oil, tomato extract, etc.) for recycling.
EA2- I stop buying from a company that disrespects the environment.
RS2- I close the sink or shower taps when I am soaping objects, body or hands.
FR2- I try to fix things instead of throwing them away.
RE2- I separate glass (bottles of beer, soda, bottles of perfumes, etc.) for recycling.
EA3- I change brand to buy from companies that show greater care with the environment.
RS3- I turn off the lights when there is no need for them to stay on.
RE3- I separate papers (newspapers, magazines, books, notebooks, etc.) for recycling.
FR3- I buy secondhand products.
RE4- I separate plastic packaging (bags, PET bottles, disposable cups, etc.) for recycling.

Source: Adapted from Fabricio et al. (2017) and Ribeiro and Veiga (2011).

Table 4 – Items for evaluating perception of dependency on government, other people, and the respondents themselves

<b>For each action listed below to be effectively performed, please consider a scale from 1 to 10, where 1 means “Does not depend” and 10 means “Depends a lot” and respond: HOW MUCH do you think depends on government, other people, and yourself?</b>	
EA1- Choice of people / candidates who have strong positions in defense of the environment.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RS1- Power consumption reducing by avoiding leaving devices such as TV and computer connected when not in use.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
FR1- Reuse of objects.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RE1- Process of recycling metal objects (aluminum cans, oil, tomato extract, etc.).	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
EA2- Rejection of products and services of companies that disrespect the environment.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RS2- Reduction in water consumption.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
FR2- Attempts to repair things instead of throwing them away.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RE2- Process of recycling glass objects (beer bottles, soda bottles, perfume bottles, etc.).	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
EA3- Purchase of products and services from companies that take care of the environment.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RS3- Power consumption reducing by avoiding leaving lights on when there is no need.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RE3- Process of recycling paper (newspapers, magazines, books, notebooks, etc.).	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
FR3- Purchase of secondhand products.	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?
RE4- Process of recycling plastic packaging (bags, PET bottles, disposable cups, etc.).	How much depends on the government?
	How much depends on the other people?
	How much depends on myself?

Source: The authors.

Table 5 – Intensity of respondents’ sustainable behavior and perception of dependency on themselves, other people, and government

Sustainable behavior practices	Intensity of the individual’s sustainable consumption behavior	Dependency perception		
		Government	Other people	Individual
EA1- Vote on candidates who defend the environment	6.25	5.33	6.70	8.05
EA2- Do not buy from a company that does not respect the environment	5.70	6.23	7.47	8.21
EA3- Change brand	5.69	6.44	7.29	7.86
Means	5.88	6.00	7.15	8.04
RS1- Turn off devices such as TV and computer	8.52	5.94	7.79	9.29
RS2- Close the sink or shower taps	9.07	7.56	8.45	9.44
RS3- Turn off the lights	9.05	7.04	8.50	9.54
Means	8.88	6.85	8.25	9.42
FR1- Reuse objects	6.85	4.73	6.85	8.66
FR2- Fix things	7.20	3.82	6.92	8.66
FR3- Buy secondhand products	6.07	4.28	7.06	7.97
Means	6.71	4.28	6.94	8.43
RE1- Separate metal for recycling	4.83	6.10	7.27	7.89
RE2- Separate glass for recycling	4.93	5.95	7.14	7.81
RE3- Separate paper for recycling	4.72	6.05	7.19	7.85
RE4- Separate plastic for recycling	5.06	5.96	7.18	7.77
Means	4.89	6.02	7.20	7.83

Source: Research data.

Table 6 – Factor analysis

Variables	Recycling	Ecological awareness	Resource saving	Frugality	Communalities
RE2- Separate glass for recycling	0.879				0.668
RE1- Separate metal for recycling	0.875				0.634
RE4- Separate plastic for recycling	0.854				0.622
RE3- Separate paper for recycling	0.824				0.794
EA2- Do not buy from a company that does not respect the environment		0.835			0.781
EA3- Change brand		0.817			0.526
EA1- Vote on candidates who defend the environment		0.778			0.651
RS1- Turn off devices such as TV and computer			0.792		0.825
RS3- Turn off the lights			0.770		0.791
RS2- Close the sink or shower taps			0.719		0.609
FR2- Fix things				0.787	0.752
FR3- Buy secondhand products				0.736	0.552
FR1- Reuse objects				0.718	0.799
Cronbach’s alpha	0.918	0.818	0.644	0.643	-

Source: Research data.

Table 7 – Hypotheses test

Dependency	Hypotheses	Expected signal	Coefficient $\beta_i$	p-value (Sig)	Adjusted R <sup>2</sup>	Test
On himself	H1a – ecological awareness	(+)	0.547	0.000***	0.237	Not rejected
	H1b – resource saving	(+)	0.404	0.000***	0.069	Not rejected
	H1c – frugality	(+)	0.583	0.000***	0.191	Not rejected
	H1d – recycling	(+)	0.574	0.000***	0.168	Not rejected
On the other people	H2a – ecological awareness	(-)	-0.127	0.037**	0.237	Not rejected
	H2b – resource saving	(-)	0.004	0.915	0.069	Not significant
	H2c – frugality	(-)	0.154	0.000***	0.191	Rejected
	H2d – recycling	(-)	-0.168	0.020**	0.168	Not rejected
On the government	H3a – ecological awareness	(-)	0.241	0.000***	0.237	Rejected
	H3b – resource saving	(-)	-0.124	0.001***	0.069	Not rejected
	H3c – frugality	(-)	0.056	0.132	0.191	Not significant
	H3d – recycling	(-)	0.081	0.061*	0.168	Rejected

\*\*\* significant at 1%. \*\* significant at 5%. \* significant at 10%.

Source: Research data.

Track 05 Culture and Consumption

**ID #696**

## **The Glocalization of sport in China: the ski market' case study in the Olympic push context**

**Arnaud Waquet** (University of Lille, France)

### **Abstract**

*This study examines the Chinese market of the ski. It reveals the necessity for international companies specialist in the field of the ski from western countries to develop a glocal strategy to fit their offer to the local habits of the Chinese ski practitioners. To do so, we have focused our research field study in December 2018 on a qualitative methodology to collect data through participant observation in 11 ski resorts (outdoor and indoor) in Beijing, Hebei, Liaoning, Jilin and Heilongjiang provinces. We also have done semi-structured interviews with ski resort managers and international ski and tourism companies who already have more than 10 years of experience in the Chinese ski market (Decathlon and Club Med). After the definition of the different steps of the ski development in China, this article tries to define a typology of Chinese climate, cultural and social specificities to identify the 'hybrid' and the 'transformation' glocal strategies of the development of ski in China. Glocalization is thus identified in this paper as a tool in international management strategy to balance the globalization according to local priorities, especially in the market of ski in China which is booming in the context of the leisure development for the middle-upper classes and due to the 2022 Olympic push with the government who aim to develop the ski practice and the "snow & ice economy" in China. Keywords: Glocalization; Ski market, China, international management strategy, participant observation*

**Keywords:** Glocalization; Ski market; China; international management strategy; participant observation.

### **Acknowledgments**

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## INTRODUCTION

Today, skiing in China is a complex market. With 17.5 million annual practitioners and 703 ski resorts in 2017 (Bin & Qinghua, 2018, p.1), it cannot be considered an emerging market. Now a day, China is "the biggest ski marketer in the world!" (Bin & Qinghua, 2018, p.33). Moreover, in the current state of its development, the ratio with the population of the country (17.5 million over more than 1 400 million inhabitants) demonstrates that this market has strong growth potential. The provisional figures announced by the government, more than 1,000 ski resorts and 120 million practitioners ski (or snowboard) in 2022, clearly indicate that the market potential is yet to come.

Since 2015, and the awarding of the Olympic Winter Games 2022 in Beijing, China has entered a frantic race for the development of winter sports. As a result, globalization is important, especially for international companies specializing in sports and mountain tourism. These companies are experiencing strong growth in the Chinese market because China imports the majority of the equipment necessary for the construction and maintenance of the ski slopes but also the equipment necessary for the practice of skiing. Some examples of companies: *Poma* and *Doppelmayr* for ski lifts; *MND* for the snowmaker machines, *Prinoth* for the groomers, *Fisher* and *Rossignol* for the skis and bindings, *The North Face*, *Arc'Teryx* and *Decathlon-Wedze* for the Ski Clothes; for the hostel and tourism services: *Club Med*.

In the main lines of its development, the Chinese market is not specific. We can even clearly announce in the introduction that there is a standardization of ski development in China with a strong loan to the model of mature Western markets, whether in the construction of resorts and housing, in the equipment needed for resorts and skiers but also ski learning methods.

In a previous field study conducted in 2013 in collaboration with Decathlon and Shenyang Sports University, we studied the habits and practices of Chinese skiers in Yabuli (Heilongjiang) and Qipanshan (Liaoning). The results then challenged us about the low or no culture of skiing in China and the Chinese motivations for their presence in a ski resort; the main reason is to eat with friends!. As part of a research program funded by the Embassy of France, I conducted a new study on the development of skiing in China with the desire to analyze the impact of the Olympics 2022, competition symbol of globalization, on the development of the Chinese ski culture. Conducted in December 2018 through 11 ski resorts in Beijing, around Chongli, around Shenyang, Beidahu, and Harbin, our study found that the globalization of skiing in China is not standardized. Skiing in China only partially replicates the Western model. Given a large number of inhabitants and therefore the target to be reached, the actors of this globalization of skiing in China adapt and do not impose their Western vision (the end of an imperialist position we could say). They show tolerance (Chang, 2013, p.40) in relation to the habits and customs of the indigenous populations in order to enable them to appropriate an exogenous culture. Having a glocal strategy, and no longer global, is, therefore, less brutal for endogenous culture. It makes it possible to limit the resistances and to be in front of a frozen cultural space (Markovitz & Hellerman, 2001) which would be a brake on the penetration of the market.

Skiing is not yet a practice rooted in the culture of the Chinese. To do so, it is necessary to give an area of freedom to the indigenous population to enable it to adapt an exogenous practice to its culture. It is a key step in the acceptance of the exogenous culture by the native culture. Our research, therefore, aims to understand local specificities in order to establish a glocal strategy; namely, a model of hybrid glocalization or transformation (Giullianotti & Robertson, 2007). For ski development players in China, namely the Chinese government and Real Estates

developers such as Vanke and Wanda, but also Chinese and international sports brands, it is now compulsory to develop a range of products and services that respond to China's social, cultural and climatic priorities.

To sum up, our study focuses on the adaptation of globalization to the habits of practice and consumption of local populations; in other words on glocalization. Through a method related to cultural studies and ethnography, our research aims to establish a typology of the glocalization of skiing in China to shed light on the specificity of the Chinese market and thus to understand how Local priorities can be taken into account in the construction of management strategy for international companies.

Before presenting our typology of the glocalization of skiing in China, we will present in the first part the different stages and periods of the ski boom in China. In the second part, we will define the conceptual framework of glocalization, and we will explain why China is a fertile ground for this strategy of cultural adaptation. Finally, in the last part, we will return to the methodology used and present our results in the form of a typology of ski glocalization taking into account the cultural, social and climatic specificities of skiing in China.

## **MILESTONE OF THE HISTORY OF DEVELOPMENT OF SKI IN CHINA**

China in 2018 has a wide range of possibilities for skiing. In order to consider glocalization strategies, it seems necessary to understand the history of skiing in China to establish a periodization and a typology of "areas" of skiing. In fact, contrary to a twentieth-century and Western vision, skiing is not limited to practice in a resort located in the mountains, on mostly natural snow and as part of a tourist stay.

In China, the rise of skiing is based on processes typical of the 21st century such as digitation, technology, or the artificialization of outdoor sports practices. In other words, skiing in China today is practiced on natural, artificial, and "dry" snow (ie on plastic mats to slide – see Picture n°2), but also on simulators that physically or virtually place the practitioner in the situation to ski.

As part of our study on the glocalization of the ski market in China, we will mainly detail the practice of skiing on natural or artificial snow. These are the conditions that have attracted our attention as part of our field research.

On the historical level, we have identified 4 periods in the history of skiing in China (note: a specific article on the history of skiing in China is being written):

From prehistory to 1995: a traditional and utilitarian practice of skiing in China

From 1996 to 2014: the genesis of modern skiing in China, from the rise of the first resorts to the emergence of the ski market

From 2015 to 2022: The Olympic fever. Establishment of state policy for the democratization of skiing in China

From 2023: the Olympic legacy: a Chinese ski culture that relies on the generation of leisure and the massification of healthy outdoor sport practices (a section developed in another article proposing prospective scenarios of glocalization skiing in China)

### ***From prehistory to 1995: a traditional and utilitarian practice of skiing in China***

Skiing has become a tradition in China because of its geography and its particularly favorable climate. From a general point of view, "Two-thirds of China is covered by mountains. As the country has boundaries with Nepal and Pakistan, China shares with these countries 11 of the 17 highest peaks in the world, including Mount Everest and K2". (...) "40% of China lies above 2,000 meters, mostly in the western part of the country. Mountains in the eastern part are much lower, with top altitudes limited to 2,600 meters above sea level" (Vanat, 2018).

Even if it looks that modern skiing only became popular since the early 2000s, skiing is thus an old traditional practice for specific ethnic groups mostly looked in the very top northwest of China. In fact, Skis were used already thousands of years ago by hunters in the Altay Mountains, a region between North West of China, Mongolia, Russia, and Kazakhstan.

Cave paintings showing skiers have been found there, and experts agreed to date them more than 10'000 years ago. It would be from the Altay cradle that skiing was then exported to Northern Europe, Russia, and other places. Based on the survey and analysis of Chinese historical recordation's about the Chinese northern minorities' skiing activities and snow transportation, we can see that skiing has been clearly noted in ancient documents since the 3rd century BC at the latest and this hunting means has been practiced up to the latter-day by the Chinese northern people (Liu et al, 2009). Long and wide traditional wooden skis are still currently used in the Altay Mountains (see Picture n°1).

Several hundred years after, Modern skiing and snowboarding practice started in the north-eastern part of the country, in the Harbin region, which still contains most of China's ski areas, but where temperatures can be extremely tough. The first ski areas emerged in the 1980s, mostly designed for training ski racers, with usually only one slope and poor accommodations" (Vanat, 2018, p.163).

### ***From 1996 to 2014: the genesis of modern skiing in China, from the rise of the first resorts to the emergence of the ski market***

In 1994, China's skiing population was 500 persons, most of whom were professional athletes, news reporters, and their relatives and friends. 1996 is the starting point for the modern development of ski in China with Yabuli as the first modern ski resort in Heilongjiang. Indeed, as Cao & al. mentioned: "*In 1996, Harbin undertook 3<sup>rd</sup> Asian Winter Games — intercontinental winter comprehensive games held by China for the first time, which attracted eyes of compatriots and other Asian countries to Heilongjiang. Accompanied by the completion of Yabuli Windmill Mountain Villa which is China's first large destination skiing holiday resort, the rologue for rapid development of China's skiing industry was drew*"(Chen et al, 2013, p.483). In 1998, 1<sup>st</sup> Heilongjiang Provincial International Skiing Festival created three firsts, namely, China's first international skiing festival, first skiing and tourism professional committee, and first skiing club. Thought those creations, we can show the increasing of the institutionalization of ski in China at the end of the 20<sup>th</sup> Century and its reinforcement with for example the 24<sup>th</sup> World Winter Universiade held in 2009 but also the world's attention and further upgraded influence of Heilongjiang ice-snow brand. In 2012, Yabuli Skiing Ground ranked first in China's 1st Skiing Grounds Competitiveness Ranking List" (Chen et al, 2013).

At the beginning of the 2010s, the population for masses skiing was rapidly grown. In 2009, according to Tang Yunsong works, China owns a population of five million skiers, and it is ten

thousand times that of sixteen years before (Tang, 2009). At that time, with a population of 1.34 billion, China's skiing population just accounts for 0.37% of nationwide population, compared with situations that about 10% of the population participate in skiing each year in the USA and Japanese and South Korean skiing population are respectively close to 13%-15% and 30% in their total population, this still appears considerable gap. Potential skiing market undoubtedly indicates inestimable attractiveness and driving force for the development of China's skiing industry with notably a Global perspective for international companies.

At the beginning of 2the 000's, Chinese skiing began as a symbol of prosperity and status, a Western practice in a country full of newfound wealth. Ski areas slowly began to appear around urban areas in Eastern and Northwestern China. Before the big Olympic push, China has thus organized its ski market, and the typology of skiing area was already design. According to the data collected, there are 4 kinds of ski areas in China: 1. the destination ski resort with Yabuli as leader before the 2010's. The suburban ski resort with Nanshan at 62 kilometers of Beijing Downtown as a best example (See. Picture n°3), 3. The indoor ski resort which allows ski practice where there is no mountain and 4. the artificial ski on a dry slope or ski simulator located in the city center (even in the south of China where there is no winter season) and in different shopping malls.

### ***From 2015 to 2022: The Olympic fever. Establishment of a state policy for the democratization of skiing in China***

Start in 2013 with the bidding process for the winter Olympics 2022 and moreover after winning the bid, Beijing and Chongli (Hebei Province) are knowing a dynamic involvement about ski development (See Figure n°1 - China Ski Resorts Map – 2017).

Growth in attendance has been boosted since 2015 by the awarding of the 2022 Winter Olympics which has generated further enthusiasm for skiing. The last few winter seasons experienced considerable growth, with the 15 million skier visits mark reached in

2015/16 and more than 17 million in 2016/17 (Vanat, 2018, p.164) - (See Figure n°2). The 20 million will reach with no doubt in 2019. It, therefore, seems that China will soon rank among the big players of the industry of ski.

Due to the Chinese government plan and support for the development of the ski industry, both to win medals and to develop a white economy legacy after the games, the potential market is now estimated to 120 million of ski and snowboard practitioners (300 million if included all the snow and ice sport and leisure practices). In 2022, the official numbers expect also more than 1'000 ski areas in China and 40 million skier visits per years (2022 Winter Olympics Plan).

Since 2015, the development of ski in China knowing another step. According to the fact that our research is in progress, that is to say, we need to collect more Chinese data on Chinese ski and to confront our work with Chinese ski specialist, we have to take care of our conclusion. But at present, we can show 4 news steps in the development of ski in China since 2015:

The development of destination ski resorts in Hebei and Jilin. A development of tourist resorts with housing supported by major real estate groups (Vanke and Wanda) and which are close to Western standards

The "one-day-trip-to-ski" becomes more democratic and fashion, strengthening the position of suburban resorts

The development of school practice on the basis of a state policy

The boom of indoor ski resorts that is becoming a Chinese specificity

### ***The development of destination ski resorts in Hebei and Jilin***

*"With the boost of winter sports triggered off by 2022 Winter Olympics, ski areas are now blossoming in nearly all Chinese provinces, up to the South West. Only in 2017, 57 new ski areas opened, bringing the total to 703 ski areas. Most are still poorly equipped and are rather ski fields for beginners, only equipped with one or a few magic carpets. Only 25 approach Western standards, but often without accommodations and only a limited number can be considered genuine ski resorts" (Vanat, 2018, p.166).*

In Hebei Province, Close to Beijing, about a 3-hour drive northwest, the city of Chongli seems to develop into the ski capital of China. The already well-established resort of Wanlong was quickly followed by the development of Genting Secret Garden where the freestyle competition of the 2022 Winter Olympics will be held. The resort of Thaiwoo opened not far away for winter 2015/16, featuring a north-American like a village base. A further state of the art resort was opened in December 2016 by the Fulong Group, just next to the city. It was followed in December 2017 by Cuiyunshan ski resort, featuring also hotels and Real Estate development, and there are still other ski areas projected in the neighboring (Vanat, 2018).

In the aim to study the adaptation or assimilation of the global in China, I have chosen the top modern ski resort in China as my research field. In December 2018, I went in Hebei to Fulong, Genting Resort Secret Garden, Thaiwoo, Wanlong. In addition, I have been in Jilin province to the ski resort of Beidahu.

### ***The "one-day-trip-to-ski" becomes more democratic and fashion***

The air pollution we experienced in Beijing threatens China's cities and rampant urbanization shows no signs of slowing (the national government hopes to centralize healthcare and education by moving 100 million from the country to cities by 2020), a change is taking root in the country's collective conscience. The focus is no longer quality goods, but rather quality of life—a massive shift that has birthed a new day in China: The Era of Personal Wellbeing. The Chinese are investing more and more in themselves, with vitamin and supplement sales hitting record numbers, and lifestyle sports like yoga, trail running, and downhill skiing finally flourishing.

To allow the population of Beijing to discover the practice, the number of ski resorts should reach 52 by the time the Chine capital hosts the Winter Olympics in 2022, according to what is belied to be the first Five Year plan of Winter Sports Development which has been created by the city's municipal government.

Beijing currently has 22 ski areas, but another 30 are planned by 2022, according to the report. All of the existing areas have opened in the past 20 years, and most rely on snowmaking, leading to criticism (some years ago) of water resources being used for snowmaking when the city has struggled to provide drinking water to parts of its vast population. At the turn of the century, the ski areas were seen as a recreation facility for China's nouveau riche, but they have gradually become main stream.

For the middle-upper class, a one-day trip to ski in a suburban ski resort is now a good trip to escape the pollution and to have fun with friends and family members. This phenomenon is developed not only around Beijing but also around Shenyang (in Liaoning) or Changchun (in Jilin) for example. To notice, the ski resort of Nanshan close to Beijing can provide ski or snowboard for 10 000 customers per day and is close to having 200 000 customers per winter

season. Nanshan organizes for example one day ski camp for adult and child (see picture n°4). Behind the ski camp organization, the teenagers are the target to seduce, the target who constitute the new ski generation, the first generation who learn ski at school.

### ***The development of school practice on the basis of a state policy***

The support of the Government is now a day very strong. First, to build all the infrastructure for the Olympics but also to develop a national policy for the practice of the Chinese youth. Students from middle school of the province where the ski is already developed are particularly concerned, that is to say in Heilongjiang, Jilin, Liaoning, Xinjiang and of course Beijing and Hebei. According to the data collected directly from the ski resort manager, during the winter period, from Monday to Thursday, 300 to 500 students per day come from middle schools of the county of Zhangjiakou (Hebei Province) in Thaiwoo ski resort. This one-day ski lesson is a part of the plan to educate the youth to ski with the expectation that they will come back with their parents or between friends to practice again.

### ***The boom of indoor ski resorts that is becoming a Chinese specificity***

*"The number offering downhill skiing is closer to 65. Over recent years, the number of indoor ski areas in China has been growing tremendously. 14 Indoor ski centres opened in China between 2015 and 2017" (Vanat, 2018, p.19).*

The most important project is the Harbin Wanda Snow Park: the biggest indoor snow center in the World (opened in June 2017 – see Picture n°5).

The huge complex in Harbin, North-Eastern China, has six ski slopes up to 500 meters long and including some of the steepest indoor slopes yet built. Harbin area does usually get very cold weather in winter, often -20 to -30 degrees C, so again, unusually, the indoor center will offer warmed conditions for snow sports in winter, just a few degrees below freezing, then skiing outdoors" (Vanat, 2018, p.20). In addition, thanks to very easy access, the Wanda indoor ski resort in Harbin contribute, as an outdoor ski resort, to educate the Chinese youth to the practice of ski. During the weekdays, 200 students from the middle class to the university learn ski with one strong advantage to compare to the outdoor ski resort, the Harbin Wanda snow Park is opened all the year.

After this quick description of the development of ski in China and according to the data collected, specialists agree to say that the Chinese market is the most dynamic now a day at a global level. Nevertheless, it is a market of beginners with strong climate, cultural and social specificities. Considering the massive customers' target, the glocal strategy of development is not optional.

## **THE GLOCALIZATION STRATEGY AND CHINA AS A FERTILE GROUND FIELD STUDY**

In the 21<sup>th</sup> century context of cultural resistance, the Globalization is considered as a reminiscence of the occidental imperialism or at least the dominance of Western model on the rest of the World. to fight against the standardization, that is to say, the elimination of diversity of cultures and identities of peoples around the world (e.g., Hedley, 1998, 1999; Main, 2001), the glocalization is appearing as an answer to fit the global thinking of international companies to local needs to indigenous populations. Consequently, "the fact that society was historically shaped by Protestantism or Confucianism or Islam leaves a cultural heritage with enduring effects that influence subsequent development" (Inglehart & Baker, 2000, p. 49). In the leisure

and sport case, that is to say in a field where the body is in action, it is essential to take into consideration the local habits to elaborate/enhance the international management strategy.

The concept of glocalization is a term borrowed from Japanese business circles in the early 1980s, emphasizing the coexistence and interpenetration of the global and the local (Robertson, 1995). Glocalization is “the process whereby global corporations tailor products and marketing to particular local circumstances to meet variations in consumer demand” (Maynard, 2003, p. 6). This concept synthesizes the relationship between cultural homogenization and heterogenization, convergence and divergence, and universalism and particularism. A glocal strategic approach in business, as opposed to a global strategic approach or multi-national approach, is a combination of different levels, from local to global, of strategic approaches, with the awareness of the significance of adaptation to local markets, and it attempts to maintain an appropriate balance between global homogenization and local customization (Svensson, 2001; Maynard & Yan, 2004, p.288). *"A glocal strategy can be applied to advertising, management, and marketing, effectively modifying a product to suit the tastes of the host culture. Global companies use glocalization as a strategy to improve their worldwide performance based on local differences"* (Jessop, 2000).

In link with our cultural studies approach and methodology, our research borrows the sociological Analytic Framework of glocalization of Giulianotti and Robertson (2007). According to the authors, it existed four categories of cultural glocalization which reveal the (degree of) acceptance of the exogenous culture by the indigenous population: 1. Relativization, 2. Accommodation, 3. Hybridization, 4. Transformation. For our field study, the typology of glocalization should be understood as follows:

*Relativization*: here, the local population wish preserve their prior cultural institutions, practices and meanings within a new environment, thereby reflecting to a commitment to make the differentiation with the exogenous culture. In the case of non-acceptance, the relativization can goes to the resistance/reject of the exogenous culture by indigenous.

*Accommodation*: here, the local population absorb pragmatically the practices, institutions and meanings associated with other cultures in order to maintain key elements of the prior local culture. In the case where the exogenous culture fit perfectly with the wishes/needs of indigenous the accommodation goes to assimilation. In this case, the standardization is effective with any modification or resistance.

*Hybridization*: here, the local population synthesizes local and foreign cultural phenomena to produce distinctive, hybrid cultural practices, institutions, and meanings. The hybridization model of glocalization is the more balance strategy in globalization management strategy for international companies to adapt their offer to the local priorities.

*Transformation*: here, the local population comes to ffavorthe practices, institutions or meanings associated with foreign/exogenous cultures. Transformation may procure fresh cultural forms or, more extremely, the abandonment of the local culture in ffavorof alternative cultural forms.

## ***2.2 Glocalization case studies and China as a propitious field of development***

Different authors already show the necessity for western companies to glocalize their management, marketing or human resources strategy to success in Asia. Maynard (2003) with

the Gillette example in Japan reveals that "*in both text and visual images, the American ad had been modified to accommodate to the perceptions and sensibilities of the Japanese. The name, itself, for example, was changed*"(Maynard & Tian, 2004, p.288).

In the case of China, the glocalization is quite essential for Western companies. Indeed, compared to Japan, the western influence in China, and particularly the American culture, is historically lower than in Japan. Moreover, the food, religion, and body culture habits are different compared to the global/western model. And finally, the big business to do thanks to the massive potential consumers target in China explains why the international companies adopt glocal strategy; yesterday after the conception of their global offer and today for more and more companies during the innovation step and conception design of their offer.

In the literature, the subject of glocalization in China appeared at the beginning of the 2010's and refers to the strategy of global companies in China such as Mc Donalds (Crawford, 2015), Starbucks (Smith Maguire & Hu, 2013), Disney (Matusitz, 2011) and in the sport's field the NBA (Zhou et al., 2017) and the basket-ball market (Luo et al., 2015). The titles of those studies reveal the necessity in China to pay attention to the global-local nexus when western companies penetrate the chine market (e.g. "*McDonald's: A Case Study in Glocalization*"; "*Not a simple coffee shop: glocal dimensions of the consumption of Starbucks in China*"; "*Disney's successful adaptation in Hong Kong: a Glocalization Perspective*"; "*The development of NBA in China: a glocalization perspective*"; "*Glocalization and the Rise of the Chinese Basketball Market*"). In those studies, the results show that the diffusion of the American way of life products and services in China (foods, drinks, leisure, sports) have accommodated themselves in the first part to the indigenous norms (acceptation of a part of the Chinese population), but, in a second part, how the offer had to be (g)localized to fit with indigenous habits (Mc Donald : more spicy, Starbucks: tea and not coffee, Disney : leisure connected to the nature not only to technology, Basketball goods: norms of size, design and color different than US model). After considering China as a homogeneous and standard growth driver, international companies have realized the need to adapt their offer to local habits. The addition of an exogenous culture construct, especially in an unadapted way, is too brutal to be assimilated by the indigenous populations. The global-local interconnectedness is essential to analyze to allow the acceptance of local population and thus to success in the Chinese market.

## **METHODOLOGY AND RESULTS OF THE GLOCALIZATION OF SKI IN CHINA**

Due to the wish of the Chinese middle-upper class to have more leisure and the same leisure as their Western homologs, and also due to the winter Olympic plan of the government, China must go really fast to structure their ski market. Consequently, it was easier and faster to copy/past or to buy the expertise and the experience of western mature ski market. In this context, the Chinese ask for nearly 15 years now to Western specialist advice to develop ski resorts in China. Moreover, for ski equipment, the Western ski Brands, especially the North Face & Columbia have taken the leadership and get strong notoriety inside the Chinese customers.

Nowadays, in comparison with a study done in 2013, we observe a stronger limit of the western model in the ski development in China. The Chinese ski market and the Chinese ski practitioners ask for integration of local specificities in the conception of products and services offer from global brands. This wish of specialization of the ski offer also challenge the local

brands. With more than 17 million, the Chinese ski practitioners are now asking for ski goods, and services offer customized to their habits and local priorities.

To make the analysis of the glocalization of ski in China. We follow a cultural studies methodology based on a qualitative survey such as observation, participant observation, and interviews (open, structured, and semi-structured). According to several years of visiting professor in the University of the sport of Shenyang (Liaoning), and thanks to a prior ski market study done in 2013, we were able to organize a 15 days ski research field study in December 2018. Following the typology of the practice of the Chinese population, we decided to focus our glocal analysis in the suburban, destination, and indoor ski resorts. For the best point of view, we have chosen the ski resort considered as the best or the most representative in the area they are located. To know the typology of the ski resort, their locations and the methodology applied, please see Table n°1. Moreover, to notice our informants who allow us to make 16 interviews, please see Table n°2.

### **Results and typology of the glocalization of ski in China**

According to the fact that our research is in progress, and to respect the manuscript guideline limit, we will present the synthesis of our results through the building of a typology of glocalization of ski in China. This typology has the aim to define the category of cultural glocalization of Chinese ski practitioners.

Thanks to our research field, we define 6 "local specificities," which have an impact on the glocalization of the Chinese ski market:

1. (Almost) All are beginners
2. Reduced practice time
3. Time and transportation constraints
4. Skiing is not the first motivation
5. The coldness of the climate
6. The fear of injuries

We will consider each Chinese market specificities to analyze the hybrid or transformation model of glocalization already developed or which should be done in the future.

#### ***(Almost) All are beginners***

In order to allow adapted skiing for a mainly beginners' market, the architecture of ski resorts and ski slopes, as well as the services offered, reflect the adoption of a hybrid glocalization model (between Western standards and Chinese priorities). For example, the ski slopes are designed with a slight slope to facilitate learning. They are also very wide and they have "magic carpets" allowing young people and adults to borrow them without difficulty. In order to offer a good quality of service to day-old practitioners, some stations place employees on the slopes to help beginners get back on their feet. Finally, ski learning methods tend to simplify the rigorous method of European ski schools in order to give to the Chinese the maximum of fun and try to give them the wish to come again in the resort.

Laurent Vanat in the 2018 International Report on Snow & Mountain Tourism pointed that the traditional alpine ski teaching methods are mostly designed for skiers staying for one week at a ski resort and may not be the best adapted for the current Chinese consumption pattern. More he notices that "*The industry needs to quickly develop a suitable ski teaching curriculum in order to be able to capture this huge market potential*" (Vanat, 2018, p.165). With these words, L.Vanat expressed the need to act local from occidental ski school who develop their activity in China. An Ecole du ski Français (ESF) monitor of Beidahu confirms us that "*on leur apprend la méthode de l'ESF comme en France*" (translation: we teach them the ESF method as in France). But as L.Vanat suggests, there is a need to develop an easy method to learn ski in half a day. The aim is then to allow the Chinese to be safe on the slopes and to practice in autonomy.

The method must be adapted to a market of beginners who practice only a few hours and must be given enough pleasure to make them want to come back. The problem of fidelity is central in China. Indeed, in 2017, the number of annual visits per skier is only of 1.1 (Vanat, 2018, p.167).

### ***Reduced practice time***

In China, most Chinese skiers do not ski more than once per season, only one day with an average of fewer than 3 hours of practice. The habits of Practice is thus very far of the week spent in the resort of Europeans with skiing as the principal activity.

To adapt the offer to the local habits, "*Most ski areas offer packages for 2 hours of skiing, including equipment. Skiing is consumed as a kind of entertainment product rather than a sport that requires repeated practice*" (Vanat, 2018, p.165). For the time being, ski areas are considered more as ski playgrounds than as mountain resorts, and one-time skiers account for a considerable portion of skier visits.

Due to this habit of half a day or day practicing, the Chinese are happy enough to slide more than to ski on the slope. This slide goal explains the development of suitable equipment - smaller and lighter ski, for example. That is also really important to follow the 'fashion' style. That explains the craze for snowboarding, the presence of snowpark but also the development of a night ski with DJs or the customization of snowboards with LED - see pictures n°6). Sliding practices are also adapted to young people and families, which explains the development of sledding in all these forms (see pictures n°7) in indoor and outdoor ski resorts.

### ***Time and transportation constraints***

First of all, the Chinese do not have a winter holiday and even less a holiday system by zone as in France to be able to go on vacation in a ski resort. Only a very small part joins the ski resorts to spend a weekend or a short stay (especially in the region of Chongli or in the province of Jilin). Ski tourism is still under construction. Today, skiing is mainly considered a hobby. A practice that can be scheduled on weekdays with colleagues or friends, or in the evening after work and on during the weekend. Suburban and downtown stations (including indoor stations and dry ski resort - see picture n°8 & n°9) respond well to the demand of proximity expressed by the Chinese.

Second of all, the Chinese do not all have a car and car transportation can very / too long to access the resort.

The time available for leisure and holidays as well as the easy access by public transport (bus and train mainly) are therefore factors that determine the practice of skiing in China.

The accessibility of ski resorts has been the focus of the Chinese government. In 2020, ski resorts around Chongli will be located at less than an hour by train from central Beijing.

This need of proximity to ski areas explains the development of numerous indoor ski resort projects, particularly in Shanghai (Wintastar project) and Guangzhou (Wanda project - Opening 4th quarter 2019), in order to allow the people of southern China to test ski. All means are good for the government to reach the announced figure of 300 million Chinese having experienced at least one-time snow and ice sports by 2022.

### ***Skiing is not the first motivation***

Even if the indoor ski resorts and the dry resort answered to the leisure mass-market needs, the destination ski resorts, in Hebei and Jilin provinces, will know a great success. Indeed, the main reason of the Beijingers to go to a ski resort is not skiing but the change of scenery and the good air. Due to repetitive pollution episodes, Beijing's upper and middle-upper classes regard resort stays as an opportunity to escape the constraints of the city for a weekend or a short break. The Chongli ski resorts proudly display the very low or no rate of fine particles (2.5 µg) present in the air (see Picture n°10). A situation that has become almost impossible in Beijing. This transhumance from Beijing to Chongli is also valid in summer to escape the sweltering heat of the city.

The second main motivation for going to a ski resort is very cultural. It is rooted in the Chinese culture of Guan-xi, namely the art of human relationships that consists of spending a good time between friends, family or colleagues to strengthen the interpersonal bonds and live in harmony (Chang, 2013, p.39).

Thirdly, skiing is a practice of class distinction. It is fashion for the upper and middle classes. They do not go to winter sports as much for the pleasure of sport as to show up and appear on social networks. Once the ski experience is over, the Chinese leave the slopes and ask for other activities such as hot baths, spa, skating, shopping, and going to restaurants! The favorite activity of the Chinese, central in the culture of Guan-xi and to warm up during the lunch. The importance of the restaurant was confirmed both in the survey conducted in 2013 and in 2018 in particular for suburban ski resorts - for example, Nanshan and Guaipo - for the indoor stations (Wanda Harbin mall) or destination stations (Wanlong or Beidahu).

### ***The coldness of the climate***

The cold is a central problem of outdoor ski resorts. Indeed, in the suburban ski resorts of Liaoning, as in Guaipo and Qipanshan or then in the tourist resorts of Hebei (as in Wanlong or Thaiwoo), Jilin (like Beidahu) and even more in the Heilongjiang (as in Yabuli), it's not uncommon to record temperatures from -20 to -30 ° C. If you add to this the wind or the relative wind produced by the practice of skiing, the temperature felt falls again. In these conditions, the equipment must be efficient. In addition to gloves, jackets, and ski pants, there is a range of products in China specifically designed to combat the cold. While in Europe, it is rare, the protections of the face are acclaimed by all skiers. To protect the smallest square centimeter of skin that could freeze, Chinese skiers, do not hesitate to add plasters on the nose and cheeks (see picture n°11). Sports equipment manufacturers such as Decathlon have also developed face protectors that are positioned above the helmet, thus making it impossible to let the icy air through (see pictures n °12). This product was designed specifically for the Chinese market and is a testament to the company's strategy of glocalization. The heating patches are also widely sold and used. For your information, I was offered a large number of heating patches for feet, hands, back, and belly by my Chinese hosts who live in Beijing when I told them I was going to Beidahu and Harbin!

Due to the severe cold, ski resorts offer services tailored to their clients. In the most modern stations (like Wanlong or Beidahu), the chairlifts are for example equipped with bubbles of protection against the wind and the cold. In their design, the resorts of Jilin and Heilongjiang prefer gondolas to the simple chairlift to allow skiers to warm up the time of the climb. Then, on the snow front and at the entrance to ski lifts, it is not uncommon to see the station offer hot water or tea to warm up but also tissues to fight against the inconvenience of cold (especially mucus flow).

One last point, if the cold is very present, it is a dry cold. In the resorts visited in Northeast China, there is no significant snowfall. The ski slopes are covered with artificial snow from snowmaker. Because of ice temperatures, this artificial snow is very hard and therefore very traumatic compared to the fresh snow carpet experienced by skiers from the Alps, Japan, and Canada.

### ***The fear of injuries***

The Chinese are concerned about the safety of the body. With a western vision, we could say that they over-protect themselves. However, this fear of injury is well-founded and supports both factual realities and a very different physical education between Chinese and Western youth.

The fear of injury and the concern for a safe body is deeply rooted in Chinese culture. We have already seen this from a previous study conducted in 2014 on aquatic activities in Qingdao. The generation of the only child (birth control policy between 1979 and 2015) has been overprotected. These teenagers and adults who are now between the ages of 15 and 40 do not know building a bodily experience of falling and taking risks. In a western culture that emphasizes "trial-and-error" life-learning, falling and getting up is part of early childhood education. Moreover, the confrontation with nature sports or sports that encourages risk-taking is valued (skateboarding, mountain-bike, surfing, ...). In China, the Y generation did not have the habits to put their body in action. Now a day, is this Y generation able to learn ski?

In addition, this fear of risk and injury is based on factual reality. In case of injury on the ski slopes, there are no specialized rescue centers with the presence of a doctor and in case of emergency a helicopter medical service that takes you to the nearest hospital. There is, therefore, fear of the injury because the possibilities of care are reduced. In addition, through the interviews conducted, we did not identify medical insurance or mutual insurance that took care of the care. In addition to having to go on his own in a hospital located several hours, the costs are borne by the injured. Finally, skiers take their precaution to avoid an injury that would make them unfit for work which would affect their remuneration.

In another register, fear of injury is a fear of the other. The presence of a large number of beginners on the slopes leads to many collisions. It is indeed difficult to impose on Chinese novices who wish to try skiing to take classes. Some beginners even admit they do not need lessons because they learned by watching videos on the internet!

Finally, the fear of injury is great because these Chinese beginners learn to ski on a very hard artificial snow (especially for the slopes of outdoor stations) and therefore very traumatic.

In order to allow the safety of their body, the Chinese multiply the protections of the head to the knees! In China, the helmet is mandatory. Even when you're an expert, and you have to take the chairlift. The helmet is an accessory to prevent injury that the skier can do but also, he can be a victim because of a beginner. Imagine on the track being mowed down by a skier who does not know how to stop. In order to avoid the shock of the falls but also to cushion the collisions with another skier, a majority of the practitioners put on armor, both for the buttocks and the legs as for the back and the ribs (see picture n°13). Security products are the most visible and best-selling products in China. Moreover, the turtle is the most used protection on the tracks. It is very fashion to have a turtle cushion positioned at the buttocks but also knees if you practice snowboard (see pictures n°14). The sporting good companies, such as Decathlon, compete with creativity to meet the need for protection but also to satisfy the taste of the Chinese: pink turtle, ladybirds and even the Panda by Decathlon! (see pictures n°15).

## **CONCLUSION**

First of all, according to our results, we have shown the existence of a glocalization of ski in China. Even if we observe a growth of destination ski resorts with a package of tourism services and ski equipment equivalent to the model of western ski resorts, now a day in China, the management strategy of international ski and mountain sport specialists could not base their offer on the western model but on hybrid and transformation model of glocalization.

The glocalization of ski in China has taken into consideration 6 local priorities of the Chinese ski market; that is 1. (almost) All are beginners; 2. Reduced practice time; 3. Time and transportation constraints; 4. Skiing is not the first motivation; 5. The coldness of the climate, 6. The fear of injuries.

Second of all, the results of our observations and interviews allow us to certify that the power of the ski development in China is now strong enough to legitimize the hybrid model of glocalization as a minimum standard in the globalization strategy of international companies. To balance the globalization of ski in China, it is thus necessary/compulsory to understand local priorities of the biggest beginners' ski market; that is to say of nearly 20 million on a total of 130 million of skiers in the world (Vanat, 2018). We can also insist on the fact that the number of Chinese skiers is now big enough to allow Chinese companies to go further on the customization of their offer without any industrial and/or commercial risk; especially with an intern ski market goal of 120 million (Vanat, 2018).

Thirdly, in China, the ski market must be understood and analyzed as a leisure market. In a close future, the ski market could be also analyze as a Tourism market. But now a day, the Chinese habits of ski practice on natural and artificial snow, on dry and virtual slopes, and indoor or outdoor offer a variety of leisure possibilities. Based on our typology of glocalization of ski in china, we can understand better the indoor but also the dry ski involvement and its perspectives of development in China. Dozens of project of outdoor dry ski resorts and indoor artificial ski resorts are coming (see pictures n°8 & n°9). It is a symbol of the booming of a leisure generation in China.

To sum up, if we add up all the local priorities of Chinese consumers of leisure skiing, we can clearly identify, according to Robertson's classification, aybridization and a transformation of the global model in China. Indeed, the artificialization of the ski, either in an indoor version, or in a 'dry ski' version or 'virtual reality' version, makes it possible to meet the mass leisure demand of the population while limiting the constraints. The Wanda indoor ski dome in Harbin can be seen as an ideal-type (Weber) ski area; indeed: It is possible to come without any ski equipment because everything can be rent; it is possible to practice for only 2 or 3 hours and then to have other leisure nearby (shopping, cinema, park attractions, karaoke, restaurant, ...). Its downtown location facilitates the access by public transport and does not require long hours of cars, aircraft or trains. It is possible to practice after work, or late on weekends, with family or friends. The conditions of practice are ideal for beginners and advanced. You can practice skiing on soft artificial snow, without being exposed to extreme temperatures and wind. You can practice day or night, in winter or summer, to learn or to improve your ski level, with or without music or light animations. These new urban indoor ski areas represent a concentrate of the new development processes of sporting recreation on a global scale. Artificialization, indoorization, digitization, gamification are all processes that will know development in order to satisfy the Z generation; these ultra-connected young urban consumers that all international companies' study to better seduce them.

Finally, thanks to the development of indoor and dry ski resort, we can confirm that the Chinese population develops a transformation model of glocalization. The involvement for this artificial indoor and dry outdoor practice of ski transform the western model of the ski (natural & outdoor). In the future, we bet the globalization of ski will take advantages to this "neoglobalization" and the western countries with mature ski market could probably know an Asianization (Horton, 2011) of their culture and practice of ski.

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## FIGURES

Figure 1 : China Ski Resorts Map – 2017

Figure 2 - China, evolution of skier visits (Vanat, 2018, p.164)

## TABLES

Table 1. Ski resorts visited for the study of glocalization of ski in China

Typology of ski resort	Location of the ski resort	Methodology
Suburban ski resorts	Nanshan (Beijing)	Observation and interview
	Guaipo (Shenyang, Liaoning)	Observation and interview
	Qipanshan (Shenyang, Liaoning)	Observation and interview
Destination ski resorts	Wanlong (Chongli, Hebei)	Observation, participant observation and interview
	Secret Garden (Chongli, Hebei)	Observation, participant observation and interview
	Fulong (Chongli, Hebei)	Observation
	Cuyanshan ??? (Chongli, Hebei)	Observation
	Thaiwoo (Chongli, Hebei)	Observation, participant observation and interview
	Beidahu (Jilin)	Observation, participant observation and interview
Indoor Ski resorts	Qiabo ski dome (Beijing)	Observation and interview
	Harbin Wanda Mall indoor ski resort (Harbin, Heilongjiang)	Observation and interview
Total = 11 ski resorts visited, 9 semi-structured interviews, 7 open interviews, hundreds of pictures and nearly 20000 kilometers in 14 days (16500 kms France – China and 3500 kms between Beijing, Nanshan, Chongli, Shenyang, Beidahu and Harbin)		

**Table 2. Table of informants (from open, semi-structured and structured interviews)**

Pseudonym	Age	Sex	Site	Occupation in the ski resort	Working Status
Nathalie	38	F	Qiaobo indoor ski dome, Beijing city	Professional	Marketing director
Melody	47	F	Nanshan ski village, Beijing district	Professional	Marketing director
Mike	34	M	Wanlong ski resort, Chongli, Hebei	Tourist	Experience Designer
Bruce	13	M	Thaiwoo ski resort, Chongli, Hebei	Student	Member of national ski school
Bertrand	40	M	Wanlong ski resort, Chongli, Hebei	Tourist	Company owner
Anthony	35	M	Wanda Harbin indoor ski resort	Professional	General Manager
Nathanael	37	M	Beidahu Ski resort, Jilin	Professional	Vice-General Manager
Ignace	30	M	Beijing	Visitor	Sports Agent
Philippe	34	M	Changchun	Professional	Sporting goods retailer
Alain	44	M	Shenyang	Visitor	Teacher
Belle	37	F	Beidahu Ski resort, Jilin	Professional	Hotel Vice-manager
John	55	M	Shenyang	Visitor	Senior official
Tchang	38	M	Guaipo ski resort, Liaoning	Professional	Vice-Manager
Zéli	48	F	Qipanshan ski resort, Liaoning	Professional	Marketing Director
Henri	45	M	Shenyang	Expert	Ski Faculty Director
Alex	40	M	Beidahu Ski resort, Jilin	Professional	Ski instructor

## PICTURES

Picture n°1: Long and wide traditional wooden skis - Altay Mountains

Picture 2. Dry ski slop in Chengdu

Picture n°3: Nanshan Ski Village

Typical example of suburban ski resort built in 2001 to answer to the needs of leisure of the middle upper class from Beijing

Picture n°4 - One day ski camp for adult and child in Nanshan

Pictures n°5 - The Wanda Harbin Indoor Ski Resort

Pictures n°6 - Songhua Lake Ski Resort (Vanke ski resort, Jilin Province) – LED Snowboard during night ski session

Pictures n°7 – Different ways to slide on snow in Nanshan

Picture n°8 - Wintastar Shanghai will be built in the Pudong New Area of the Chinese city

Picture n°9 - The Yunmen mountain resort, a dry ski resort both for professional and amateur built near the city of Qingzhou (Shandong) and open since august 2018

Picture n°10 - Thaiwoo ski resort (Chongli, Hebei) – air quality indicator =  $0\mu\text{g}$  of PM2.5

Picture n°11 - Chinese skiers add plasters to the nose and cheeks to prevent frostbite (Wanlong ski resort,  $-15^{\circ}\text{c}$ )

Picture n°12 – Decathlon – Wedze develop sporting goods for the chinese icy temperature

Picture n°13 - A practitioner put on armor to protect himself of the fall but also of a collision with a beginner

Picture n°14 – the turtle cushion is fashion for snowboarder beginner

Picture n°15 – the panda cushion – a glocal product with a link to a Chinese totem

*Track 05 Culture and Consumption*

**ID #701**

**What wardrobe is that? Identity and clothing consumption in the capsule-wardrobe adoption process**

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**Abstract**

*The purpose of this study is to analyze the identity and clothing consumption of capsule-wardrobe adepts. To do so, we propose a diagram of the adopting process of the concept based on the emerging categories of results. In an exploratory and qualitative approach, semi-structured interviews were conducted with 13 female adepts of the concept. The data were analyzed according to the content analysis and categorical analysis technique. The results suggested that the process of adopting the capsule-wardrobe concept is intrinsically related to changes in the identity and clothing consumption of its adepts. These adepts have acquired self-knowledge, sense of tranquility, and gain of time, reinforcing the notion of personal identity, which surpassed the social identity that prevailed before the adoption of the concept. The sense of freedom in relation to social pressures was observed. In addition, the process of reducing clothing consumption did not impede the development of identity. On the contrary, the adepts began to use and enjoy their pieces, feeling satisfied and represented by them. A critical look at purchasing decisions, a greater consumer awareness, its reduction, and new disposal practices were incorporated with the adoption of the concept. In addition, the capsule-wardrobe was an opening for new concepts and areas of life, functioning as a paradigm rupture for its adepts. The main contribution of this research is the construction of a diagram of the adoption process of a minimalist wardrobe concept that has been popularized and diffused in Brazil: the capsule-wardrobe. It also contributes to the literature of studies on consumer identity projects in CCT from the association of identity with clothing consumption.*

**Keywords:** Identity; Clothing Consumption; Adoption Process; Capsule-Wardrobe.

**Acknowledgments**

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## **INTRODUCTION**

The last decades have marked the growing interest of researchers in the study of consumption in the socio-cultural scope (Askegaard & Linnet, 2011). In this logic, the Consumer Society starts to be seen as a symbolic society, in which consumption relates, for individuals and social groups, to a mechanism capable of producing meaning, constructing, defining and influencing notions of identity, situations, and styles of life from the acquisition or non-acquisition of goods (Barbosa, 2006; Douglas & Isherwood, 2004).

Consumption is embedded in postmodern consumer culture so that people use it to situate themselves in society through products with symbolic properties that function as an "outer skin" of the individual in the sense of expressing their "interior self", in addition, is a way of differentiating people and groups (Dittmar, 2008; Hokkanen, 2014; Wattanasuwan, 2005).

These properties act on the construction of the identity of individuals and their social relations (Belk, 1988). In this logic, clothes form identity due to their symbolic nature (Mcneill, 2018; Van der Laan & Velthuis, 2016). This is because they are able to create, maintain or modify the image of an individual for themselves and others through consumption (Solomon & Schopler, 1982; Roach-Higgins & Eicher, 1992).

Several studies have examined the formation of individuals' identity from the consumption of a particular good or service (Bonsu & Belk 2003; Curasi, Price, & Arnould 2004; Escalas, 2013; Ferreira & Scaraboto, 2016; Price, Arnould, & Curasi 2000; Townsend & Sood, 2012; White, Argo, & Sengupta, 2012).

In this context, there is a search for the expansion and greater recognition of studies developed in light of the Theory of Consumer Culture (CCT) in Brazil (Casotti & Suarez, 2016). This field of research, which emerged in the 1980s, incorporates sociocultural perspectives into consumption studies, as well as being considered an autonomous school of thought (Gaião, Souza & Leão, 2012). Therefore, this research is linked to the area of consumer identity projects of studies in CCT (e.g., studies on personal identity, social identity, extended self), which proposes to explain how the consumer constructs his notion of identity by means of consumption practices (Arnould & Thompson, 2015).

It is also focused on clothing consumption, whose number of researches developed in the Brazilian academic field is significant in terms of fashion and consumption (Rainho & Volpi, 2018). Within the perspective, the adoption of a concept of minimalist wardrobe that has been diffused and gained force in North American blogs: The Capsule-Wardrobe (CW) (Heger, 2016). The capsule-wardrobe is a small collection of clothes grouped to make a capsule - a compact wardrobe - with high-quality pieces of clothing, with long durability and in limited quantity (Dougher, 2015).

The concept, based on the idea of limiting the number of items in the wardrobe, has been well received by more conscious consumers, something that has also happened in Brazil (Kumar & Vaccaro, 2017; Rees, 2017), making this study relevant in this context.

From the above, the objective of this research is outlined: analyze the identity and clothing consumption of the capsule-wardrobe adepts. For this, we propose a diagram of the adoption process of the concept based on the emergent categories of the results, which will support the confrontation with the established literature review.

## **LITERATURE REVIEW**

In this section, the theoretical bases on identity and its relationship with consumption are presented. In addition, the object of study of this research: the capsule-wardrobe concept.

### ***Identity and Consumption***

In postmodernity, the identity sought by individuals is in a constant process of formation through purchase decisions and acts of consumption (Campbell, 2006; Castells, 1997; Hall, 2005). For Jyrinki (2012, p. 114) "consumers use symbolic meanings of possessions to construct and communicate their identities," though not only possessions but consumption reveals characteristics of individuals and influences their social relations (Richins & Dawson, 1994), since consumers can also define themselves in relation to other people (Ahuvia, 2005).

According to Schultz Kleine, Kleine III, and Allen (1995), consumers seek to maintain personal identity, separating themselves from others, and at the same time want affiliation through interpersonal connections. Therefore, the difficulty lies in reconciling the sense of personal and social identity, as well as the feeling of belonging (Jyrinki, 2012).

In this perspective, the consumer can have multiple identities, including individual identity and various social identities, and consumption can create both harmony and conflict between them (Reed et al., 2012; Tajfel & Turner 1986). Thus, the notion of identity comprises two approaches: personal identity and social identity. While personal identity comes from the individual's sense of self, social is related to his involvement with groups to which he belongs or is associated (White & Dahl, 2007). Social identity may become more relevant than personal identity when consumer socialization agents (parents, family, friends, partners, and media) influence them through consumption, making them learn to shape themselves to certain behaviors considered appropriate in society (Hokkanen, 2014).

When consumption begins to determine identity, the possessor of good comes to be possessed by the good, and thus identity ceases to be an authentic expression of being to become a merely attractive material representation of ourselves for others (Elgin, 2012). In this sense, consumerism can promote pressures that may hinder the construction of identity, making it confusing for the individual, so that, it does not represent the individual's true "self" (Cherrier, 2009).

Some people, however, seem more attracted to forms of representation of their authentic and more satisfactory "self" anchored in new consumption alternatives, from the moment they realize that material possessions do not compensate for a life of unhappiness and stress (Zavestoski, 2002). Thus, the perspective of well-being associated with consumption will produce positive effects on identity construction (Ahuvia, 2005).

Identity is expressed through a strong connection with the symbolism of the good possessed or its consumption, that is, if it is given through a feeling of connection or transmission of some emotion (Dittmar, 2008). In this logic, processes of detachment would function as a distancing of oneself, a ritual of disinvestment and emotional distancing in the case of changes in consumption practices (Albinsson & Perera, 2009; Cherrier, 2009).

Still, in this context, the development of individual's identity is intrinsically related to possessions and consumption, even when processes of sharing and detachment are considered (Albinsson & Pereira, 2009; Belk, 1988; Cherrier, 2009; Ballantine, Creery, 2010).

Phillips and Sego (2011) have highlighted the role of disposal as part of consumption and identity formation in analyzing the disposition of children's possessions by their mothers. Here

the authors found that the identity of an individual is not fixed because it can change due to more conscious reflections and choices, influencing behavior. In turn, the study of Trudel, Argo, and Meng (2016) found a greater tendency to recycle products when they are positively linked to identity because they have a strong connection with the consumer. This suggests that consumers avoid destroying or simply throwing away items that are tied to their identity in a positive way (i.e. items that represent them).

The clothing symbolism suggests that its consumption is part of a process of self-presentation of people, is configured as a vehicle of social signaling and a means of building identity (Guy & Banim, 2000; Hokkanen, 2014; Kumar & Vaccaro, 2017). What individual wear conveys a message, forming impressions that are subject to the judgments of others (Banister & Hogg, 2007; Kaiser, 1990).

In this sense, consumers use their clothes in an identity negotiation process: who they are, who they want to be, and who they are not (Guy & Banim, 2000). This includes their behavior of clothing consumption (Kaiser, 1997), how they feel about their clothes (Woodward 2005) and fashion, which at the same time satisfies social identification and distinction, namely: "It is a socially acceptable and safe way of distinguishing oneself of the others and, at the same time, satisfies the individual need for adaptation and social imitation" (Gronow, 1997, p. 84).

### ***Capsule-Wardrobe concept***

Although popularized in 2015 by Caroline Rector, author of the un-fancy blog, the capsule-wardrobe concept is a term that originated in the 1970s by a fashion boutique owner in London. Dougher (2015) states that the concept is based on a small collection of seasonal clothing, composing a capsule with high-quality pieces of clothing, with long durability and in limited quantity. The composition of the chosen pieces should value the versatility and reflect the personal style of each person (Karg, 2015), providing, besides the focus on pieces that evoke strong emotions, the opportunity to save and respond to the rampant consumerism stimulated by fast fashion (Kumar & Vaccaro, 2017).

Rees (2017) states that, in addition to highly questionable business techniques, she also had a distorted view of what it meant to dress well. For her, having style was synonymous with following the latest fashion trends. Besides, she thought there was only one version of the style, one way of dressing well, which she should follow and reproduce. This view resembles the typical view of concept followers, usually women, who begin to take into account the notion that less is more (Heger, 2016).

Rector (2014) outlines some guidelines for adopting the capsule-wardrobe: 1) separate your clothes into 37 pieces; 2) use these 37 pieces for three months; 3) do not buy anything new during these three months; 4) plan and shop for the next capsule in the last two weeks of the three months; 5) The amount of purchases depends on the individual. However, in the study developed by Sobreira, da Silva and Coelho (2018) it was observed that CW followers are not limited to quarterly capsules, but opt for annual, semiannual or quarterly versions with many pieces considered "sufficient" for them, and, therefore, reduced. The authors also observed that individuals residing in regions where the seasons are not well defined also adopted the capsule-wardrobe. In addition, the capsule is seen as a concept by its followers, as it can take the form of a suitcase, distinguishing itself from the notion of a conventional wardrobe.

Therefore, it is assumed for this study that the process of adopting the concept is intrinsically related to changes in the identity and clothing consumption of its adepts. The method outlined for this research will be presented next.

## **METHOD**

Qualitative research aims to study "the things in their natural environments, trying to understand or interpret the phenomena in terms of the meanings that people give them" (Denzin & Lincoln, 2006, p. 17). In this perspective, an exploratory qualitative study was carried out to reach the objective of this study (Merriam, 2009), since the capsule-wardrobe is a relatively new concept to be researched.

The study data were collected through thirteen semi-structured interviews with followers of the concept. We decided to interview women, since they are known, according to Heger (2016), as the main adepts of the CW. The interview script was divided into questions related to the capsule-wardrobe adoption process, based on the motivations for its adoption and the post-adoption period, as well as questions about the demographic profile of the interviewees.

The initial contact with the interviewees, as well as the invitation to participate in this research, occurred in three Facebook groups about the concept. Two participants spontaneously expressed an interest in participating in the study. The other participants were invited to participate through private messages. As for the profile, the respondents were named by pseudonyms linked to profile characteristics observed by the researchers or mentioned by them during the interview (see Table 1).

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

The interviewees were mostly single women, about 25 years old and living in different regions of Brazil. The interviews took place between May and June of 2017 via Skype or Facebook, being carried out until saturation was reached (Francis et al., 2010; Spiggle, 1994). They lasted twenty-one minutes on average, totaling four and a half hours of recording and eighty pages of testimonials. The statements were recorded and transcribed for later analysis of the data. Among the difficulties in collecting data, sometimes the dialogs were interrupted due to connection failures.

Data analysis occurred through the content analysis proposed by Bardin (2011). We opted for the categorial analysis technique, which works through the "division of text operations into units, into categories according to analog regroupings" (Bardin, 2011, p. 120). In this logic, interview transcripts were codified, grouped, categorized, and later associated with the literature.

Table 2 shows the categories previously defined: (i) Motivations for the capsule-wardrobe adoption and (ii) capsule-wardrobe post-adoption. In addition, subcategories have been created to compose the diagram, inserted within each category mentioned above.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

The categories derived from content analysis formed the proposed diagram for the concept adoption process, presented in the next section.

## **RESULTS AND DISCUSSION**

The results and their resulting categories allowed us to propose a diagram of the capsule-wardrobe adoption process. The proposed diagram (Figure 1) is therefore presented:

**\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

### ***Motivations for adopting the Capsule-Wardrobe***

Some reasons motivated the adoption of the concept. Present in the category "The look of the other", the interviewees' desire to be less pressured by colleagues and friends about their exposure for wearing clothes that have been used on other occasions. In the "The influence of fashion" category, the pressure from the fashion industry, when they stated that, before, they were buying and using fashionable pieces, but that, after a short time, they no longer served them. The following illustrative reports:

*[...] I was one of those people that say "oh, I'm not going to wear this outfit because they saw me wearing it last week". (Miss Self-reflective).*

*I was buying some fashionable clothes, and I would follow the fashion and I would buy a ripped jean. I do not even see myself in a ripped jean (Miss Spontaneous).*

The results indicate the social pressures suffered by the interviewees, reflected in the concern with people's judgment about their clothes (Banister & Hogg, 2007; Kaiser, 1990). Moreover, they felt pressured to follow fashion. The identity of the adepts ceased to be considered, in the first place, as an authentic expression of being to become an attractive material representation to people, capable of influencing their social relations and behaviors (Elgin, 2012; Richins & Dawson 1992).

It was observed that social identity overlapped with personal identity, since the interviewees oriented their consumption and, consequently, the formation of identity, especially in relation to other people, making it difficult to reconcile their multiple identities (Ahuvia, 2005; Jyrinki, 2012; Reed et al., 2012). This was due to the involvement or association with individuals or groups (White & Dahl, 2007) in the form of consumer socialization agents (Hokkanen, 2014), identified in the figure of "others".

The category "Identity" revealed that the interviewees did not feel represented by the clothes they were buying because they did not identify with their pieces. Here are some testimonials:

*I did not feel like my clothes represented me, so that was what caught my attention the most (Miss Mature).*

*[...] I started looking at things in my closet that did not mean anything to me, which I did not use, which I did not really like [...] (Miss Politicized).*

The fact that the items that were in the interviewees' wardrobe did not have a positive meaning evidenced problems associated with what Guy and Banim (2000) point out as an identity negotiation process. That is, there was a difference in the notion of "who I am, who I am not and who I want to be" of the interviewees in terms of the clothes they wore and how they felt about them (Woodward 2005). The non-incorporation of clothes as an expression of "self" made the definition of identity complicated, considering that they did not feel positively connected with their clothes (Dittmar, 2008).

The category "Rethinking consumption" evidenced the interviewees' dissatisfaction with items available in the wardrobe which were seen as fruits of consumerism.

*At first, I've rethought a little. That was what made me want to have the capsule-wardrobe, to have a minimalist life, it is this consumerism issue (Miss Traveler).*

*Lack of space. My wardrobe is small, it's two doors. And what happens: it's two doors for two people. So, it's hard, isn't it? (Miss Spontaneous).*

This finding is in line with the one suggested by Cherier (2009) about consumerism being able to promote pressures that would hinder the construction of identity, making it confusing for the individual, so that it does not represent the individual's true "self". In relation to the category "Space", a practical question was observed: the lack of space in the wardrobe.

### ***Capsule-Wardrobe Post-Adoption***

The concept post-adoption period brought significant changes for its adepts in terms of consumption and disposal, self-knowledge, feelings of well-being, and sense of tranquility. In this sense, the category "Freedom" showed that the interviewees related freedom: i) to social pressures since they no longer follow standards considered imposed or self-imposed; and ii) consumption, resulting in its reduction. Here are some of them:

*[...] you realize that you no longer have to follow a pattern: what everybody wears, what everybody has (Miss Decided).*

*With each piece I took from the wardrobe, I felt freer (Miss Mature).*

By revealing a greater sense of freedom, the adepts' identity approach began to emphasize personal rather than social identity, that is, distancing oneself from the pressures of others (Schultz Kleine et al., 1995). The pressures initially experienced have been overcome in the direction of achieving greater autonomy in relation to certain behaviors encouraged by others (i.e. socialization agents) regarding clothing (White; Dahl, 2007; Hokkanen, 2014). Still, this consumption reduction allowed the construction of the identity of the interviewees even in the face of reduction processes, according to the literature (Albinsson & Pereira, 2009; Belk, 1988; Cherier, 2009; Ballantine & Creery, 2010).

The category "Disposal Practices" presented the incorporation of new forms of disposal of pieces of clothing, such as reuse and customization, shopping in thrift stores and exchanges between friends:

*I always try to reuse. Like, when a pair of pants rip off, I make shorts or something like that (Miss Self-reflective).*

*[...] I think it's ecologically correct, even because I buy a lot of things at thrift shops nowadays (Miss Politicized).*

*Just making exchanges between friends already changes your whole wardrobe (Miss Spontaneous).*

In addition, a trend expressively mentioned was the preference to donate pieces, mainly for street dwellers or for institutions that are within reach of the interviewees, such as churches, namely:

*And I give a lot to homeless people, sometimes I carry a coat in my handbag and I give to them (Miss Traveler).*

*[...] I give to some entity or a clothing campaign, or I take to a church that there is here in the city center [...] (Miss Balanced).*

Within this perspective, the role of the disposal linked to the identity formation was identified. The reflections that motivated the interviewees to adopt the capsule-wardrobe led them to better choices regarding the disposal of pieces. This view resembles that of Phillips and Sego (2011) on changes in the identity of individuals according to more conscious choices that influence behavior. Discarding practices such as reuse and customization suggest that the interviewees

started to present a stronger connection with their clothes, positively linking to their identities because they seek to keep the pieces and avoid throwing them away (Trudel et al., 2016).

The "Time Gain" and "Tranquility" categories presented the feeling of tranquility and more time obtained by the interviewees when they decide to select what to wear, because fewer options offer more possibilities of choice and time. In addition, the category "Self-knowledge", of themselves and style:

*I have time, I have plenty of time. I do really have plenty of time (Miss Spontaneous).*

*I think after adoption [...] like, from the whole lifestyle it was tranquility, you know? (Miss Balanced).*

*[...] I feel more myself; I have learned to be who I am. And I found my style for sure (Miss Self-reflective).*

The acquired self-knowledge reinforced the notion of the interviewees' personal identity, which was given by means of a new way of consuming clothing according to what preaches the capsule-wardrobe (i.e. opt for a number of items considered sufficient, reduced, of better quality, longer durability and that reflect your style) (Karg, 2015; Sobreira et al., 2018). This allowed the adepts to express their identities through clothes that represented them in a more authentic and satisfactory way, and from that, they felt more themselves (Dittmar, 2008; Guy & Banim, 2000; Schultz Kleine et al., 1995; White & Dahl, 2007; Zavestoski, 2002).

The category "Usability and Well-being" revealed that the interviewees started to really use and enjoy their pieces. We noted that the welfare issue acquired after the adoption of the concept began to produce positive effects in the construction of the identity of the interviewees (Ahuvia, 2005). On the other hand, the "Critical Look" category showed the most discerning view gained on issues such as durability, price, and quality of pieces, mainly to make the investment worth.

*[...] really, well, I've worn all my clothes (Miss Traveler).*

*[...] If I have to invest much money in an outfit, I think it's worth you to pay dearly for one piece that you'll always have [...] (Miss Planner).*

Finally, the category "Paradigm rupture", representing a moment after adoption, in which the logic of the capsule-wardrobe would extrapolate its association with clothing consumption. The interviewees revealed that the concept worked as an opening for other areas of life and for other concepts:

*There are so many concepts interconnected in the capsule-wardrobe that I have to speak about conscious consumption, minimalism, ecology, simple life. Because, to me, everything is related, but the capsule-wardrobe does not preach any of the other concepts, it is an opening for them (Miss Spontaneous).*

Thus, in general, the results suggested that, in fact, the capsule-wardrobe concept adoption process is intrinsically related to changes in the identity and clothing consumption of its adepts.

## **CONCLUSION**

The aim of this research was to analyze the identity and clothing consumption of the capsule-wardrobe adepts. In order to do this, a diagram of the concept adoption process was constructed based on the analysis of the results. These, in turn, confirmed the assumption that the capsule-

wardrobe adoption process was intrinsically related to changes in the identity and clothing consumption of its adepts.

The adepts have acquired self-knowledge, sense of tranquility, and gain of time, reinforcing the notion of personal identity, which surpassed the social identity that prevailed before the adoption of the concept. In this sense, the sense of freedom in relation to social pressures was observed. In addition, the process of reducing clothing consumption did not prevent the development of identity. On the contrary, the adepts began to use and enjoy their pieces, feeling satisfied and represented by them.

A critical look at purchasing decisions, a greater consumer awareness, its reduction, and new disposal practices were incorporated with the adoption of the concept. In addition, the capsule-wardrobe was an opening for new concepts and areas of life, functioning as a paradigm rupture for its adepts.

Among the research limitations are the difficulties in collecting data due to connection failures that have sometimes interrupted the flow of the interview.

It is worth mentioning the main academic contribution of this research: the construction of a diagram of the adoption process of a minimalist wardrobe concept that, although it was created in the 1970s, has been popularized and diffused not only in North America, but also in Brazil: the capsule-wardrobe. It also contributes to the literature of studies on consumer identity projects in CCT from the association of identity with clothing consumption. Future research may develop a questionnaire and quantitatively verify the manifestation of the categories proposed by the diagram among other adepts of the concept. We also encourage researchers to study the male audience as a target or expand to the general public.

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## Table List

**Table 1.** Respondents profile.

Pseudonym	Age	Occupation	Marital status	City
Miss Spontaneous	27	Journalist	Married	Salvador (BA)
Miss Planner	27	Advertising	Single	São Paulo (SP)
Miss Traveler	32	English teacher	Single	Salvador (BA)
Miss Sel-reflective	18	Architecture student	Single	Presidente Prudente (SP)
Miss Pragmatic	30	Forestry engineer	Single	Rio de Janeiro (RJ)
Miss Politicized	21	Anthropology student	Single	Belo Horizonte (MG)
Miss Balanced	25	Art and Advertising Director	Married	Novo Hamburgo (RS)
Miss Mature	19	Psychology student	Single	Parnaíba (PI)
Miss Criterious	28	Social Midia	Single	São Paulo (SP)
Miss Decided	21	Production engineering student	Stable union	Salvador (BA)
Miss Detailing	25	Doctor	Single	São Paulo (SP)
Miss Excited	23	Cook and Makeup Artist	Single	São Paulo (SP)
Miss Messy	27	Psychology student	Single	Salvador (BA)

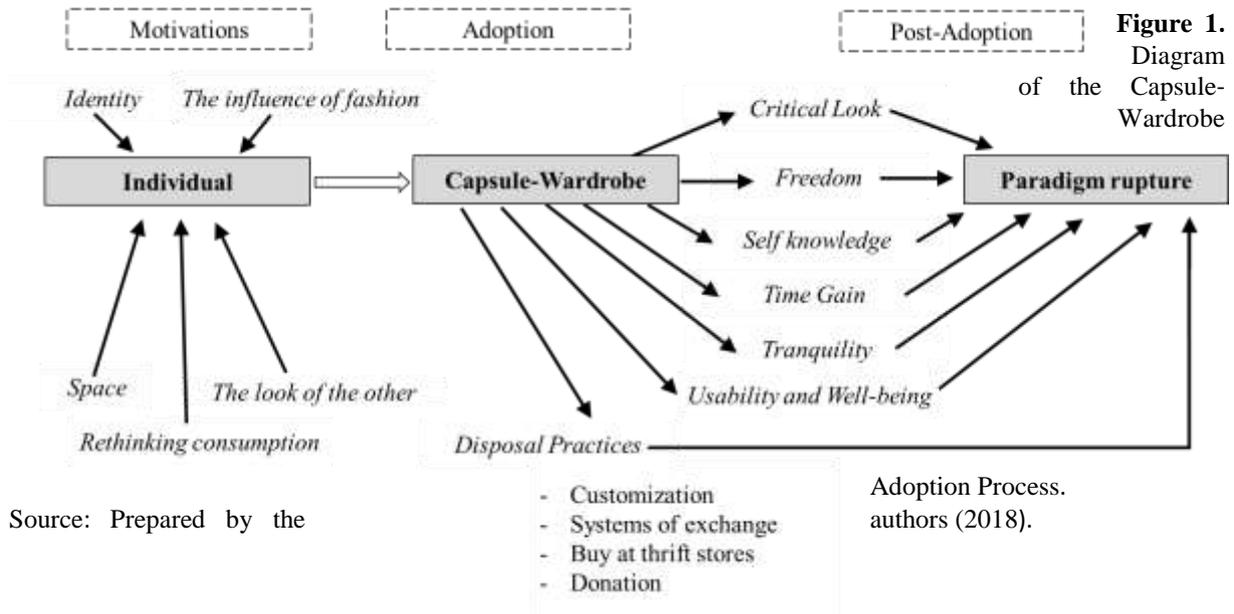
Source: Prepared by the authors (2018).

**Table 2.** Categories for content analysis.

Previous Categories	Later Categories (subcategories)
Motivations for the capsule-wardrobe adoption	<i>Identity; The influence of fashion; Space; The look of the other; Rethinking consumption.</i>
Capsule-wardrobe post-adoption	<i>Critical look; Freedom; Self-knowledge; Time gain; Tranquility; Usability and Well-being; Disposal Practices; Paradigm rupture.</i>

Source: Prepared by the authors (2018).

Figure List



Source: Prepared by the

*Track 05 Culture and Consumption*

**ID #742**

**I owe, not negotiate, but I have a saved money:  
Motivations for people to keep debts and invest money at  
the same time**

**Juliana Ranciaro de Melo** (ESPM, Brazil)

**Mateus Canniatti Ponchio** (ESPM, Brazil)

**Abstract**

*Around the world, people's financial vulnerability is a concern, and within this macro-theme, many scholars have already tried to understand the role of debt in the consumer society. But to date, most of these studies have focused on studying debt in conjunction with the use of credit card or loan. Thus, the purpose of this study was to identify the motivations that lead people to have debts and save money at the same time. The specific objectives of this project are: i) to identify if financial knowledge influences the way people deal with debts and investments; ii) identify if the behavior is different compared to the different types of expenses; iii) to see if individuals understand the expenses that generate debts as necessary or superfluous. It is intended to conduct qualitative exploratory research, of a constructivist nature, with in-depth interviews. It is estimated to perform between 9 and 12 interviews, in April, May and June 2019, which will be chosen in a non-probabilistic "snowball" sample. Finally, the content of these interviews should be examined in three phases: pre-analysis, material exploration and treatment of results.*

**Keywords:** savings; investments; debts; personal indebtedness, economic psychology; behavioral finance.

## **Track 06**

# ***Diversity, Inclusion and Causes in Consumption and Business***

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #574**

## **Certifications in consumer network: The salesman and the PROCEL certification in products**

Matheus Eurico Soares de Noronha (ESPM, Brazil)

Fábio Máriano Borges (ESPM, Brazil)

### **Abstract**

*In a scenario in which political and environmental issues permeate society, several mechanisms are created that contribute to more conscious and responsible consumption. The certifications appear as a response to the manifestation of the Market, Government, and Consumer. With the creation of these certifications to guide the production and consumption spheres, it is understood the need to transmit the information about the functionality of the certifications in a clear and transparent way. Among several certifications currently in the markets, there is the PROCEL-INMETRO certification. What is questioned is the actual knowledge about this certificate. Can the vectors of this information transparently convey to the public what the certificate really means? This dissertation has two main objectives: To identify how point-of-sale professionals are informed about the certificate; check how these professionals transmit information about the certificate at the time of sale. In order to meet the objectives of the study, qualitative research was carried out with 35 retail store sellers from the regions of Praia Grande, São Paulo, and Guarulhos. Sellers presented the different ways they learned about the certificate and relevance when transmitting the information they possessed from the certificate.*

**Keywords:** Certification; Sustainability; Consumerism; Consumer Behavior; Sustainable Consumption.

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #592**

## **Brazilian cultural aesthetics: An analysis of the hit "Pesadão"**

**Marcos Iazzetti** (ESPM, Brazil)

**Renata Soares Hilário** (ESPM, Brazil)

**Matheus Eurico Soares de Noronha** (ESPM, Brazil)

**Bruna Maniscalco** (Cáspes Líbero Univeristy, Brazil)

### **Abstract**

*Brazilian popular culture, rich in its symbols, tastes, voices, and tastes, houses a consumption that is expressed in its own rules, preferences, and figures that become icons of the yellow-green mass. To confront the stereotypes of Brazilian music consumption, the paper retakes Brazilian cultural density in its full plurality, rooted in its multifaceted history replete with regional microcultures in a distinct sense of values and beliefs. The Brazilian musical expression marked the old MPB, the timeless Bossa Nova and thus the national music industry moves R \$ 581.7 million containing rhythms like POP, which becomes the object of this work. But it is the bias of entertainment consumption that borders on the cultural essence of the mass. This is replete with regional symbols and aesthetic oppression of the lower classes that bring Bourdieu (1983), Baudrillard (1981), Buarque de Holanda (1995), and Freire 2003) as theoretical references that confront the content analysis of documentary approach made in the hit "Pesadão", song released in 2017 by one of the newest voices of the Brazilian people.*

**Keywords:** Consumer behavior; Entertainment; Marketing; Diversity; Representativeness.

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #615**

## **Conflicting representations: The image of the Chinese woman in the Cultural Revolution**

**Valná Souza Dantas** (Centro Universitário Tiradentes, Brazil)

**Walcler de Lima Mendes Junior** (Centro Universitário Tiradentes, Brazil)

### **Abstract**

*In this work, we can assume that the transformations of the representation of the Chinese woman contributed to the process of development and modernization of that country. For that, we have to consider the high concentration of women in that country, as well as the Maoist ideology of making Chinese women a revolutionary person on equal terms with men, whether as a soldier or as a worker. To understand the changes of the social image of the Chinese woman in the traditional representations of the pre-revolutionary period and, in the Cultural Revolution, contributes to a reflection and understanding about the place of the woman in today's Chinese society. Carrying the burden of millennial oppression, the Chinese woman found in the revolution a way of emancipation. Their participation in the revolutionary struggle responded to the precariousness of their condition of life under a traditional and conservative regime, sustained by Confucian ideology, with strong nuances of patriarchy. Through the analysis of the imaginary representation of the woman, we can think about their relevance to the construction of a new Chinese society.*

**Keywords:** Chinese Women; Cultural Revolution; Conflicting Representation; Communism; Feminism.

Track 06 Diversity, Inclusion and Causes in Consumption and Business

ID #633

## Compulsive buying behavior: Scale comparison analysis

Diego de Souza Guerra (Fundação Getúlio Vargas (FGV) / Federal University of Cariiri., Brazil)

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### Abstract

*Compulsive buying Behavior (CBB) is a "chronic, repetitive purchasing that becomes a primary response to negative events or feelings" (O'Guinn and Faber 1989, p. 155). Although the topic has been widely researched in marketing, there is no consensus on CBB classification. Recent studies suggest the phenomenon should be taken as an obsessive-compulsive disorder (OCD), which leads to impulsivity and obsessive-compulsiveness manifestations (Muller et al., 2004). On the other hand, previous research, such as Faber et al. (1987), approaches the phenomenon from the generic classification of "impulsive behavior disorder not otherwise specified," as provided by the diagnostic manual of the American Psychiatric Association. This taxonomic duality also reflects in efforts to measure CBB. For example, extant research dedicated to the construction of measurement instruments for CBB has mainly focused on the impulsive control dimension (D'Austous 1990; Faber & O'Guinn, 1992), while more recent studies consider the CBB as a two-dimensional phenomenon (Ridgway et al., 2009). There are also some psychometric issues regarding the scales. Cole and Sherrell (1995) suggest the Faber and O'Guinn (1992) and D'Astous (1990) scales presented low extracted variance and low reliability, respectively. On the other hand, Ridgway et al. (2009) used items of other published articles without qualitative study to support items generation. Considering the available instruments have been developed based on sick individuals, we hypothesize that current scales are efficient only at measuring high traits (levels) of compulsive buying. Thus, the scales available in the literature would be adequate to measure the CBB in research that addresses medical issues wherein the objective is to identify sick individuals, but not for marketing purposes. The objective of this paper is to test, using item response theory, the CBB scales the ability to measure low and medium traits in consumers, as well the level of information loaded in items.*

**Keywords:** Compulsive Buying Behavior; Scale Development; Item Response Theory.

## **PURPOSE, RELEVANCE, ORIGINALITY AND THEORETICAL BASIS**

Compulsive buying Behavior (CBB) is a "chronic, repetitive purchasing that becomes a primary response to negative events or feelings" (O'Guinn and Faber 1989, p. 155). Although the topic has been widely researched in the marketing literature, there is no consensus on CBB classification. Recent studies suggest the phenomenon should be taken as an obsessive-compulsive disorder (OCD), which leads to impulsivity and obsessive-compulsiveness manifestations (Muller et al., 2004).

On the other hand, previous research, such as Faber et al. (1987), approaches the phenomenon from the generic classification of "impulsive behavior disorder not otherwise specified," as provided by the diagnostic manual of the American Psychiatric Association - DSM-5 (APA, 2013).

This taxonomic duality also reflects in efforts to measure CBB. For example, extant research dedicated to the construction of measurement instruments for CBB has mainly focused on the impulsive control dimension (D'Austous 1990; Faber & O'Guinn, 1992), while more recent studies consider the CBB as a two-dimensional phenomenon (Ridgway et al., 2009).

There are also some psychometric issues regarding the scales. Cole and Sherrell (1995) suggest the Faber and O'Guinn (1992) and D'Astous (1990) scales presented low extracted variance and low reliability, respectively. On the other hand, Ridgway et al. (2009) used items of other published articles without qualitative study to support items generation.

In addition to the criticisms reported in the literature, the present study questions CBB scales effectiveness in measuring the construct among healthy consumers. Since the available instruments have been developed based on sick individuals, we hypothesize that current scales are efficient only at measuring high traits (levels) of compulsive buying.

Thus, the scales available in the literature would be adequate to measure the CBB in research that addresses medical issues wherein the objective is to identify sick individuals (high traits), but not for marketing purposes.

The objective of this paper is to test, using classical test theory (CTT) and item response theory (IRT), the CBB scales the ability to measure low and medium traits in consumers, as well the level of information loaded in items.

By suggesting the use of IRT to analyze measures, we will contribute methodologically to the establishment of the discriminating ability of the scales to measure high, medium, and low traits in compulsive buying behavior. Additionally, since our results may indicate that the scales analyzed have specific advantages, practitioners and researchers can use our findings to choose the scale that best matches their goals.

Although the CBB is a pathology, and its diagnosis and treatment are linked to clinical follow-up, the survey scales are an appropriate procedure for measuring the phenomenon in the consumer behavior context.

For example, more precise and premature identification of people with a tendency to buy compulsively can allow the development of more efficient public policies to combat this type of behavior, through the regulation of possible predatory practices applied by retailers.

By identifying people with compulsive buying tendencies (low and medium traits), researchers can develop studies that point out specific educational actions to improve consumer well-being.

## **METHOD**

Considering the existence of several instruments to measure compulsive buying behavior, we selected three scales for evaluation, the two most cited and the most recent published in qualified consumer behavior journals. Thus, it is possible to capture both more traditional views and the latest advances reported in the measurement literature. Therefore, we will test in this article the Faber and O'Guinn (1992), D'Astous (1990) and Ridgway et al. (2009) scales.

The three scales will be translated into Portuguese following a collaborative and interactive approach to instrument translation (Douglas and Craig, 2007). We will apply the same range, seven-point Likert scales anchored from 'strongly disagree' (1) to 'strongly agree' (7), for all instruments.

In a first qualitative approach study, we will conduct 20 in-depth interviews with patients undergoing treatment for compulsive buying behavior at the psychiatry institute of the University of São Paulo (USP). We will also conduct participant observation during group therapy sessions promoted by the multidisciplinary team responsible for the treatment.

In the second stage, a survey will be administered ( $n = 500$ ) to test the scales reliability, as well as their convergent and discriminant validity (Fornell and Larcker, 1981). A confirmatory factor analysis using covariance-based structural equation modeling will be performed to evaluate the scale fit. The results of this survey will be submitted to new confirmatory tests in another survey to avoid the sample bias influence.

In the third study, in addition to the tests already performed in the previous step, the scales will be submitted to an evaluation based on the IRT. The parameters of degrees of difficulty and degree of discrimination of the trait among the individuals (high, medium, and low) will be estimated.

The importance of this step is to perform complementary tests on the amount of information offered by the items, in addition to CTT, as well as to verify which of the scales is mostly adequate to measure individuals with the low, medium and high trait of compulsive buying. This distinction is crucial because it would be possible to identify which of the scales is most suitable for application in consumer behavior. Dittmar (2005) suggests that the marketing researchers' primary interest is associated with the relative strength of the compulsive buying tendency in individuals' behavior (low and medium traits) and not in the medical issues involved (high traits).

Moreover, the predictive power of the scales will be tested using as antecedent regressors commonly reported in the literature, such as attitude related to money (Yamauchi & Templer, 1982), credit card uses (Roberts & Jones, 2001) ability to fantasize (Jacobs, 1986) and self-esteem (Hanley & Wilhelm, 1992).

The parameter difficulty of the analysis performed by IRT is difficult to interpret since it is usually used to test questions in the education area where there are right and wrong answers. In this work, we will consider the difficulty parameter as the amount of information loaded by the item, representing thus a possible limitation to the present study.

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*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #646**

## **Resistance and interculturality through food: The case of an Arabian restaurant in Brazil**

**Anna Paula Fernandes** (Universidade Anhembi Morumbi (UAM), Brazil)

### **Abstract**

*The cosmopolitan scenario challenges the interpersonal relationships between people coming from different socio-political-cultural contexts. This paper approaches the cultural center, bar and restaurant Al Janiah, located in São Paulo - SP (Brazil) - an establishment where more than half of the employees are refugees or migrants, in which discussions about interculturality are promoted, and that assigns the capacity of engaging the community and establishing the exchange of cultures to food. The research is justified since it is undeniable that an in-depth study of this place contributes to the urgent debate about hospitality and interpersonal relationships, once they are confronting xenophobia, prejudice, and racism. This research aims to understand how hospitality and interpersonal relationships between costumers, collaborators, and idealizers of the Al Janiah are characterized, as well as to assess the relevance of food in intercultural dialogue and the integration of refugees and migrants into the host society. It is an ethnographic work, based on direct observation and semi-structured interviews with costumers, collaborators, and idealizers of the establishment. Therefore, this study has the potential to expand knowledge about hospitality and interculturality in the process of resistance and integration of refugees and migrants, allowing us to understand the paths to acceptance, conflict, and dialogue between different ways of living and thinking.*

**Keywords:** Hospitality; Interpersonal relationships; Interculturality; Refugee; Food.

### **Acknowledgments**

I would like to thank the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for the essential financial support.

Track 06 Diversity, Inclusion and Causes in Consumption and Business

ID #663

## Organizational change and gender inclusion: An analysis of FAPESP's maternity leave policy

Camila Infanger (ESPM, Brazil)

Manolita Correia Lima (ESPM, Brazil)

### Abstract

*The proportion of researchers by gender has proven virtually egalitarian in Brazil. Maternity life often appears concomitantly with researchers' career development; this raises the need for policies that could prevent these two spheres from clashing. Eight years ago, maternity leave benefit was first considered by research funding government agencies. In 2013, Sao Paulo State funding agency ('FAPESP') also joined efforts towards the gender inclusion agenda. Each organisation has its own changing' timing, and the commitment to a change is often associated with how the organisation is ready to change. Conversely, the organisational change does not only involve the challenge to define what is in need of change. It also involves the choice on how to generate change, once that people's development is required in order for the change's values to be effectively internalized and, as a result, translated into organizational practices. This article aims at understanding whether there are discrepancies between theory and practice in the application of the Ordinance PR n° 08/2015 which guarantees the maternity leave benefit by FAPESP. It also aims at identifying room for improvement in the application process and factors that could contribute to the full realisation of the benefit's objectives. Amongst findings, it was observed that, from an institutional perspective, the Ordinance in question is a benefit included by FAPESP aimed at placing the funding agency, in regards to gender inclusion agenda, alongside stakeholders from the federal sphere, namely Capes and CNPq. However, the study concludes that although relevant to the inclusion of researcher-mothers, the Ordinance in question has a rather supporting role, as it is subject to validations inherent to the academic ecosystem: postgraduate programs, research institutions and the academic community as a whole. Moreover, the study found a clear mismatch between the terms of the policy and its application, represented by the legal instruments and experiences reported by the interviewees.*

**Keywords:** Organizational Change; Gender Inclusion; Maternity Leave; Women's Academic Career; Academic Productivism.

### Acknowledgments

I would like to thank the funding agency that supports me in my Masters' studies, CAPES. I would like to thank my professors Manolita, Ilan and Mario for their kind attention in advising me throughout my academic production.

## INTRODUCTION

Throughout the last decade, the participation of Brazilian female academics in research activities has increased. Between 2011 and 2015, the proportion of researchers by gender was balanced, women corresponded to 49% and men represented 51%. Data indicated an increase of 11%, when compared to results of the previous survey (between 2006 and 2010) (Allagnat et al., 2017).

The growth of women's participation in research activities raises curiosity given that in addition to demands typical of academic activity that are common to both genders, female researchers are knowingly faced with supplementary challenges when they wish to factor in a professional project alongside a family project that would involve children.

Results of recent research by Ceribeli e Da Silva (2017) show that the struggle to juggle professional activities with maternity represents the determining factor of the women's decision to early withdrawals from the labor market. Would that be different in the academic universe?

In Brazil, the maternity leave benefit is established by the Article 6 of Constitution of the Federative Republic of Brazil (1988) ("Constituição da República Federativa do Brasil - Art. 6º," 2017). In regard to Fundamental Rights and Guarantees, the document includes "protection to maternity and infancy". Since 1943, the maternity leave benefit has been established in the Consolidation of Labor ("CLT - CONSOLIDAÇÃO DAS LEIS DO TRABALHO," 1943); throughout the years, the document has gone through changes that guarantee the expansion of this right. Since 2002, for instance, CLT grants the maternity leave to pregnant workers without any prejudice to neither position nor salary: Article 392 - The pregnant worker has the right of maternity leave for 120 days, without prejudice to employment or/and salary (Law nº 10.421, published in 4.15.2002).

In the Brazilian academic ecosystem, the majority of researchers are remunerated through research scholarships, resulting from the approval of projects by funding agencies of public nature. The granting of a research scholarship does not result in an employment relationship between grantees and granting institutions. According to the terms of Ordinance PR nº 05/2012, published by São Paulo State Research Funding Agency (FAPESP), the beneficiary is prevented from performing paid professional activity during the course of his/her scholarship and demands that the research is carried out on a full-time basis. ("Portaria PR nº 05/2012 - FAPESP," 2012).

In 2003, congressman Jorge Bittar (PT/RJ) proposed a bill that ensured maternity leave for research grantees:

*Article 5 – The maternity leave benefit shall guarantee the extension of deadlines for the period of, at most, 120 days, without interruption in the grant making process with equal extension in the duration of the grant. ("PL 2315/2003," 2003)*

However, until 2006, the Brazilian grantees of research scholarships did not have the right to take maternity leave. Therefore, it is equally valid to affirm that in case researchers get pregnant in the course of their scholarship, they would not have any guarantee of the continuation of their ongoing research projects with the support of the scholarship achieved by merit. (GARRIDO et. al, 2017)

According to the norm RN-017/2006, published by the Brazilian National Council for Scientific and Technological Development (CNPq), scholars that got pregnant during the course of their

research scholarships must inform the agency, even fully aware that it would result in the interruption of their benefit. (“RN-017/2006 - CNPq,” 2006)

Maternity leave benefit for researchers only became reality in 2010, when the Coordination for the Improvement of Higher Education Personnel (CAPES) alongside CNPq published the Ordinance n.220, establishing that beneficiary scholars with research scholarships granted by both agencies could have their benefits extended for four months, provided that the birth was confirmed during their participation in post-graduate programs (masters or Ph.D.). (“Capes - publicação no Diário Oficial da União em 16/11/2010.” 2010)

Along the same lines, in December 2013, the FAPESP’s Management Board approved the maternity leave benefit for its researchers. The decision was formalized in 2015, with the announcement of the Ordinance PR n° 08/2015 (“Portaria PR n° 08/2015 - FAPESP”, 2015). At last, in December 2017, the Law n. 13.536 was ratified, ensuring that grantees of research scholarships with a duration of at least a year, would have the right of leave due to birth or adoption of a child, making measures previously taken by the funding agencies official. (“LEI N° 13.536,” 2017)

Results of research based on the stakeholders’ theory (Freeman,1984) revealed that strategic changes taking place among stakeholders' part of a network of a specific organization may generate the need for changes in the level of the strategies (Frooman, 1999). The accession of CAPES and CNPq to the maternity leave benefit took place before the announcement of the ordinance by FAPESP, indicating the influence pressed by the environment in the process of changes taking place. The organizations need time to adapt to changes that occur in their environment (Eti-Tofinga, Singh, & Douglas, 2018) and the teams that are part of these organizations need time to adapt to the organizational changes that affect the institutionalized processes. (Jacobs, Van Witteloostuijn, & Christe-Zeyse, 2013). Certainly, the announcement of a new ordinance altered the scholarships grant-making processes previously established at FAPESP.

Therefore, the questions are: (i)how was the maternity leave benefit received and accommodated amongst Sao Paulo’s academic community representatives? (ii)Were the legal and administrative processes associated with the benefit’s inclusion effectively institutionalized by FAPESP?

This article takes on the role of collaborating with a comprehensive exercise on the application of the Ordinance PR n° 08/2015, which guarantees the concession of maternity leave benefit by FAPESP. (“Portaria PR n° 08/2015 - FAPESP”, 2015)

In order to reach this macro objective, the following specific three objectives were established. First, to consult in FAPESP’s official documents related to the ordinance and analyze the spectrum of the adjustments made and aimed in order to accommodate the ordinance terms. Second, to uncover the experiences of the scholarship holders through the maternity leave benefit. Lastly, understanding whether there are obstacles for the full application of the benefit, and in case of a positive answer, indicating them.

### ***Justification***

The objective of the investigation behind the results consolidated in this paper was to better understand how the maternity leave benefit was received and accommodated by the Sao Paulo State academic community. Yet, the authors sought to identify opportunities of improvement in the benefit’s full application, granting the complete pause of research activities during the

four-month leave without losses for neither the research results carried out by them, nor for the development and consolidation of the scholars' academic careers.

Amongst the premises is the belief that the results can influence the reduction of the number of female researchers that, in spite of having heavily invested in their academic formation, upon getting pregnant let go of their academic trajectory. Additionally, the article intends to sensitize relevant stakeholders, from the research funding agencies sphere, towards engaging in actions that promote gender inclusion in the Brazilian academic ecosystem.

The reduction of interruptions during scholarships granted by research funding government agencies was one of the motives that support the concession of the maternity leave benefit for research scholars. Observing the matter from an economic standpoint, the abandonment of ongoing projects, for whatever reason, represents a waste of government resources, time and energy invested by the researchers; these aspects were cited by senator Marta Suplicy at the time when Law 13.536/2017 was sanctioned:

The proposal is also a way to improve the efficiency of the scholarship system, avoiding eventual waste caused by the fact that scholars may be compelled to abandon their programs or research projects before their conclusion, after being grantees of significant investment of government resources and personal efforts. ("LEI N° 13.536," 2017)

In order to discuss this subject, the authors conducted semi-structured interviews field research, done with five Brazilian researchers, between May and August 2018. The results of this investigation are summarized in this article that evolves from the Introduction to the Theoretical Framework that helped in the elaboration of the instrument used for data collection and in the interpretation of the resulting material. Next, the material was transcribed and interpreted, and finally, the findings were gathered in the Final Considerations.

## **THEORETICAL FRAMEWORK**

### ***Organisational Change***

The organizational framework encompasses the nature of products and services, productive processes and managerial practices, attribution of responsibilities, external relations and the channels of relationship that organizations establish with stakeholders. Therefore, changes are perceived in a multidimensional perspective, "being conceived and managed as a process of continuous transformation "(FISCHER, 2002, p.151).

Lawler III (1991) argues that organizations are complex systems formed by interdependent parts and that inputs received from the surrounding environment are transformed by them and returned in the form of outputs. For each type of output, a specific structure is demanded, so even small changes can generate impacts on the set formed by the system. Organizational changes are viewed broadly, as they may violate established identity, affect the legitimacy and performance of a particular organization while affecting stakeholders and having the change process affected by them. (JACOBS et al., 2013)

The culture of an organization is defined by its vision and objectives. Bureaucratic cultures focus on the internal environment, being more suitable for rather stable environments. Adaptive cultures, on the other hand, generate competitive advantages in dynamic environments (KONTOGHORGHES, 2016). Given the complexity of the environment in which they are inserted, organizations need to exchange practices and knowledge with stakeholders to facilitate the process of adaptation to change (JACOBS et al., 2013).

Still, when implementing change processes, each organization requires a different time frame. It is observed that the commitment to change is associated with the extent to which it is ready to promote change (ETI-TOFINGA et al., 2018).

Organizational change involves not only the challenge of defining what to change, but also the choice of how it will generate change since personnel's development is required to internalize the values of change by transforming them into organizational practices (FISCHER, 2002). It takes time until the organization adopts new values, and integrates its processes, generating changes in attitude (ETI-TOFINGA et al., 2018).

The process adopted to introduce new practices into the organization will be mirrored by the users, who will follow the example of who first introduced the new practices. However, Lawler III (1991) states that this may or may not occur, and a more participative way of conducting change is important, giving the stakeholders an understanding of the process for effective implementation.

The changes take place rather smoothly when there is dissatisfaction with the current state of circumstances (LAWLER III, 1991), so they are viable when stakeholders are motivated to abandon the old and adopt new practices (ETI-TOFINGA et al., 2018). Finally, it should be raised that organizational changes are transformations that take time to occur, so it is important that they are planned, that critical success factors are defined and taken into account in monitoring the change process (AL-HADDAD & KOTNOUR, 2015)

### ***Academic Productivism***

In the mid-1990s, the post-graduation programs (PPG in Portuguese) offered by Brazilian universities were subject to changes in their management style, evaluation processes, and funding schemes (Bianchetti, Sguissardi, Kuenzer, Horta, & Moraes, 2009). These changes affected the academic production quality, beyond the institutional and personal lives of ongoing masters' and Ph.D. students and early career researchers (assistant professors). Amongst the transformations, two stand out: 1) the reduction in time for conclusion of both theses and dissertations (two and four-year-long for master's and Ph.D., respectively) and the streamlining of the quality of the research developed at this academic level (Kuenzer & Moraes, 2005) 2) the undergoing of funding schemes to assessment (triennial), with the forecast of compensations or charges in the form of scholarship numbers as well as in the aid rate figures (Bianchetti et al., 2009).

The changes have affected the academic institutions and have impacted the PPG coordinators, professors and students as everyone is pressured with rates, rankings, impact factors, and, more importantly, have to deal with situations that involve high competitiveness between PPGs. One of the questions that are becoming increasingly central in the reflections on the academia is the pressure for productivity.

Brazilian regulatory bodies do not regard universities as work-intensive organizations that demand labor force mobilization when compared to other production factors. Hence, through the lenses of current productivity criteria, universities' productivity may always remain inferior to capital-intensive organizations (SANTOS, 1989).

In the context of academic capitalism (Slaughter & Rhoades, 2009), it can be observed that the abovementioned situation is a global trend (Hess, 2005). Chaui (2003) alerts the fact that universities are increasingly losing the typical characteristics of institutions and taking up those of organizations', in which productivism primacy is cultivated. To what extent can this logic

threaten the academic career of researchers that have the ambition to balance both research and family projects?

### ***Maternity and Work***

An increasingly frequent challenge facing women resides in promoting some level of maternity and career balance. Maternity transforms the demands upon a woman insofar as it influences her identity, adding up extra responsibility, especially in the first two years of her children's lives (Alstveit, Severinsson, & Karlsen, 2011). Women who are part of organizations that provide guaranteed work after maternity make maternity plans tardily. In addition, they return to work sooner (Lyness, Thompson, Francesco, & Judiesch, 1999). This finding reassures the idea that the right to take maternity leave can be a positive factor for the permanence of women in the labor market, in their organizations of origin.

Millward (2006) investigated the re-adaptation process of young mothers to the organizations upon their return from maternity leave. The results unveiled that, when working mothers have their needs met, they begin to perceive themselves as mothers that work instead of workers with maternity-related responsibilities, internalizing the loss resulting from the involvement with work. On the other hand, mothers who work in organizations whose culture nurture some level of work-family balance turned out to be more committed to the work they perform (Lyness et al., 1999).

Upon returning to work, women feel divided between maternity demands and the maintenance of their value for the organization (Millward, 2006). When they attempt to manage this double identity, women experience a high level of tension and are challenged to factor in both their professional and family lives (HOUSTON; MARKS, 2003). Various participants in the research done by Houston and Marks (2003), on the return from maternity leave, had changed their workplaces. The reasons behind this decision oscillate from a distance between the workplace and the children's daycare to the need of fulfilling long work journeys combined with the absence of flextime policies. Some factors that reflect concern were keeping the balance of demands typical to both maternity and work spheres and preserving the children's welfare while being at work and the wish to take additional time to be close to their children.

In addition to the changes in the way women see themselves post-maternity, a contributing factor to their engagement at work is the way their relationships with peers is conducted. Halpert & Burg (1997) investigated the decisions that line managers took in relation to pregnant women and identified a number of mistakes, such as the decision to keep them away from positions that demanded constant travel, or to disregard them in the implementation process of strategic projects. It was believed the pregnant women would get easily tired, would be less dedicated and probably would not return to work after the birth of the child.

## **METHODOLOGY**

The investigation in progress involves the formation and the academic career of mothers. It deepens into typical aspects of the contemporary Brazilian academic environment. The consultation of academic literature allows for the statement that the interest for this topic has been proportional to the position that women have increasingly taking in academia, being it in the formation side as on the academic careers. Therefore, it is observed that the number of research projects, academic meetings and publications around this topic have gained space in developed countries, with solid academic tradition. However, amongst the developing countries, as Brazil for instance, the discussion remains timid. This justifies the classification

of this work as being exploratory, once it would extremely optimistic to envisage conclusive results on what has been investigated.

This work assembled a bibliographic review, documentary and field material, represented by semi-structured interviews, which when interpreted, allowed for the identification and association of influencing factors in the application of the Maternity benefit in the Brazilian academic environment. The interview script that was used in interviews (Magc Arnoldi, 2017) was developed based on a line of argumentation that included (i) the academic context in which the maternity leave was requested, (ii) the Brazilian academic environment, (iii) the family context during the period of maternity leave and (iv) the environment upon return.

The five interviewed women composed a comprehensive picture, given that their backgrounds include variations in academic levels, from undergraduate to the post-doctoral level; age groups and family structure, from single mother to married with children. The detailed profiles are provided in Table 1.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

The interviews' audio files were transcribed and related scripts were submitted to exploratory nature content analysis (Bardin, 2011). Therefore, the authors focused the work with convergences found in the narratives as well as carried out an interpretative exercise having as a basis a combination of the theoretical framework.

Finally, the interviews were transcribed and submitted to Exploratory Content Analysis (BARDIN, 2011), emphasizing on the converging and diverging points taking the narratives and the theoretical lenses into consideration.

## **RESULTS ANALYSIS**

### ***Documentary Analysis***

Provided the relevance of the legal material involved in the discussion of the research object, FAPESP's official documents, associated with the Ordinance PR n° 08/2015, were explored with the aim of verifying the existence of adjustments for the application of the benefit:

Ordinance PR n° 08/2015 (Annex 1)

- Official announcement signed by FAPESP, open online access, whose content displays the extension of scholarships due to maternity leave
- National Scholarships Grant Agreement (Annex 2)
- Legal Instrument produced by FAPESP, open online access, regulating the granting of the benefit scholarship. The analysis is focused on the clauses 6, 9 and 14, respectively.
- Amendment to the National Scholarships Grant Agreement (Annex 3 and 4)
- Legal additional instrument that contemplates the changes in the original document, provided by the scholars interviewed.
- Requests Results Announcements (Annex 5 and 6)
- Document that formalizes the process related changes in the concession of benefits through FAPESP's integrated communications system (SAGe), equally provided by the scholars interviewed.
- Amendment Request – Change in Scholarships duration (Annex 7)

- The Ordinance PR n° 08/2015 bestows the extension of the granted scholarships for up to 120 days whenever a child is born during the course of a scholarship period. (“Portaria PR n° 08/2015 - FAPESP”, 2015)

Consultation of the university documents revealed a lack of mentions about the procedural changes needed to make the maternity leave possible in order to be on par with the maternity leave established by the Ordinance. Furthermore, the 4th article of Ordinance PR n° 08/2015 establishes that information available on FAPESP’s website and Ordinance PR n° 08/2015 must be updated when the Ordinance announces changes. However, in the current version of Ordinance PR n° 08/2015, from 2018, references to the changes formalized by the Ordinance, nominal or not, have not yet been made, including the possible prorogations due to maternity leave. It is also notable that, under the item “punishments for not accomplishing deadlines previously established”, the exceptions that make it possible to exempt the grantees from maternity leave are not contemplated. (“Portaria PR n° 08/2015 - FAPESP”, 2015)

It should be noted that clauses n° 6 and 9 of Grant Agreement regulate, among the counterparts required from the grantees, the presentation of scientific reports within the deadlines established at the Ordinance PR n° 08/2015 and “the submission of the Scientific and Technical feedback on the subjects of their specialization when asked by the grantor (...), within the terms established by the grantors.” (“Portaria PR n° 08/2015 - FAPESP”, 2015)

When the beneficiary of the maternity leave, the grantee, extends the period of her grant, it is necessary to mention possible alterations of document delivery deadlines due to the new grant duration.

Among the sub-items of both clauses, punishments for not observing the counterparts of the established terms are described. Mainly, not mentioning the possibility of prorogation of item 9.1.1 leaves room for punishments to be applied in misalignment to the extension that changes the initial term.

### ***Analysis of the Formal Benefit Granting Process***

Once the pregnancy is confirmed, the Maternity Leave benefit request’s flow starts by informing the supervisor responsible for the research project.

In observing the abovementioned process closely, potential obstacles to the full application can be observed; for instance, the accountability for the submission of the Extension Request upon the supervisor. It is understood that the supervisor must agree with the extension period of the scholarship, as well as with the adjustments of the timeline and related deliverables. One notes that under the terms of the Ordinance the benefit’s governance in the hands of the supervisor isn’t included, as it happens in practice. Additionally, the instrument that formalizes the benefit, the Amendment to the National Scholarships Grant Agreement does not mention the extension neither the adjustments in timeline and deliverables, but only the overall extension of the scholarship period.

An example that illustrates a complication that occurred as a consequence of the lack of adjustments in the Grant Agreement in line with the Ordinance terms regarding the duration of the scholarship was reported by E3; whose pregnancy took place during the course of her doctorate scholarship, granted by FAPESP.

After the conclusion of her thesis, the interviewee affirmed that her maternity leave benefit for the period of 4 months, according to the terms of the Requests Results Announcements, issued in March/2014, when her child was born.

As she successfully passed her PhD viva in June of the same year, her connection with the research institution ended. The researcher was then informed that “(...) *the scholarship period would be extended for 4 months. However, due to PhD viva date (taking place in the 3<sup>rd</sup> month of her Maternity Leave), the extension could only be conceded for the period of 3 months instead.*” (Annex 2)

Yet, regarding the punishment, in the justification presented by FAPESP, there was a reference to the National Scholarships Grant Agreement – as opposed to its Amendment – specifically to the following clause:

“(...) the duration of the FAPESP scholarship may not surpass the Ph.D. viva date, and for that reason, FAPESP requests the reimbursement of the resources allocated after ending of the connection with a research institution. Therefore, her Maternity Leave period was reduced to 3 months and the amount respective of the 4<sup>th</sup> month reimbursed to FAPESP. Still, according to E3, concomitantly with the Results Announcement, the resources allocated to her supervisor and research group colleagues were frozen and only accessible again once her reimbursement was confirmed.

The bottleneck that prevented the complete flow of the benefit from happening for the full 4 months was the inconsistency between the Ph.D. viva date and the new ending date of the scholarship period, which were a month apart. According to E3, in spite of FAPESP’s approval of the 4 months, her research institution did not grant her the same extension, in misalignment with the Amendment to the National Scholarships Grant Agreement.

The question associated with the ending date of a given scholarship derives from the agreement the scholar has with her/his research institution, rather than the agreement the scholar has with the funding agency. Hence, there is a direct dependency between the benefit’s application and the approval of an extension in the scholarship period by the research institution, which poses a governance issue in the benefit’s flow. This relation is contemplated by clause 14 of the Grant Agreement, more specifically on the item 14.1.1, that establishes that “the scholarship shall end on the following month of the Ph.D. viva date”.

Therefore, this is the evidence that clauses 6 and 9 overpass the applicable exceptions for scholars on maternity leave and associated exemptions from punishments. Once the Maternity Leave benefit isn’t recognised by the research institution and the additional months perceived as general extension of the project duration and not an actual leave period. Moreover, the scholar’s involvement with her/his work isn’t halted during the leave period, according to E3. In practice, the benefit was granted in financial terms only, in circumstances which the scholar was prevented from exclusive dedication to the care of her newborn, in his first 4 months of life.

The experience of non-stoppable academic activities during the Maternity Leave period was transversal throughout the 5 interviews. For various reasons, all of them felt compelled to preserve, even at a minimal level, their participation in their respective projects and/or in correlated academic activities. An example is in E1’s narrative, whose daughter was born during the post-doctorate FAPESP scholarship period. She mentions facing demands for the production of an article on the second month of her leave period guaranteed by the maternity leave benefit. She justifies her decision to engage in the article production based on the belief that there is the need to keep academically active during her supposed leave period, should she wish to maintain her competitiveness, with no gaps in her academic career.

Similarly, E4, whose daughter was born during the doctorate FAPESP scholarship period, took up academic activities during the period intended for her maternity leave, as established by her Amendment to the National Scholarships Grant Agreement. The interviewee is a molecular biology researcher and due to the lack of health protocols for pregnant researchers, E4 left her lab activities during 2 months while pregnant and carried her activities remotely. Upon the start of her Maternity Leave, she was surprised by a request from her supervisor referring to a compensation for these 2 months absence from the lab during her maternity leave. This reduced her leave period by half, even though according to official documents the 4-month period was added to the duration of her scholarship.

E4's narrative highlights another issue on the concession of the maternity leave benefit: the supervisor's approval of the extension. According to the Grant Agreement, Amendment to the Grant Agreement and Official Announcements, the supervisor is responsible to adhere with FAPESP for the concession of the scholarship. Due to this, any changes in the Grant Agreement can only take place under his/her consent. In other words, there is no procedure in place that enables the request of the extension without the prior approval by the supervisor of changes in timeline and deliverables in the scholar-mother's project.

As aforementioned, the supervisor plays a major role in the benefit application flow. In respect to E4's narrative, her dedication to the project during 2 of the 4 months of the leave period, occurred due to a unilateral decision made by her supervisor. Similarly, in E3's scenario, in order to preserve the funding of the research group, she was requested by her supervisor to reimburse FAPESP for the last month's payment, even though it violated her rights as a scholar-mother. On the other hand, E1's supervisor made efforts to rearrange the entire team's work in order to support her during her leave period, creating favourable conditions for her to make the most of the Maternity Leave experience.

Before the exposed arguments and empirical examples, one can observe the prevalence of varied interpretations of official regulations, both from the university standpoint, post-graduation programme and more importantly the supervisor, given the decision to condone with the scholarship extension and following leave falls into his/her hands.

Furthermore, we observed the absence of a regulating authority over the relations between the scholar and the supervisor in the research institutions through the interviews. Which allows us to conclude that the benefit's concession by FAPESP is limited by the conduct of post-graduation programmes and the supervisor's consent.

Partially, this explains why women who return from maternity leave are overtaken by a stark feeling of failure. On one hand, they are under the belief they won't be able to look after their children properly; on the other, they feel insecure for having left behind their commitments and, upon returning to work, for fulfilling a satisfactory performance (MILLWARD, 2006). In this context, the support offered by colleagues and managers, upon the return of mothers, can contribute to their re-integration to the organization, also contributing to the reduction in tension resulting from the efforts to conciliate maternity and work (HOUSTON; MARKS, 2003).

In the account of interviewee E3, elements that corroborate with the importance of colleagues' support in the conciliation between maternity and work are identified: E3 affirms that, upon returning to her university, she would often hear insinuations that the grant allocated on her scholarship could have a better use if it had gone to a researcher able to dedicate him/herself fully to the research; someone who didn't have to often be absent due to the care of children. Moreover, she makes clear how the lack of support from her supervisor discouraged her to pursue her path in academia, turning her post-doctorate internship experience gradually

disheartening. Interviewee E5 reported a similar experience. In her doctorate thesis defense session, a member of the examining board included in his remarks the fact that "...her thesis worked out to be very good, despite the complications"; referring to the pregnancy period experienced by the scholar.

The articulation of the bibliographical, documental and field material (via semi-structured interviews) allows the identification and association of influencing factors in the application of Maternity Leave benefit in the academic environment. (FIGURE 1)

\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\*

## FINAL CONSIDERATIONS

The interpretation of the narratives produced by the interviews allows us to conclude that under an institutional perspective, the Maternity Leave Ordinance was a benefit adopted by FAPESP with the aim of positioning the funding agency alongside stakeholders from the federal sphere, namely CAPES and CNPq, in regards to gender inclusion policies. This confirms that changes generated by close stakeholders create the need for strategic changes (Jacobs et al., 2013).

No evidence was identified that supported the dialogue of gender issues with relevant groups or the academic community prior to the inclusion of the benefit. During the data collection process, the authors had access to emails exchanged a few months before the Ordinance's publication in which FAPESP's staff members informed that there was no such a thing as maternity leave benefit and suggested the interruption of the respective projects with no alternative that could properly accommodate the needs of a new mother and a newborn.

We conclude that the observed estrangement, the lack of participation of the academic community and institutions, particularly the post-graduation programmes, as the main reasons of the obstacles facing the Maternity Leave benefit's application. This argument reinforces the idea that all social actors involved must change and align in order for the proposed value to be incorporated and a new attitude adopted. (Eti-Tofinga et al., 2018)

The interpretation of the documents consulted and the narratives produced by the interviews carried out indicate that prior to the announcement of the Ordinance, FAPESP did not offer any support in line with what is currently perceived as a maternity leave benefit. The fact that the Ordinance is not mentioned on the Grant Agreement, neither was it communicated broadly amongst the academic community contribute to the winding road to the access to the benefits and the triggering of extreme situations. Results of the investigation developed by Halpert & Burg (1997) show an argument raised by this paper that the maternity leave concerns a break from research projects. Regardless of gender, often, peers and supervisors make decisions against the needs of mothers and pregnant women.

It was also observed that the relationship between FAPESP and the São Paulo state academic institutions is not ruled by regulation, in other words, FAPESP does not possess governance capable of influencing changes in the *modus operandi* of the institutions. As the São Paulo State research-funding agency, upon making the possibility of extending the scholarships grants period due to maternity leave official, FAPESP backs the request for extensions previously approved by supervisors and institutions. However, this does not mean that every single scholar whose child is born in the course of a scholarship is automatically granted the (up to) 4-month leave from academic activities and guaranteed grant payments. The supervisor plays a recognised prominence in the concession of the benefit, given his/her responsibility to submit the Amendment Request – Change in Scholarships duration. This fact strengthens the need to focus on a broader approach to change all potential involved actors for the practical realization

of the intended change. (FISCHER, 2002; LAWLER III, 1991), as well as the need of planning and definition of critical factors (Al-Haddad & Kotnour, 2015).

Given the fact that academic productivity of both students and supervisors resides strongly on the assessment of the programme and associated research scholarships provision, situations such as (1) the reimbursement of the funds of the last month of the Maternity Leave period due to a misalignment between funding and academic institutions, (2) the lack of support from the supervisor for the scholar to avoid potential contamination during pregnancy and subsequently pressure for the interruption of breastfeeding; (3) pressure on a researcher to keep up with productivity levels during the leave period resulting in remote work and (4) scholar in an undergraduate programme whose benefit start date wasn't allowed to take place before her child's birth; unveil that the struggle for the full application of the maternity leave benefit lies not only in the institutional sphere – metrics of academic production that the post-graduation programmes are subject to and put pressure on master and doctorate students in the 'publish or perish framework'. It also demands the development a more adaptive, less bureaucratic culture that follows the dynamic movements of the external environment integrating all actors involved in order to generate more effective changes. (KONTOGHIORGHES, 2016).

Therefore, the authors conclude that the factors required for the application of the benefit is not limited to FAPESP's governance, and that the matrix of the issue may be the imposition of academic productivism that weakens the ties of sympathy between peers and the academic community as a whole.

Although the most visible factors, and therefore the most frequent in the interviews' narratives, are outcomes of a productivism culture in the academic ecosystem: such as the calendar adjustments, being able to get a total break from academic activities and academic demands during leave period, the guarantee of stability upon return from maternity leave, measures that ensure the health of pregnant researchers at work, flexibility in the request period of the benefit; support to reduce the sense of guilt that is common at the return to work (MILLWARD, 2006) contribute to the permanence of scholars in their area of research after becoming mothers (Lyness et al., 1999).

The Ordinance plays a significative role while it supports researchers during pregnancy in requesting a leave period in order to dedicate themselves to the care of their newborns and physical recovery from labour and post-natal period. E3, who experienced two pregnancies, one before and one after the Ordinance announcement, expresses the positive side of the changes that occurred after the maternity leave benefit inclusion, endorsing the importance of organizational assistance for the work and life balance (Lyness et al., 1999). Although the Ordinance represents support to researcher-mothers, it does not guarantee the right.

Moreover, the pure existence of a benefit within FAPESP is the basis for the full spectrum required for an adequate provision of support to new mothers that rely on research funding as their main and sole source of income while stopping her research activities to care for their newborns.

Furthermore, the determining factor for the application of the benefit is its institutionalization within the regulating agency of the post-graduation programmes, CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Capes). Should such a change occur, the post-graduation programmes will have to respect the right of academic mothers, including timeline adjustments that could guarantee that scholars temporarily take a break from their activities exempt from any sort of punishment. In addition, a constructive discussion regarding the paid maternity leave culture between scholarship holders and senior researchers is encouraged.

A second determining factor is the adaptation of legal instruments that regulate the granting of the scholarship, namely the Grant Agreement and eventual Amendments, so that the maternity leave benefit is contemplated and the prolongation of the project extends to deliverable items and beneficiaries are exempted from punishment by failure to observe previous deadlines. Hence the related punishment would no longer be applied automatically even when the benefit is granted.

Finally, considering how recent the insertion of maternity leave in the Brazilian academia is, it is important to open room for initiatives that promote the positive connotation of a pregnancy in a researcher who has, for instance, a high potential of a successful academic career amongst the academic community. Pregnancy is commonly seen under a negative perspective, as reported by the interviewees, posing a barrier for the consolidation of an academic career. There is an opportunity for improvement in the overall support from academic colleagues, which contributes to the reduction of tensions experienced by women, and consequently contributes to a higher satisfaction with their activities. (HOUSTON, MARKS, 2003).

For the researcher of reproductive age, an offer of structured support is necessary in her professional environment, especially in her research institution, but also with the agency funding her scholarship and in the ecosystem of her academic colleagues - so not to be discouraged from pursuing her own family planning due to externalities not related to private matters, since the organisation offers practices that support maternity, the decision becomes more personal (LYNESS et al. 1999). This way, the country does not jeopardize public funds directed to academic formation of qualified personnel, for the development of relevant research projects, and for the strengthening of research groups in a certain field of knowledge.

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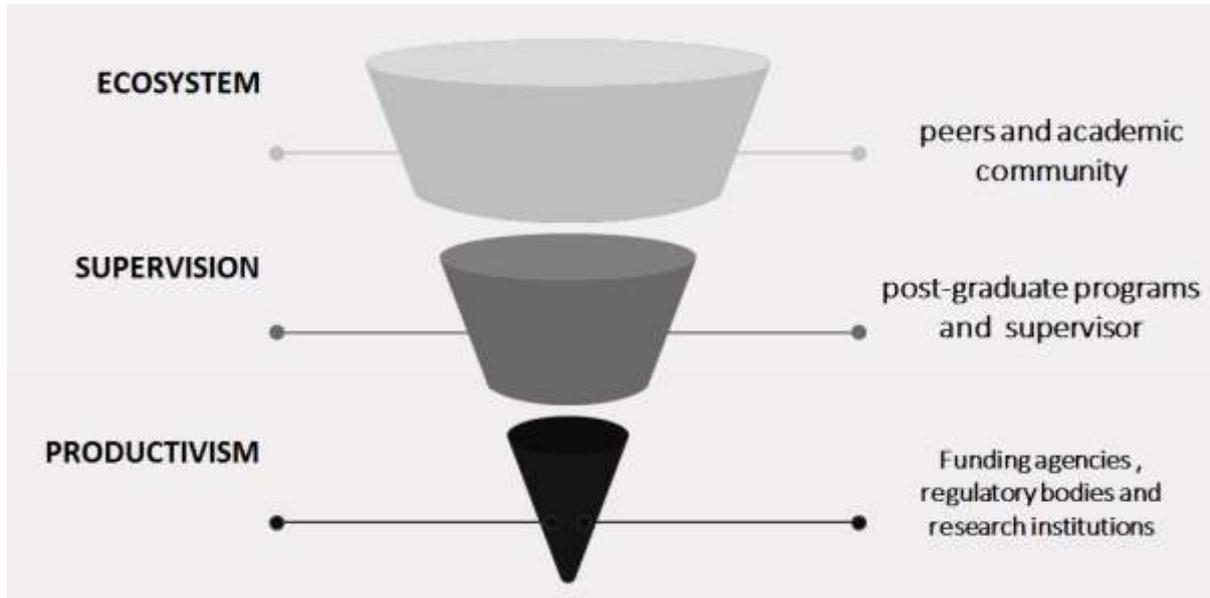
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TABLE 1: Interviewees Profiles

Interviewees	Age	Marital Status	Number of Children	Children's Age	University of Origin	Faculty	Programme during Maternity Leave	Interview duration (in minutes)
E1	37	married	1	4 years old	USP	Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto (FFCLRP)	Post-doctorate: Biological Sciences - Zoology, Taxonomy of Recent Groups	120 minutes
E2	30	single	1	3 years old	USP	Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto (FFCLRP)	Scientific Initiation (undergraduation): Biological Science - Zoology, Morphology of Recent Groups	30 minutes
E3	Not informed	married	2	7 and 4 years old	USP	Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto (FFCLRP)	Doctorate: Biological Science - Zoology, Taxonomy of Recent Groups	90 minutes
E4	38	married	2	6 and 4 years old	USP	Faculdade de Medicina de Ribeirão Preto (FMRP)	Doctorate: Biological Science - Genetics - Vegetal Genetics	120 minutes
E5	32	married	1	5 years old	USP	Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto (FFCLRP)	Doctorate: Biological Science - Botany - Vegetal Taxonomy	60 minutes

Source: the Authors, 2018.

Figure 1: Influencing Factors in the application of Maternity Leave benefit in the academic environment.



Source: the authors, 2018

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #671**

## **Challenges and limitations of women entrepreneurs in technology: A literature review**

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### **Abstract**

*This study aims to analyze the literature about women entrepreneurs in technology published in the last ten years (2008 to 2018), using Scopus, Web of Science and SciElo databases, in order to identify how the researches are being developed in this area. The results indicate that the studies published in this period seek to understand the challenges and limitations women face when undertaking in a still predominantly male area.*

**Keywords:** Women Entrepreneurs; Technology; Literature Review.

### **Acknowledgments**

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## **INTRODUCTION**

Entrepreneurship is still seen as a typically male activity, with only a few studies focusing on women entrepreneurs (Xie, Lv, 2016).

From the point of view of social inequality, women's participation in innovation and entrepreneurship has great economic implications (Chatterjee, Ramu, 2017). They constitute between 5% and 15% of technology entrepreneurs in Europe (Marlow, Mcadam, 2013).

In recent years, innovative entrepreneurship has been one of the most important drivers of economic growth and, unfortunately, women in this area are heavily underrepresented (Aleidi, Chandran, 2017).

Although this context does not seem very optimistic, women's participation has increased with the support of the knowledge economy (Cansiz, Tekneci, 2018).

This article is structured in 5 sections, considering this introduction. In section 2, there is the literature review on the themes of this study ("women entrepreneurs" and "technology"). Section 3 presents the methodology. Section 4 presents the results of this study and its discussion. Finally, section 5 presents the conclusions.

## **LITERATURE REVIEW**

### ***Women entrepreneurs***

Studies on women entrepreneurs have grown considerably over the past 30 years. This literature suggests that women can play a significant role in economic development, and it is necessary to expand research in this area in order to understand its different dimensions (Yadav, Unni, 2016).

Another reason for the study of this theme is the fact that it has been neglected for a long time in society at large. In addition to the fact that women have a significantly lower participation rate than men, they generally choose to undertake in different branches, which usually do not have the same recognition of development and economic growth (Silva, 2015).

This difference of genders is the object of study of many authors, who try to explain the reason why entrepreneurship has become a typically masculine phenomenon. The authors point out that entrepreneurial characteristics such as proactivity and pragmatism are seen as inherent to men, while women are associated with passivity and emotionality, characteristics not legitimized in the universe of entrepreneurship (Limas, 2017).

Because of these stereotypes, comparative research with entrepreneurs of both genders indicates that women tend to differ negatively in terms of financing, social capital and network, as well as other aspects related to the growth of companies (Limas, 2017).

### ***Technology area***

In the last three decades, the dynamics of the world economy have undergone profound transformations, being information and communication technologies the propellant element. This fact is corroborated by the fact that most companies born in the world are technology companies (Tanev, 2012). For this reason, the technology area is often the most attractive investment destination in any economy.

This area contains companies that revolve around electronics manufacturing, software design, computers, or information technology products and services, which are continually improved and sold to consumers with new features.

On the business landscape, companies depend on innovations in the technology industry to create their enterprise software, manage their logistics systems, protect their databases, and generally provide critical information and services that enable businesses to make strategic business decisions.

## **METHODOLOGY**

The methodology used in this research was an integrative review, since it allows: definition of theme; establishment of criteria for inclusion and exclusion of sampling; definition of information to be extracted; evaluation of included studies; interpretation and presentation of review (Ercole et al., 2014). It also includes the description of databases, keywords, software used and data analyzed (Torraco, 2005).

Thus, the following steps were followed:

- 1) Definition of theme: Literature about women entrepreneurs in technology.
- 2) Identification of database: Scopus and Web of Science databases (indexing SciELO), since it comprises the scientific journals with the greatest impact in the international context.
- 3) Definition of search strategy: Articles were selected using the terms "women entrepreneurs" or "woman entrepreneur" and "technology". At Scopus, the search was based on titles, abstracts, and keywords. In Web of Science, the search was based on topics. This research was limited to the period between 2008 and 2018, to cover only the most recent studies developed in the proposed themes. It was also limited to the following types of documents: article and conference paper at Scopus and article and meeting at Web of Science. Based on these parameters, 53 documents were found in Scopus and 51 documents in Web of Science, totaling 104 documents.
- 4) Duplicate verification: After using EndNote software it was possible to remove 11 duplicate documents, remaining 93 documents for analysis. During the analysis, it was noticed that there were another 12 duplicate documents, resulting in 81 documents.
- 5) Election criteria: It was verified if the object of study was actually women entrepreneurs in the technology area.
- 6) Selection of studies: The studies were selected using the eligibility criteria from reading titles, keywords and abstracts. Thus, it was verified that only 16 articles presented the necessary criteria. But it was still necessary to remove 2 articles, which were in languages not comprehensible to the author of this paper. Finally, 14 articles remained for full reading.
- 7) Data collection: Data were collected from the selected articles, in a spreadsheet, referring to its purpose, methodology and results. These data allowed to make the analysis presented in this paper.
- 8) Synthesis of results: **Table 1** shows the final portfolio, which allows to understand how the studies on the proposed theme are distributed over the years.

It should be noted that in an initial search, only the terms "women entrepreneurs" or "woman entrepreneur" were searched, resulting in 591 documents in Scopus and 518 documents in Web

of Science, totaling 1109 documents. It means that the sample defined for analysis in this article corresponds to 9.3% of all documents about women entrepreneurs.

## **RESULTS**

**Graphic 1** shows the publications distributed over the years selected in this study.

Based on the research carried out, it was not possible to find results in the years 2009, 2010 and 2014. It can be observed that the years 2012, 2015 and 2018 (up to August) are above the average of publications. The year of 2017 stands out for concentrating the largest number of publications within the period studied. There are authors from several countries: India, Canada, England, the United States, Australia, Turkey and China. US authors are responsible for the most recent publications.

The main topics, based on keywords, are presented in **Figure 1**.

Finally, it was possible to divide the articles into two categories: i) challenges, including cultural issues, such as the strong existence of male stereotypes (Mayer, 2008; Marlow, Mcadam, 2011; Ezzedeen, Zikic, 2012); and (ii) limitations, exploring the main institutional and restrictive characteristics of women entrepreneurs activity, such as the difficulty of access to capital (Chatterjee, Ramu, 2017; Cansiz, Tekneci, 2018).

**Table 2** shows the categories identified and their respective authors.

Finally, it can be seen that, in general, the first articles found in the systematic search are related to the challenges faced by women entrepreneurs in the technology area and the more recent studies describe the limitations for women entrepreneurs' activity in this area.

### ***Category 1: challenges***

The scope of women entrepreneurs' activity in the technology area is still quite challenging. For this reason, the studies analyzed in this category seek to understand these challenges and to verify possible strategies of how to overcome them.

The oldest article found in the systematic search (Mayer, 2008, p. 1357) aims to investigate the trends of high-tech women entrepreneurs of women in four US metropolitan regions (Silicon Valley, California, Boston, Massachusetts, Washington, DC, and Portland, Oregon), examining the sectoral and spatial segmentation patterns of women-owned hi-tech companies. The article concludes that "sectoral and spatial segmentation are powerful dynamics that shape business ownership of women in high technology".

These results corroborate previous studies in this area, demonstrating that male stereotypes can "prevent women from entering executive and management positions that could equip them with the skills and knowledge needed to start and run a business" (Mayer, 2008, p. 1375). In addition, barriers to access to capital also make it difficult for women to enter the technology area.

Finally, according to Mayer (2008), although there is a growth in the number of women entrepreneurs, it is still possible to observe patterns of gender segmentation, especially in non-traditional areas such as high technology.

Similarly, Marlow and McAdam (2011, p. 1) seek to explore the influence of gender assignments associated with the entrepreneurial experiences of a high-tech woman entrepreneur operating within the context of business incubation. According to the authors' analysis, based

on both literature and empirical evidence, the stereotyped expectations of gender around incubated high-tech businesses reproduce male norms of entrepreneurial behavior. For this reason, "the adoption of a gender perspective to explore the incubation experience of companies responds to contemporary appeals to incorporate feminist analyzes within the field of entrepreneurship research".

In order to investigate the reality of women entrepreneurs in the Canadian in technology, considering the male dominance in this area, Ezzedeen and Zikic (2012, p. 44) identified the following challenges: (i) persistent gender stereotypes; (ii) scarcity of female models; (iii) resistance of associates inside and outside their organizations; and (iv) social pressures to maintain adequate levels of work-family balance.

Orser et al. (2012) aim to go further and gain a better understanding not only of these perceived challenges, but also explore how women have been able to cope with these challenges and advance in the advanced technology area.

This is a crucial factor in helping industrial associations and governments "develop programs to attract, retain and promote women in entrepreneurship" (Orser et al., 2012, p.74). However, according to the author's findings, "resolution strategies are predominantly personal rather than organizational" (Orser et al., 2012, p.89).

According to these authors, especially in the Canadian context, there are still several barriers to the entrepreneurial growth of women entrepreneurs, such as: (i) lack of media coverage of women in technology; (ii) absence of female investors; (iii) sexist and outdated assumptions about women in technology; (iv) the reluctance of women to take on extended contracts (great customer and supplier opportunities); and, finally, (v) lack of confidence (Orser et al., 2012, p.76).

Shortly afterwards, Marlow and McAdam (2013) develop a new study in the area of entrepreneurship, adopting a feminist perspective to reveal the incubation of companies as a process of gender that shapes the work of identity carried out by women who seek legitimacy as entrepreneurs in the technology area.

To illustrate this argument, the authors have resorted to empirical evidence, which reveals innovative incubation as a process of legitimating induction, which "encourages women to reproduce masculinized representations of the normative technology entrepreneur" (Marlow, McAdam, 2013, p.1). That is, women are forced to undertake by reflectively creating their subject identities to "gain visibility and legitimacy within the masculinized environment of incubated high-tech entrepreneurship" (Marlow, McAdam, 2013, p. 6).

On the other hand, Martin et al. (2015, p. 539) seek to understand "the conditions that stimulate the resilience of certain women in innovative entrepreneurship". The study, which was developed in the UK, aimed to analyze the "unusual" experiences of the participants as entrepreneurs in technology. The results suggest that these women are in an ongoing process of adjustment to deal with perceptual trends of visibility, contrast, and assimilation, making frequent concessions because of their "unusual" status within the industry.

Diverging from other studies, the authors came to the conclusion that, "while participants were aware of their minority status, they tended to have a phlegmatic view suggesting that any problems encountered were temporary and solvable through demonstrations of specialization and good practices" (Martin et al., 2015, p. 546).

The study of Xie and Lv (2016) considers that social networks are an important factor in the entrepreneurial context. Therefore, based on survey data from 316 new businesses in China, the authors explore the relation between women entrepreneurs' networks in technology and new business performance, examining the moderating effects of entrepreneurship alertness and gender discrimination.

This study highlighted that: (i) the social networks of women entrepreneurs in technology have a positive effect on new businesses performance; (ii) the entrepreneurial awareness of women entrepreneurs in technology has a positive effect on new businesses performance; and (iii) gender discrimination against women has a negative effect on new business performance. The authors believe that these results could provide theoretical and practical implications for women entrepreneurs; and affirm that, due to the high degree of gender discrimination, the growth and development of new businesses ends up being harmed.

### ***Category 2: limitations***

The articles of this category aim to identify and analyze the limitations encountered by women entrepreneurs in the technology area.

The study by Tinkler et al. (2015, p. 1) reveals that women were responsible for founding only 3% of technology companies and 1% of high-tech companies between 2004 and 2007. They also point out the lower probability of women acquiring venture capital, considering that in 2001, "only 5% of venture capital investments went to women-owned hi-tech companies".

The authors suggest that "women, more than men, need certain indicators of potential - connections with key actors and also technical training - to gain legitimacy as entrepreneurial leaders" (Tinkler et al., 2015, p.22). According to this research, women with no technical background were rated as less competent and less able to lead, and received significantly less investment than men at the same level (without technical knowledge).

Chatterjee and Ramu (2017) consider that while innovation, entrepreneurship and science and technology activities are increasingly being dominated by women in India, there are still significant factors impeding gender equity in these areas, such as: (i) insufficient access to capital, including lack of knowledge about potential sources; (ii) issues related to cultural and gender constraints, of particular relevance in a country such as India; (iii) lack of basic education, especially in developing economies; (iv) limited access to new markets and lack of market knowledge; (v) lack of access to support and guidance networks; (vi) lack of technical and commercial knowledge; and (vii) lack of access to information and communication technologies, such as the Internet and social media.

The focus of these authors' research was patenting as a specific measure of women's engagement and productivity in the technology area. Considering the number of women holding patents between 1977 and 2000, the study showed that, although this indicator increased fivefold since 1977, only 18.8% of all patents in 2000 had a female inventor; and only 7.7% had a woman as the primary inventor.

This result interferes negatively in access to some benefits, such as: (i) better research opportunities; (ii) better financing; (iii) greater access to laboratory equipment and facilities; (iv) greater opportunities for knowledge exchange; (v) improved earnings; and (vi) greater visibility and professional reputation. That is, lack of access to such benefits can be seen as one of the difficulties in women's progress and contribution in the fields of science, technology, engineering and mathematics. The authors also argue that the lack of models and mentors may

be another impediment for women who wish to pursue careers in these areas (Chatterjee, Ramu, 2017, p. 5).

The study developed by Kuschel et al. (2017) analyzed the challenges that startup founders face in gaining access to capital in the Chilean technology area, based on interviews with 20 women participating in Start-Up Chile accelerating program.

There were three main factors influencing the success of women-initiated startups: (i) capital needs, (ii) networks and (iv) individual characteristics. The authors consider the results of this study to be essential in understanding the existing gap regarding female participation in the technology area, since it considers financing opportunities and business sustainability.

Similar reality can be observed in Saudi Arabia, where the disciplines related to the areas of information systems and entrepreneurship ignore the study of women entrepreneurs in technology (Aleidi, Chandran, 2017).

For that reason, Aleidi and Chandran (2017) consider it important to verify the institutional and technology factors that guide women in the decision-making process to become entrepreneurs in the technology area in Saudi Arabia.

This research reveals that understanding entrepreneurial intent is key to motivating a new generation of women entrepreneurs in the technology area. Its practical implications are to provide insight and means for policymakers to develop policies that promote entrepreneurship based on a female perspective, since much of the literature, mainly in the context of Saudi women, is concentrated in non-tech businesses.

Another study that highlights access to capital as a limiting factor for women entrepreneurs, especially in what concerns the technology area, was developed by Xie and Lv (2017). The authors state that enterprise resources play a significant role in the development and survival of new businesses, due to the "liability of newness".

Based on survey data from women-led startups in China, the study shows that (i) the scarcity of resources for women entrepreneurs in technology has a negative effect on new businesses performance; (ii) the lack of reputation as innovative entrepreneurs has a negative effect on new businesses performance, and (iii) institutional support plays a positive role in promoting new businesses performance.

Ozkazanc-Pan and Muntean (2018) investigated gender practices through which women entrepreneurs become disadvantaged in the technology area, also examining the role of technology incubators and accelerators in facilitating such access, since "such organizations have the potential to mitigate gender inequalities by adopting gender-based practices such as increasing access to networks and resources that would otherwise be inaccessible to women entrepreneurs in technology" (Ozkazanc-Pan, Muntean, 2018, p. 1). The authors also noted that these organizations engage in "gender neutral" recruitment practices and promote transactional networking, which results in replication rather than the eradication of gender inequality.

The most recent study, developed by Cansiz and Tekneci (2018), deals with the association of social, cultural and economic capital with the performance of women entrepreneurs established in the techno parks of Turkey. In order to contribute in a pragmatic way, this study aims to serve as a source of information for decision makers who provide business support. Data were collected through surveys conducted in 2015 on 196 women entrepreneurs operating in 24 techno parks in 13 provinces in Turkey.

Through this research, it was observed that "having previous work experience and having three or more partners are factors positively associated with success, while having a doctoral level is negatively related" (Cansiz, Tekneci, 2018, p. 151). The authors point out that having or not previous entrepreneurship experience has no statistically significant association with entrepreneurial success.

In addition, as reported in previous studies, "conflicts of roles between family and professional life, as well as gender-based discrimination emerge as significant barriers and it is necessary to promote more successful women entrepreneurs to reverse this perception" (Cansiz, Tekneci, 2018, p. 177).

## **CONCLUSIONS**

This study aimed to explore the literature on women entrepreneurs in the technology area in order to provide an overview of the research carried out in this area and contribute to a better understanding of the theme. It also allows to measure and analyze this area of knowledge, contributing to the socialization of results found by different authors.

It was possible to observe that the research published in the last decade seeks to understand the not only the challenges but also the limitations that women face when undertaking in a still predominantly male area.

During the selection of studies, it was noticed that there are a lot of publications about how technology can help women to boost their ventures. However, the number of studies on women acting as entrepreneurs in the technology area was summarized in this paper.

The articles selected for analysis were, for the most part, case studies. But while some had similar results, none of them dared to generalize.

The articles found were divide into two categories: i) challenges, including studies related to the need for cultural changes in what concerns women entrepreneur's activity in the technology area; and ii) limitations, integrating studies on the urgency of institutional changes, in order to allow equal access to women entrepreneurs in this area.

This review suggests that there are a limited number of studies that document the experiences and perceptions of women entrepreneurs in the technology area. It is observed that studies on entrepreneurship in this area do not usually delineate gender differences.

Regarding future research, it is necessary to analyze how the effects of gender can not only discourage entry, but also stimulate exit of women entrepreneurs in the technology area.

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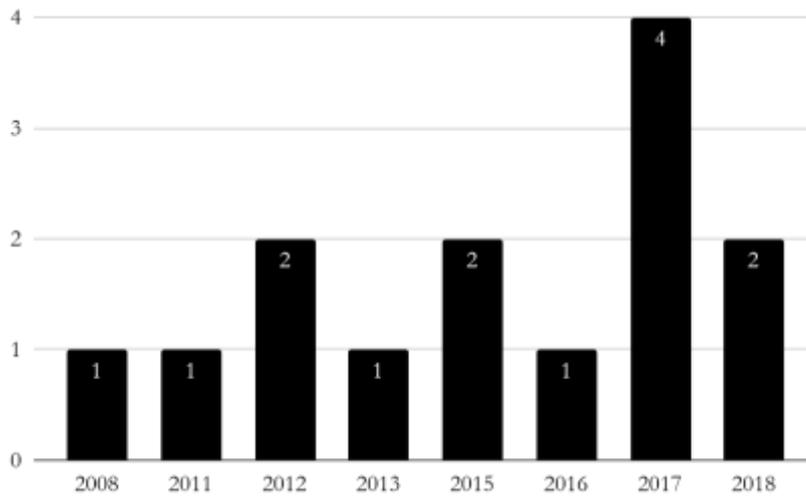
## APPENDIX

Table 1. Portfolio.

Title	Author (Year)
Segmentation and Segregation Patterns of Women-Owned High-Tech Firms in Four Metropolitan Regions in the United States	Mayer (2008)
Analyzing the Influence of Gender Upon High-Technology Venturing Within the Context of Business Incubation	Marlow and McAdam (2011)
Entrepreneurial Experiences of Women in Canadian High Technology	Ezzedeen and Zikic (2012)
Perceived Career Challenges and Response Strategies of Women in the Advanced Technology Sector	Orser, Riding and Stanley (2012)
Incubation or Induction? Gendered Identity Work in the Context of Technology Business Incubation	Marlow and McAdam (2013)
An Unusual Job For a Woman? Female Entrepreneurs in Scientific, Engineering and Technology Sectors	Martin, Wright, Beaven and Matlay (2015)
Gender and Venture Capital Decision-making: The Effects of Technical Background and Social Capital on Entrepreneurial Evaluations	Tinkler, Whittington, Ku and Davies (2015)
Social Networks of Female Tech-entrepreneurs and New Venture Performance: The Moderating Effects of Entrepreneurial Alertness and Gender Discrimination	Xie and Lv (2016)
Gender and Its Rising Role in Modern Indian Innovation and Entrepreneurship	Chatterjee and Ramu (2017)
Funding Challenges of Latin American Women Start-Up Founders in the Technology Industry	Kuschel, Lepeley, Espinosa and Gutiérrez (2017)
Technological and Institutional Perspectives of Women's It Entrepreneurial Intention in Saudi Arabia	Aleidi and Chandran (2017)
Female Technology Entrepreneurs: Resource Shortages and Reputation Challenges – A View of Institutional Support	Xie and Lv (2017)
Networking Towards (In)Equality: Women Entrepreneurs in Technology	Ozkazanc-Pan and Muntean (2018)
Innovative and Technology-Based Women Entrepreneurs in Turkey: Capital and Performance	Cansiz and Tekneci (2018)

Source: author.

Graphic 1. Publications per year.



Source: author.

Figure 1. Key themes based on keywords.



Source: author.

**Table 2. Categories.**

Categories	Authors
Challenges	Mayer (2008); Marlow and McAdam (2011); Ezzedeen and Zikic (2012); Orser, Riding and Stanley (2012); Marlow and McAdam (2013); Martin, Wright, Beaven and Matlay (2015); Xie and Lv (2016)
Limitations	Tinkler, Whittington, Ku and Davies (2015); Chatterjee and Ramu (2017); Kuschel, Lepeley, Espinosa and Gutiérrez (2017); Aleidi and Chandran (2017); Xie and Lv (2017); Ozkazanc-Pan and Muntean (2018); Cansiz and Tekneci (2018)

Source: author.

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #677**

## **Social mobilizations: The search for black representativeness in Brazilian propaganda**

**Renata Soares Hilário** (ESPM, Brazil)

**Matheus Eurico Soares de Noronha** (ESPM, Brazil)

**Angelica Souza** (University of São Paulo (USP), Brazil)

### **Abstract**

*In a scenario in which issues of diversity, such as gender and race permeate the debates of society, groups of individuals come to claim their rights through social networks. What is questioned is the racial prejudice that is still rooted in the different Brazilian markets. In this paper, the study on racial discrimination in the Brazilian advertising market is deepened and how social mobilizations through digital networks can reconfigure the context of the advertising market. This research brings as a tool for the theoretical background of the articulation of the studies of digital activism, consumerism, and its manifestations as a way to understand the social mobilizations in digital environments to face racism. The main objective of the article is to evaluate how social mobilizations in digital networks have been active in the advertising sector in Brazil concerning racial discrimination. And as a secondary objective to identify the main crises and boycotts of brands on the Internet that impact on the organizational structures of companies. In the first instance, qualitative research was carried out with ten professionals of the advertising market who participate in mobilizations that endorse causes of gender, racial, and political. In the second moment, a secondary data survey was carried out from field interviews of the leading cases of social mobilization in digital networks. We found that social mobilizations through individuals influence the management of companies, but that the Brazilian advertising market still has a significant challenge in changing organizational cultures regarding diversity and inclusion.*

**Keywords:** Consumerism; Net Activism; Digital Activism; Black Representativeness; Society; Consumer Behavior..

*Track 06 Diversity, Inclusion and Causes in Consumption and Business*

**ID #702**

**Leadership in the context of women entrepreneurs**

**Alyne Madeira Kautnick** (Universidade Federal de Santa Catarina (UFSC), Brazil)

**Abstract**

*This study aims to identify and analyze published studies on leadership in the context of women entrepreneurs, in order to understand how this theme is being treated in the existing literature. The method used is an integrative review of the literature. The results found in the systematic search suggest that the study of this theme has several approaches: i) leadership from a gender perspective; ii) leadership as a challenge; iii) leadership style; iv) decision making process; and v) leadership as a variable. However, the subject still needs more academic attention.*

**Keywords:** Leadership; Women Entrepreneurs; Literature Review;.

**Acknowledgments**

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## **INTRODUCTION**

Leadership studies are quite old. However, from a gender perspective, especially regarding women entrepreneurs, there are still few.

According to Northouse (2004, p. 10), "leadership is a topic with universal appeal, and despite the abundance of essays on the subject, it is still a great challenge for professionals and researchers interested in understanding its nature".

A study by Grant Thornton, considering more than 4,995 companies in 35 countries, shows that only 24% of these companies have women in leadership positions. The same study highlights that emerging economies have boosted the participation of women in these positions, such as Africa (89%), Eastern Europe (87%) and Latin America (65%). There was also a significant increase in developed regions, such as North America (from 69% to 81%) and the European Union (from 64% to 73%).

Due to this advance, several studies on leadership from a gender perspective have been developed in recent years. However, a very small portion of these studies focuses on women entrepreneurs.

This way, it is important to analyze the existing literature on this topic, in order to collaborate with its development.

This article is structured in 5 sections, considering this introduction. In section 2, there is the literature review on the themes of this study ("women entrepreneurs" and "leadership"). Section 3 presents the methodology. Section 4 presents the results of this study and its discussion. Finally, section 5 presents the conclusions.

## **LITERATURE REVIEW**

### ***Leadership***

Leadership is the process by which an individual influence a group of people in order to achieve a common goal (Northouse, 2004). This is just one of many possible definitions, since over the last 50 years about 65 different classification systems have been developed to define the dimensions of leadership.

Most of these definitions see leadership as the focus of group processes, where the group embodies the will of the leader. Studies from the personality perspective suggest that leadership is part of a combination of special characteristics that enable the individual to induce others to perform tasks.

Northouse (2004, p. 5) points out that "some individuals are leaders because of their formal position within an organization; while others are recognized because of their interaction with other members of the group". These two definitions of leadership are respectively known as assigned leadership and emerging leadership.

In general, the leader must be able to adapt to different situations, using his instinct for survival and caring for the group's needs (Northouse, 2004).

### ***Women entrepreneurs***

Entrepreneurship refers to a process of identifying opportunities and generating innovation under conditions of uncertainty (Jonathan, 2011).

In the last decades, there has been a considerable growth of women entrepreneurs around the world, and it is necessary to investigate further the processes associated with their companies. Significant differences between female and male entrepreneurs require a gender approach in the study of entrepreneurship (Bodolica e Spraggon, 2015).

This increasing female participation in entrepreneurship also indicates a great economic development potential for several countries, considering that as work environments became more diverse, women tend to occupy positions traditionally occupied by men (Moore et al., 2011).

### **METHODOLOGY**

The methodology used in this research was the integrative review, since it allows: definition of the theme and the research question; establishment of criteria for inclusion and exclusion of sampling; definition of the information to be extracted; evaluation of included studies; interpretation and presentation of the review (Ercole, Melo, Alcoforado, 2014). It also includes the description of the databases, keywords, software used, data analyzed and criteria (Torraco, 2005).

Thus, the following steps were followed:

- 1) Definition of theme: Leadership of women entrepreneurs.
- 2) Identification of database: Scopus and Web of Science databases (indexing SciELO), since it comprises the scientific journals with the greatest impact in the international context.
- 3) Definition of search strategy: Articles were selected using the terms "women entrepreneurs" or "woman entrepreneur" and "leadership". At Scopus, the search was based on titles, abstracts, and keywords. In Web of Science, the search was based on topics. This research had no limitation regarding period, aiming to analyze all the existing literature on the subject. But it was limited to the following document types: article and conference paper at Scopus and article and meeting at Web of Science. Based on these parameters, 29 documents were found in Scopus and 35 documents in Web of Science, totaling 64 documents.
- 4) Duplicate verification: After using EndNote software, it was possible to remove 7 duplicate documents, remaining 57 documents for analysis. During the analysis, it was noticed that there were another 6 duplicate documents, resulting in 51 documents.
- 5) Election criteria: It was verified if the object of study was the leadership of the women entrepreneurs.
- 6) Selection of studies: The studies were selected using the eligibility criteria from reading titles, keywords and abstracts. Thus, it was verified that only 30 articles presented the necessary criteria. However, it was still necessary to remove another 4 articles, which were not accessible to the author of this paper. Finally, 26 articles remained for full reading.

7) Data collection: Data were collected from the selected articles, in a spreadsheet, referring to its purpose, methodology and results. These data allowed to make the analysis presented in this paper.

8) Synthesis of results: **Table 1** shows the final portfolio, which allows to understand how the studies on the proposed theme are distributed over the years.

## **RESULTS**

**Graphic 1** shows the publications distributed over the years.

It is noticed that the studies are very recent, beginning in the year of 2007; also, the year of 2015 concentrates the most publications on the subject, with nine registries.

In general, there are few articles addressing this theme, considering the results found when the research is not restricted to women entrepreneurs.

The main topics, based on keywords, are presented in **Figure 1**.

Finally, it was possible to divide the articles into five categories: i) leadership from a gender perspective, addressing generic studies on both themes; ii) leadership as a challenge, exploring the obstacles encountered by women entrepreneurs due to their leadership position; iii) leadership style, discussing comparative studies on the subject; iv) decision-making process, considering the leadership of women entrepreneurs under this specific point of view; and v) leadership as a variable, including studies where leadership is not the main subject.

**Table 2** shows the categories identified and their respective authors.

### ***Category 1: leadership under gender perspective***

The study of leadership from a gender perspective is still quite recent in the literature, according to the results found in the systematic search.

Bullough et al. (2015) indicate guidelines for projection and implementation of education and training programs for women entrepreneurs. Although the suggested structure is generally applicable, it has a special importance in the context of women entrepreneurs, considering examples from more than 20 developing countries in the last 10 years.

For a long time, the literature on entrepreneurship has focused on business growth, emphasizing its masculine "character" and marginalizing other interpretations.

But the literature on leadership provides a distinct view, indicating that performativity, as described in feminist theory, could help understand the meaning of "entrepreneurial leadership" (Galloway et al., 2015).

In order to reflect the existing literature on entrepreneurship leadership and gender, another study was developed by Henry et al. (2015), offering a contemporary view on the subject at the global level. The authors consider it important to highlight the diversity and complexity of women entrepreneurs' leadership, demonstrating their economic and contextually incorporated aspects.

The comparative study between Indonesia and United States developed by Sudarmanti et al. (2015) highlights the tendency of women entrepreneurs to create open communication, emphasizing the processes of "listening and persuading". Although there are very different

cultural and geographical differences, the results of these studies were very similar; women entrepreneurs generally adopt two approaches: transferring social awareness to encourage personal value and transfer skills.

### ***Category 2: leadership as a challenge***

Bushell (2008) argues that entrepreneurship is a march towards equality, when studied from a gender perspective. Her study demonstrates how socio-cultural difficulties may prevent women entrepreneurs from recognizing their potential as leaders, given the reality of Nepal. Finally, the author suggests policy measures, management and business training, and the promotion of entrepreneurial networking systems as possible ways to empower women entrepreneurs and create leadership opportunities.

In order to analyze entrepreneurial leadership from a feminist perspective, the study developed by Patterson et al. (2012) highlights four main topics: i) entrepreneurial leadership as a challenge; ii) awareness of a gender difference; (iii) acceptance of such difference; and iv) response to these differences.

Millie and Bellamy (2014) explore the experiences of some leaders of the Uzbekistan Women's Business Association, which has guided women entrepreneurs since 1991, operating in a challenging cultural and political environment. It is observed the influence of five factors on the sustainability of this association: i) leadership style; ii) seminars and training activities; iii) family relations; (iv) financial support; and v) government relations.

Highlighting the entrepreneurial journey of two expatriate women in the United Arab Emirates, Bodolica and Spraggon (2015) are able to verify the positive link between their leadership skills and the success of their companies. Their study also allows a critical analysis regarding the different stages of these women entrepreneurial process.

Gender applied to the context of succession is an even less studied field. Based on this, the study by Hytti et al. (2017) addresses this gap, in order to understand how daughters build their identities as leaders of family businesses. Generally, these women entrepreneurs choose to hide their identity as leader or (re)produce a masculinized identity.

### ***Category 3: leadership style***

Leadership style is undoubtedly the most studied topic in the literature on leadership in the context of women entrepreneurs, since it influences the organization success.

Therefore, there is a growing trend of studies regarding the influence of leadership style on organizational performance. According to Kuppusamy et al. (2009), it is also necessary to understand these dynamics from the point of view of women entrepreneurs.

These authors describe the reality of entrepreneurs in Malaysia and highlight techniques of leadership and charismatic management as significant predictors of organizational performance.

Jonathan (2011) analyzes the motivations and difficulties faced by these women as well as their leadership strategies. Her study reveals that women entrepreneurs often exercise power with others and not over others; they also tend to promote professional and social inclusion of other women.

Moore et al. (2011) identify the link between leadership style of women managers and later as entrepreneurs. Seeking to create an environment of trust, it is noticed that women usually lead in a more collaborative way, generating better performance results.

In a more in-depth analysis of Malaysian women entrepreneurs, Hin et al. (2012) indicate that their innovative behavior and leadership strategies are important factors not only for the success but also the expansion of their companies.

In general, it is possible to consider that women entrepreneurs are able to adopt different styles of leadership and management, usually related to proactivity. Therefore, there is not only a greater reach of organizational goals, but also more competitive advantage (Noor, Shamsuddin, 2012).

The empirical study developed by Li et al. (2013), considering a sample of 225 women entrepreneurs from Zhejiang and Shanghai, East China, shows a leadership oriented to success. It was also possible to verify differences related to company type.

There are indications of the positive influence of mentoring experiences, aiming for greater objectivity in the leadership style of women entrepreneurs. The study developed by Laukhuf and Malone (2015) indicates that about 75% of women leaders surveyed say that these experiences are central to their careers.

The growing interest in leadership studies, especially regarding women entrepreneurs, has enabled several surveys around the world. One of these was made in schools in three countries in West Africa (Burkina Faso, Ghana and Liberia) and aimed to verify the dedication of women entrepreneurs' leaders in the construction of their nations. It is observed that the scarcity of opportunities is a constant challenge (Cordeiro, Brion, 2016).

Del Mar Alonso-Almeida et al. (2017) affirm that the analysis of leadership styles and perceptions of Corporate Social Responsibility must also incorporate a gender perspective. The authors investigate a sample of 391 entrepreneurs (women and men) in Spain, in order to verify their attitudes towards the different dimensions of CSR, focusing on transformational leadership, dominance and dual perspectives. The results suggest that Spanish women entrepreneurs are more adaptable and effective in pursuing company sustainability when through a transformational or dual leadership style. It was also possible to verify that dominance is not adequate to implement a CSR strategy.

The last study found in the systematic search investigates the compassionate love, authenticity and servile leadership of women entrepreneurs, describing trust and respect as important characteristics in this context and highlighting their capacity to extend the limits of leadership meaning (Sims, Morris, 2018).

#### ***Category 4: decision-making process***

The decision-making process of women entrepreneurs was found in only two studies.

Ndemo and Maina (2007) explore the strategic decision-making process of women entrepreneurs in Micro and Small Enterprises, reporting empirical evidence from a pilot research in Kenya. It is possible to realize that the lack of resources makes these women dependent on their spouses, limiting their ability to make independent decisions. The level of education, culture and poverty are also determining factors in this context.

Based on another point of view, the empirical and contrastive analysis of Del Mar Alonso-Almeida and Bremser (2015) seeks to identify possible gender differences in strategic

management decisions during times of crisis. It should be noted that this study found no differences regarding organizational performance.

### ***Category 5: leadership as variable***

There are four studies in which leadership is analyzed as a variable in the context of women entrepreneurs.

Ezzedeen and Zikic (2012) explore the experience of women entrepreneurs in the Canadian technology sector. It identifies not only persistent gender stereotypes, but also resistance to women leadership. However, after their establishment as reliable competitors, the process of acceptance and legitimacy occurs.

Through an exploratory study with 162 Latin American women, Cárdenas et al. (2014) identify the recognition of serious professional barriers in the career of women entrepreneurs, considering the balance between work and personal life as the greatest challenge. These women believe that success is dependent on personality characteristics, performance, results and their own leadership traits.

The study by Subramaniam and Islam (2014) demonstrates how women entrepreneurs in Singapore are able to build an innovative organizational culture using technology to keep their companies competitive. The constant improvement of its employees and its management and leadership model is also seen as a driver of business growth.

The investigative process of Aaltio and Wang (2015) verifies how the existing literature contributes to the construction of theories, methodologies and practices to understand the context of women entrepreneurs. The study analyzes leadership as a variable related to other four topics: i) equal opportunities; (ii) meritocracy; (iii) special contribution; and iv) alternative values.

## **CONCLUSIONS**

This study aimed to explore the literature on leadership in the context of women entrepreneurs, in order to present a general panorama of the research in this area as well as to summarize the results found by different authors.

It was possible to categorize the articles found in the systematic search into five categories: i) leadership from a gender perspective; ii) leadership as a challenge; iii) leadership style; iv) decision making process; and v) leadership as a variable.

This review also suggests that there is a limited number of studies about this topic, and it is necessary to expand this academic debate. Regarding future research, it is suggested to analyze the theme from different perspectives, such as family and multinational companies.

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## APPENDIX

**Table 1. Portfolio.**

Title	Author (Year)
Women Entrepreneurs and Strategic Decision Making	Ndemo and Maina (2007)
Women Entrepreneurs in Nepal: What Prevents Them From Leading the Sector?	Bushell (2008)
Leadership Styles and Management Techniques: An Analysis of Malaysian Women Entrepreneurs	Kuppusamy, Ganesan and Rosada (2009)
Mulheres Empreendedoras: O Desafio da Escolha do Empreendedorismo e o Exercício do Poder	Jonathan (2011)
How Women Entrepreneurs Lead and Why They Manage That Way	Moore, Moore and Moore (2011)
Entrepreneurial Experiences of Women in Canadian High Technology	Ezzedeen and Zikic (2012)
A Qualitative Study of Innovativeness, Strategies and Leadership Styles of Successful Women Entrepreneurs in Malaysia	Hin, Isa and Hashim (2012)
Retracted Article: Leadership Styles Among Women Entrepreneurs: A Perspective	Noor and Shamsuddin (2012)
Unsettling the Gender Binary: Experiences of Gender in Entrepreneurial Leadership and Implications for HRD	Patterson, Mavin and Turner (2012)
Leadership Styles of Entrepreneurial Women in Eastern China: Characteristics and Differences	Li, Bao and Jiang (2013)
Latin American Female Business Executives: An Interesting Surprise	Cárdenas, Eagly, Salgado, Goode, Heller, Jaúregui, Quirós, Gormaz, Bunse, Godoy, Sánchez, Navarro, Sosa, Aguilera, Schulmeyer, Tanure, Naranjo, Soto, Darre and Tunqui (2014)
The Business Women's Association of Uzbekistan: A Qualitative Study of the Emergence and Potential Influence of Women's Leadership in Central Asia	Millie and Bellamy (2014)
Innovation and the Impact of Technology on Women Entrepreneurs in Small and Medium Enterprises in Singapore	Subramaniam and Islam (2014)
Study of the Contribution of Research into Women Entrepreneurship: A Meta-analysis of Discourses in the Literature Using ATLAS.ti	Aaltio and Wang (2015)
Life on Heels and Making Deals: A Narrative Approach to Female Entrepreneurial Experiences in the UAE	Bodolica and Spraggon (2015)
Developing Women Leaders Through Entrepreneurship Education and Training	Bullough, De Luque, Abdelzaher and Heim (2015)
Does Gender Specific Decision Making Exist?	Del Mar Alonso-Almeida and Bremser (2015)
Entrepreneurship, Leadership, and the Value of Feminist Approaches to Understanding Them	Galloway, Kapasi and Sang (2015)
Breaking Glass: Toward a Gendered Analysis of Entrepreneurial Leadership	Harrison, Leitch and McAdam (2015)
Entrepreneurial Leadership and Gender: Exploring Theory and Practice in Global Contexts	Henry, Foss, Fayolle, Walker and Duffy (2015)
Women Entrepreneurs Need Mentors	Laukhuf and Malone (2015)
Women's Empowerment: Examining Leadership Communication of Women Entrepreneurs in Indonesia and the USA	Sudarmanti, Van Bauwel and Longman (2015)
Women School Leaders: Entrepreneurs in Low Fee Private Schools in Three Developing Nations	Cordeiro and Brion (2016)
Leadership Styles and Corporate Social Responsibility Management: Analysis From a Gender Perspective	Del Mar Alonso-Almeida, Perramon and Bagur-Femenias (2017)
Navigating the Family Business: A Gendered Analysis of Identity Construction of Daughters	Hytti, Alsos, Heinonen and Ljunggren (2017)
Are Women Business Owners Authentic Servant Leaders?	Sims and Morris (2018)

Source: author.



## **Track 07**

# ***Global and Local Innovation***

Track 07 Global and Local Innovation

ID #561

## The GDPR: The EU personal data protection

Dusan Soltes (Comenius University, Slovakia)

### Abstract

*This paper is on the GDPR and/or the new EU General Data Protection Regulation (GDPR – General Data Protection Regulation, 2016). In the legislative system of the EU, this regulation as any other one regulation by itself represents one of the most revolutionary legislative changes in the overall history of the EU system of its legislation not only on the protection of the personal data but also generally of its overall system of the so-called “acquis communautaire”. As it has been well known this new revolutionary regulation i.e. in the terminology of the EU the strongest legislative act of the so-called EU secondary legislation has been enacted and entered into force in the EU as scheduled on 25th May 2018. It had been after more than two years that have been left for a very careful and comprehensive preparation after the particular GDPR regulation has been approved as the GDPR – General Data Protection Regulation – Regulation (EU) 2016/679, EP, CEU, EC Brussels on 27 April 2016. In the following parts of this paper we are going to evaluate the first experiences as collected during our ongoing research being conducted within the EU funded INFORM project since October 2017.*

**Keywords:** Protection Of Data; Personal Data; GDPR – General Data Protection Regulation; Acquis Communautaire; EU Regulation; EU Directive; Cyberspace; Cloud Computing; Social Networks;.

### Acknowledgments

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## **INTRODUCTION**

On the 25 May 2018 there has been enacted and entered into force in the entire EU the new EU Regulation No. 2016/679 of the European Parliament and the EU Council of 27th April 2016 (GDPR – General Data Protection Regulation, 2016). This regulation has replaced the Directive 95/46 EU (Data Protection Directive, 1995). That means among others also that now the protection of personal data has been protected by a much stronger legislative than it had been before that by a directive. That has been totally changing the conditions and all various aspects of the existing system of the protection of the personal data in the EU. But as the EU is not only the community of the still existing twenty-eight member countries, but has also various and numerous associated, candidate and other related countries. Hence, it could be stated that the impact of this new EU regulation on the protection of personal data has had not only internal effect within the existing boundaries of the EU. But to some extent it has affected directly or indirectly globally also the rest of the world especially in such areas of the general data protection like e.g. in the global cloud computing, Internet, social networks, media electronic and/or traditional, etc.

## **MAIN FEATURES OF THE NEW GDPR AND THEIR EVALUATION ON THE BASES OF THE FIRST EXPERIENCES SINCE GDPR HAS BEEN ENACTED ON 25TH MAY 2018**

In the next parts of this extended abstract we are going to evaluate some of the basic principles of this new EU personal data protection legislation in some more details. In this connection we have to take into account that the protection of personal data belongs among some of the fundamental human rights (European Court for Human Rights, 2014). As we have already found out them on the basis of our ongoing research under the EU/HORIZON2020/Justice Programme JUST-JTRA-EJTR-AG-2016 INFORM Project - Introduction of the data protection reform to the judicial system (Soltes et al., 2018). If we are at this place going at least briefly to evaluate some basic principles and features of this new system of the protection of the personal data they are on the basis of our ongoing research in summary as follows.

### ***New much wider concept of personal data***

In difference to the existing new legislation of the EU on the protection of personal data than it has been defined in the previous EU/Directive 95/46, in the GDPR (Soltes et al., 2018) there is a substantial widening of the very concept of the personal data as such. Accordingly, as personal data will be considered and thus also protected also such data that before have not

directly belonged among the personal data themselves like e.g. email addresses, telephone numbers, IP addresses, cookies, wide area of biodata, an extended list of health data and various other identification and classification data on physical persons.

Evaluation: If we are trying now to evaluate this wider concept of personal data after about six months since the GDPR entered into force it has to be stated that some of this new personal data it is very difficult if at all possible, to protect as it is required by the GDPR. Especially such newly defined and to be protected personal data like e.g. above email addresses, telephone numbers, cookies, etc. is almost impossible to protect as they are already so widely available in the cyberspace that no new GDPR has ability whatsoever to achieve any their stricter protection than it has been until now.

### ***Explicit consent***

In difference to the existing above EU directive that has not explicitly and/or so strictly required an explicit consent in connection with the personal data to be collected, stored, recorded, etc., the new GDPR requires much more strict obtaining above mentioned explicit consent for any processing of personal data and their storage, handling, publication, etc.

Evaluation: Unfortunately, the first experiences as collected since the GDPR has been enacted are still confirming all those unfair practices as they existed before and are continuing also now. Many service providers when being contacted e, g, over phone are automatically still responding that the entire communication is going to be recorded in order for improving their services. Hence, there is not respected any necessity to receive an explicit consent but they continue by unfair previous practice that contacting them means also automatically an implicit consent. That all is a clear violation of the one of the key requirements of the GDPR that without an explicit consent there cannot be any (unlawful) recording and use of personal data. A very similarly it is also e.g. still in case of taking photos or video recording of specific person by controllers in public transport, but also by general public and like that.

### ***Protection of personal data of minors under the age of 16***

Under the new GDPR much more strict rules are existing regarding the protection of personal data of the young people up to the age of 16 years. In view of this requirement the GDPR requires to protect personal data of minors even more strictly than it is in the case of adults who by themselves are more prepared and ready and aware of the importance of the protection of their personal data than it is in the case of their own or other children. Hence,

this means also much more responsibility not only for parents but also for all schools, various other children services, dormitories, educational and other institutions and providers of any kind of services for children regarding the protection of children's personal data in their recordings, files, documents, storages, etc.

Evaluation: In difference to this existing situation, the United Nations Convention on the Right of Child (United Nations Convention of the Right of the Child, 1989) is stating absolutely clearly and explicitly that the protection of a child and thus also personal data of children have to be up to the age of 18. Here, we see some difference between the GDPR in comparison with the International law that is superior to all other legislative acts. It really is not quite clear why the EU that is so sensitive regarding the respect and adherence to law has for some reasons decided not to respect the UN International law that is superior to all other laws including those of the EU "acquis communautaire" and also to all national laws of the EU member states. In addition, we have to state that especially various institutions for children like schools, dormitories, clubs, etc. are quite in limbo what it means to protect the personal data of children being under their responsibilities. In many cases they go as far as to protect and make confidential also such data as e.g. the lists of pupils in individual classes, or in sport teams, etc. that normally are publicly available and on display in order the children and their parents have such basic information at their disposal when searching for their child, etc. In this respect as in some other cases there has been missing something like more elaborated manual and/or instruction materials that would clearly and without any doubts clearly stated what are the duties and responsibilities in protection of personal data of minors.

### ***Certification for dealing with personal data***

Under this innovation, there has been introduced under the GDPR a new codex for certification mechanisms regarding all legal persons and all other subjects that are handling personal data. All of them need obligatory certificates giving them rights but also duties in respect of the overall handling and processing of the personal data belonging to their area of responsibility. This new certification requires among others also the particular training for this new professional staff and all that has to be prepared and carried out well in advance before the particular personal data processing is going to be carried out.

Evaluation: Every such a certified and thus authorized entity and/or its staff for the handling and processing personal data have to have also the so-called responsible authorized officer. As such, he or she will be directly responsible for overseeing the overall handling and processing of personal data strictly according to the rules and regulations as being stated in the GDPR. However, there is no information or specification who and how such required certification has to be obtained. According to the information from e.g. the Slovak Office for Protection of Personal Data there is no chance they would be able to provide such certification to all specialists who are handling personal data.

### ***Risk identification system***

According to the GDPR every processing of personal data has to have a system that is - in advance yet before the processing itself - able and also responsible to identifying any potential risks in the future processing of the particular category of personal data. In addition, all that has to be evaluated and properly documented and thus being at disposal for evaluation and for taking a necessary action yet before that processing will take place in order to secure proper and efficient processing of the personal data strictly according to the requirements of the GDPR.

Evaluation: This is one of the most unclear requirements and duties as being introduced by the GDPR. It is basically not so big problem to meet this risk identification in case if personal data are handled and processed on the level of the individual company, school, institutions, etc. However, nowadays the most of personal data processing systems are carried out and/or directly linked with the contemporary wide area data transformation systems, Internet, big data, cloud computing, etc. then it is almost impossible to identify any potential risks that could happen in the overall national, regional or even global systems of transfers of personal data.

### ***Registration and documentation***

A very strict and comprehensive system of the official registration and documentation for every personal data processing has to have to be established and carried out and kept for any subsequent controls, monitoring or evaluation of the particular personal data processing.

Evaluation: Similarly, as in the previous case of the risk identification also in the case of this registration and documentation it is no problem to meet this GDPR particular requirement in the case of the so to say local processing of the personal data. But in the case of the modern contemporary modern systems of social networks, and especially cloud computing it is almost impossible to achieve any such complete registration and documentation. Especially, it is in particular in the case if the part or the entire cloud computing of personal data is going to be performed as it is quite a common case outside e.g. of the EU or any other similar places without any such legislation. Especially, in some developing countries that are often the main performers of the cloud computing it is under the existing conditions practically impossible.

### ***New reporting system***

There has to be introduced under the new GDPR a new responsibility regarding the reporting duty to the personal data protection authorities on any breaches that have been identified during the entire system of handling and processing personal data.

Evaluation: Basically, as in some previous cases also this requirement of the GDPR is making no such problem in the case of the local personal data processing system. But as soon as this processing system is carried out in the conditions of the wide area or global or cloud computing the opportunities for this new reporting system are very limited if not completely not feasible. It is almost impossible to force personal data processors from e.g. some developing countries into any such reporting system to the authorities concerned directly or to the owners and/or providers of the personal data processor in the EU member states. The only way how to achieve anything like that is to make such a duty to be parts of the particular contracts between all partners involved in the particular personal data processing system. But even in such a case it is difficult to expect that personal data processors from the outside of the EU will really and truly respect any comprehensive reporting system as required by the GDPR.

### ***Direct consent***

One of the most innovative measures and features introduced by the GDPR is the right of all persons to give and in advance not only their explicit but also direct consent for any transfer and handling of their personal data. Without their explicit and this direct consent there should be absolutely no possibility to transfer their personal data to any other subject than the one that was authorized by that person to handle those particular personal data.

Evaluation: Similarly, as in the previous case of explicit consent also requirement for this direct consent has not been respected by many services providers. They are e.g. still automatically collecting cookies or other personal data on the basis of some general implicit enforced consent rather than obtaining direct consent from the particular person for that specific handling of their personal data. Especially, e.g. the security staff at airports have been continuing in their arrogant approach towards passengers without any direct consent, For them instead of any direct consent they use something like general implicit consent that everybody who wants to travel must agree with any kind of personal controls. In many cases they are even not allowing any communication from passengers in many cases violating even the minimal respect for fundamental human rights like e.g. the right for expression, etc. The new GDPR rules on the direct consent to be obtained before such discriminatory controlling conducts and collecting personal data from passengers have so far nothing changed in this unlawful respect.

### ***Right to be forgotten***

A very similar and very strict rule has been introduced for all physical persons regarding their right that their personal data have to be forgotten. It means that their personal data have to be completely and absolutely erased from where they were stored. That has been quite often a very sensitive problem in the existing systems of various social and other data and information networks and storages.

Evaluation: This is one of the most complicated rules introduced by the GDPR. If we take into account how much personal data have been collected and stored in the cyber space e.g. through cloud computing, social networks, etc. since the beginning of the contemporary information age and society then it is absolutely impossible and unrealistic to apply this new rule into the practice in general. In many cases the personal data have been stored in such various places of the cyberspace over the globe but also above it e.g. in the space communication systems, etc.

that practically nobody officially has any knowledge where and how such data is stored. But on the other hand, there are hackers who are specializing especially in searching and finding such data and then using them for their various unfair illicit practices. In addition, there are also files of personal data that simply for administrative and other including personal reasons simply cannot be erased and/or forgotten like e.g. social

data on future pensions, medical data, etc. Even if the particular person insists on being erased, this data simply must be stored for future pensions, tracking medical history for future medication, treatment, etc. Hence, this one of the most important rules on being forgotten cannot and must not be understood as an absolute one.

### ***No cross-border transfer without explicit and direct consent***

Any cross-border handling, transfers or processing of personal data has to be under the direct control of a special authorized organ for the processing of personal data. Any kind of cross-border personal data handling and processing will have to be authorized in advance. It means that any such data processing in general as far as being conducted in other countries than the country of their origin will have to be under the direct supervision of that particular special authorized organ being established by the GDPR for processing of personal data abroad.

Evaluation: Again, similarly as in the previous case on the right to be forgotten it is under the current situation of the global cyberspace and cloud computing absolutely impossible to achieve anything like obtain prior consent for processing of personal data abroad. In many cases it is not even known that any such cross-border transfer of data will be conducted as the system of processing is considered as the internal business confidentiality. As we have documented already in connection with the explicit consent itself on the national level the rule on the prior explicit and/or direct consent for handling personal data it is even now very difficult to secure. The personal data processors always find the way and means how to avoid such a consent as for them many times the higher profit margin is more important than a personal data protection. Hence, in the case of the cross borders transfers it is even more complicated if not impossible at all.

### ***Severe penalties***

As we have already mentioned that in the previous part of this paper, the GDPR is going to strengthen substantially the entire system of enforcement of its provisions regarding the protection of personal data as we have some principles of them presented in the previous parts of this paper. In addition to various rules and regulation as being outlined above, it is going to introduce and implement also the entire and tough new system of penalties for any breaches in handling personal data.

Evaluation: It is true that some big personal data processors and operators especially from the area of social networks have already been in the process being punished by the European Commission for their breaches to the GDPR rules on the protection of personal data. All that has been applied globally not only regarding those being directly registered or operating on the territory of the EU. However, it is also fact that towards other subjects being responsible for the protection of personal data especially on the national level in the EU member states the policies in this respect have been more generous. So far at least until the time of writing this paper there have been no applied yet any sanctions towards especially SME, but also schools, youth organizations, club, etc. But that not at all means that in the future this policy could not be changed completely different

## **CONCLUSIONS**

In conclusion it could be stated that definitely the GDPR has since its entry into force on 25 May 2018 brought into protection of personal data much more strict rules and more discipline and responsibility than it was before that according to the particular EU Directive. Unfortunately, as in various other legislative acts of the EU also in this case from the very beginning of GDPR entry into force there have been existing some evident shortcoming, problems and weaknesses as we have presented them also in the previous parts of this paper. As it has been stated at the beginning of this paper there were left more than two years between approval of the GDPR in year 2016 and its entry into force in year 2018. That was intentionally organized in such a way as to leave enough time for all subjects related to the protection of personal data enough time for their preparation for the requirements of the GDPR. But it looks like that the same relatively long and sufficient preparatory period has not been equally efficiently used also by the EU authorities for preparing everything needed also from their side. As we have mentioned it in the previous parts of this paper in many cases there are even now still missing any more detailed or even at all any instructions, manuals, “cook-books”, etc. that would clearly and without any doubts defined many important duties and responsibilities as required by the GDPR like e.g. about certification, risk identification, registration & documentation, etc.

Again, also in this case it is not enough just to impose severe penalties without clearly stating how it could be possible to avoid them through clearly defined and secured all necessary conditions for imposed duties and responsibilities in the protection of personal data strictly according to the requirements of the GDPR.

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*Track 07 Global and Local Innovation*

**ID #575**

**A new model of financing in Brazilian industrial research:  
the case EMBRAPII**

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**Abstract**

*This paper proposes the analysis of the Embrapíi model impacts, the expansion of applied industrial research and the accumulation of technological capabilities generated in companies that work in partnership with the Innovation Center linked to a Federal Institute of Professional Education. The Institutional Theory and the Evolutionary Theory of Innovation are used as reference. The methodological approach of the research is qualitative, the data collection was done through semi-structured interviews, the first with Embrapíi center manager studied, then with the researcher responsible for the projects and finally with the representative of the partner company. The main results show that the interviewees are unanimous in emphasizing the importance of the Embrapíi model to increase the technological capabilities of the company and improve its performance. In addition, they report the main advantages and disadvantages arising from the execution of the research projects.*

**Keywords:** Technological Capacity; Innovation; Embrapíi.

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## **INTRODUCTION**

This work proposes the analysis of the expansion of applied industrial research and the accumulation of technological capacities generated in the companies that work in partnership with the Embrapii center. Identifying the emphasis given to the role of interactions between the agents involved in the innovation process and the institutional arrangement that creates learning conditions, generating the acquisition of technological capabilities, which when incorporated into companies can have positive competitive advantages and performance indicators (Bell, 1984; Figueiredo, 2001).

Particularly in Brazil, since 2004, with the approval of the Legal Framework for Innovation (Law 10,973/2004) and the promulgation of the "Law of Good" in 2005 (Law 11,196/2005), some institutional barriers to innovation have been reduced, providing incentives for university-industry cooperation and modifying access to tax incentives for innovation.

Besides the advances in the legal issue, another obstacle to be overcome, refers to the models of financing available in Brazil for the promotion of innovation. The existing resources include, as a matter of priority, the initial phase of the research, through public notices from development agencies such as Finep and Fapesp, and the commercialization phase, through BNDES or private resources from companies, venture capital, angel investors, etc. However, in Brazil, there was no financing in the pre-competitive phase of innovation, also called the "death valley of innovation", according to Embrapii's data, it is common to occur premature failure of enterprises.

The Brazilian Industrial Research and Innovation Industry (EMBRAPII) was created to promote and encourage entrepreneurial research, development and innovation projects aimed at industrial sectors through cooperation with technological research institutions. Established in May / 2013, as a non-profit civil association of private law, was qualified by the federal government as Social Organization in September / 2013. In December of the same year, a management contract was signed with the Ministry of Science, Technology, Innovation and Communications - MCTIC and with the Ministry of Education - MEC, in the total amount of R \$ 1.5 billion, three of which are accredited for test the Embrapii model (IPT, INT and Senai Cimatec).

Under the shared business model, project financing follows the general rule: Embrapii can invest up to 1/3 in the approved PD & I projects, while the rest is divided between the partner company and the Innovation Center, which contributes with an economic counterpart. In Embrapii's opinion, by sharing project risks with companies (through the division of project costs), the industrial sector is encouraged to innovate more and with greater technological intensity in order to boost the competitive strength of companies, both in the domestic market and in the international market (Embrapii, 2018).

Currently, there are more than 40 Embrapii centers, spread throughout all Brazilian regions, but with few studies focused on the effectiveness of this new model. The main evaluation of the application of resources is carried out by Embrapii itself, through the consolidation of the data sent by the units. The disclosure is made through the Annual Management Report, but there is not works to evaluate the increase in technological capacity in the partner companies.

This paper proposes the following research question: Has the Embrapii financing model been effective in expanding applied industrial research and in the accumulation of technological capabilities of companies that have partnerships with innovation centers?

The objective of this work is to analyze if the model of financing for industrial research, incorporated in the Brazilian scenario with the creation of Embrapii, has fulfilled its proposal in the expansion of applied industrial research and encouraged the accumulation of technological capacities in the companies, through the innovation centers of the Federal Institutes.

The methodology for data collection will be of a qualitative approach, through a single case study. The technique of data collection will be the semi structured interview and the analysis technique used will be content analysis. From the introduction, the article proceeds with the presentation of the theoretical reference of the research, after the methodology and the procedures adopted in the application of the model. In the sequence, the results obtained are discussed, followed by the final considerations that include limitations and suggestions for future research.

## **THEORETICAL REFERENCE**

### ***Institutionalism***

According to DiMaggio (1988), the contribution of the Institutional Theory to the study of organizations is "in identifying causal functions that lead to stability and organization, these mechanisms are based on the understanding that the organizers share, regardless of their interests."

From the 1970s, Institutional Theory expands on the organizational landscape as an extension of the intellectual revolution of the previous decade, which introduced the concept of open systems in organizational studies (Thompson, 1967). For Scott (2001), organizations come to be seen not only as systems of production, but social and cultural systems. The influence of the conception of social construction of reality and limited rationality should also be highlighted (Simon, 1947).

The early institutionalists sought to differentiate themselves from the traditional neoclassical approach because they disagreed with basic premises of this economic current, such as the conception of organizations as closed systems, rather than perfect competition and unique equilibrium. For institutionalists market power and indeterminacy are admitted; the preferences of economic actors are not seen as an individual decision, but a socially constructed process, a "behavioral realism" is proposed. In Scott's (2001) definition, "institutions are social structures that have achieved a high degree of resilience; are composed of cultural, cognitive, normative, and regulatory elements that, together, provide stability and meaning to social life are conveyed by various vehicles, including symbolic, relationship, routines, and artifacts operating in multiple spheres of jurisdiction and subject to processes of change, both incremental and rupture." Although the initial study of institutions dates back to the last decades of the nineteenth century, the emergence of new institutionalism only occurred in the 1950s, two independent research chains that consider the role of institutions in society:

1. Economic (efficiency), formal and informal institutions are the "background" to focus on the determinants of choice between different governance structures and reduce transaction costs;
2. Sociological (role of legitimacy), focused mainly on formal and informal institutions as direct determinants of transaction costs in an economy. Addressing issues such as the legitimacy of institutions and isomorphism.

Wooten and Hoffman (2016) argue that although there is much discussion about "institutional theory", there is still no consensus on its scope. Regarding the analyzed research, the authors are skeptical about the atomistic reports of social processes, since action is not a choice between unlimited possibilities, but between a narrowly defined set of legitimate options. According to Scott (1995), the organizational action becomes a reflection of the perspectives defined by the group of members that make up the institutional environment; from which emerge the regulatory, normative, and cultural-cognitive systems that provide meaning to organizations.

For the neo-institutional theory, the term organizational field has become the term accepted by many of the actors who are involved in this area of knowledge. By focusing on this level of analysis, researchers were able to better understand the decision-making processes between distinct organizations that, despite having different objectives, considered it necessary and advantageous to interact with each other to accomplish a given task. As a growing number of organizations incorporated common institutional elements, most (if not all) of the organizations at the field level became homogeneous in structure, culture, and production (Dimaggio and Powell, 1983). Much of the research using this notion of organizational field focused on the premise that organizations sought survival and legitimacy as opposed to efficiency.

From the late 1990s, scholars argued that the institutional literature placed too much emphasis on the homogeneity of organizational populations and not on the processes that created this outcome. This focus on isomorphism was seen by many as an unfortunate result of the development of early theory and the unacknowledged empirical insights possible from institutional analyzes.

Another aspect of institutional theory is the role of legitimacy. For Deephouse & Suchman (2008), legitimacy can be granted by a variety of sources, each using a distinct routine. Whether through conscious or preconscious deliberations and schemes taken for granted, each source perceives and evaluates information relevant to legitimacy, evaluates organizations that use that information, and endorses or challenges them on the basis of those assessments.

According to the authors legitimacy is important because it has clear effect on social and economic exchange: most stakeholders only get involved with legitimate organizations. In other words, irrespective of the products or services that illegitimate organizations may offer, a large number of interested parties will not make transactions with such entities. Therefore, legitimacy affects market access.

### ***Innovation and technological capacities***

From the classical concepts brought by Schumpeter (1947) to invention, innovation and diffusion. Innovation is no longer a matter of casual, dependent on individual initiatives and factors unrelated to the economy. According to Schumpeter, innovation is conceived as a new combination of existing knowledge and skills and can take many forms: product innovation, process innovation, organizational innovation, access to new markets and discovery of new sources of raw materials.

Schumpeter, through the concept of "creative destruction," argues that new products constantly replace the old ones. In this way, generally from radical innovations, more advanced technologies emerge, generating a new cycle of economic development.

The main criticisms of Schumpeter's studies are the lack of research on innovation at the enterprise level and in the economies of emerging countries. (Freeman, 1987; Pavitt, 1990). We also note the absence of work on incremental innovation, which is due to imitations, adaptations, continuous improvement of processes and products.

These limitations were later overcome by the so-called "neo-Schumpeterian" researchers and by the scholars of Evolutionary Theory, who analyze innovation as a continuous process. (Nelson and Winter 1982, Rosenberg 1983).

In an evolutionary perspective, Dosi (1988) defines innovation as: "... the search, discovery, experimentation, development, imitation and adoption of new production processes and new organizational configurations."

From the focus of the evolutionist theory of innovation, this paper discusses the role of technological learning as a process of internalization of innovative technological capabilities by companies.

The first concepts related to technological capacity found in the literature concern an "inventive activity" or the systematic creative effort to obtain new knowledge at the production level (Katz, 1976). Technological capacity also includes the skills and knowledge embodied in workers, facilities and organizational systems, aiming at changes both in production and in the techniques used (Bell, 1982).

For Lall (1987), technological capacity is defined as an "internal technological effort" to dominate new technologies, adapting them to local conditions, perfecting them and even exporting them. Dahlman and Westphal (1982) formulated the concept of "catching up", materialized through the "technological effort" to assimilate, adapt and / or create technology.

It is noted that all these definitions are clearly associated with companies' efforts to adapt and refine the technology internally. Bell and Pavitt (1993) formulated a broader definition that technological capability incorporates the resources needed to generate and manage technological change. Such resources accumulate and incorporate individuals (skills, knowledge and experience) and organizational systems.

Bell (1982) distinguishes between two types of resources: the ones that are needed to "use" the existing production systems and the which are needed to "change" production systems.

According to Figueiredo (2003), indicators related to R & D and patents have been extensively used to measure the technological capacity of companies, industrial sectors and countries. This usually involves assessing technological capabilities through staff assigned to R & D laboratories and the expenditures for this activity.

Based on the studies of Katz (1987), Dahlman et al. (1987) and Lall (1987), the authors developed a model in which the technological capabilities of a company are categorized by functions. Such a model suggests that the accumulation takes place from the simpler categories to the more complex ones. In Figueiredo (2001), this model was empirically adapted to help explain the differences between steel companies in terms of the manner and rate of accumulation of technological capacity and, in turn, in terms of improving technical-economic performance.

As an extension of the results of Figueiredo's empirical tests, figure 1 presents a model of the possible trajectory of technological accumulation in companies from emerging economies.

**\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\***

According to Figueiredo (2004), technological capacity are necessary resources that provide technological changes. They are individuals (with skills, knowledge and experience) and organizational systems, which are divided into 4 components that are related to each other: (a) physical technical systems, (b) knowledge and qualification of people, (c) organizational

system and (d) products and services. In the author's view, these components are inseparable and comprehensive, because of the tacit and broad nature of technology and technological capability, the organizational dimension is also a component of technology.

## **METHODOLOGY**

### ***Approach***

In this proposal the qualitative approach is adopted through a case study, for Minayo (2001) the qualitative research comprises the reality lived socially, therefore it responds to very particular questions of the social sciences. In this same way Triviños (1987) affirms that the case study allows the deep and exhaustive study of the object thus allowing the researcher a deepening in his knowledge.

### ***Method of research***

The chosen research procedure is based on a bibliographic research and case study. From the perspective of Yin (2010), the case study is used in many situations to contribute to the knowledge of the researcher on the phenomena, be they individual or social, and can be used by several sciences. The differentiated need for the use of case study arises in many researches in the quest to understand complex social phenomena and allows the researcher to capture the holistic and meaningful characteristics of a specific reality.

### ***Stages***

Therefore, the work of data collection, the instruments and processes to be used, from the formulation of the research questions based on the contributions of the theoretical referential, to the elaboration and accomplishment of the field research that seeks to identify the information that contribute to the problem of this study, in addition to the objectives and other issues to be addressed.

Data collection was performed through four main sources of evidence. From this, the research followed the following steps: (a) Documentary Research; (b) Elaboration of Interview Script; (c) Conducting Interviews; (d) Data Organization.

#### **• Stage One - Documentary Research**

It is the research by documents related to the innovation center, Embrapii, and of the companies with contracts signed with him. This step will allow finding a set of files with relevant information about the center, enterprises, activity reports, edicts, newspaper and site reports, institutional videos, publicity materials, and general institutional information.

#### **• Stage Two - Elaboration of Interview Screenplay**

The research seeks to collect information with the objective of identifying the main factors of technological capacity increase of the company involved in the project. The proposal is that the interview script be applied to project managers.

#### **• Stage Three - Conducting Interviews**

According to Gil (1999), "the interview is the technique in which the researcher presents himself to the investigated one and asks him questions, in order to obtain the data that interests him to the investigation".

May (2004) further states that "interviews generate rich understandings of people's biographies, experiences, opinions, values, aspirations, attitudes, and feelings."

Three interviews were conducted in a semi structured manner, the first with the director of the Embrapii center where the study was conducted, the second with the researcher responsible for the project studied and the third with the project manager in the chosen company.

The criterion for choosing the company was the one with the largest number of projects, in the specific case were a total of ten projects developed over two years.

The purpose of conducting the interviews with different actors involved in the same projects was to capture the vision of the same phenomenon with different lenses, that is, analyze the perception about the model proposed by Embrapii with the manager's view of the center, the academic view of the researcher and the market focus through the company representative.

#### • Stage Four - Organization of data

From the interview register, through content analysis, points that corroborate or that for some specific reason differ from the theory, which offer the opportunity to identify important results, are highlighted.

The main excerpts collected, considered relevant to the objectives of the study, will be transcribed and systematized in order to integrate the analysis steps, in an exercise of dialogue with the theoretical reference of the research.

## RESULTS

Based on the collected data, it was observed that all respondents were unanimous in affirming that the Embrapii model has been a successful experience to increase the technological capabilities of the company and improve its performance.

In the view of the manager of the center of innovation, from the accreditation with Embrapii, the number of projects developed with the companies increased significantly. "The Embrapii financing model is much faster than other financing modalities involving public resources, so if the project fits the scope of the center's activities and the company complies with the terms of the agreement, the value is already available."

For the manager of the center, a negative point is the indicator analyzed by OS Embrapii, regarding the patent deposit, "in our center most of the projects are related to process improvement and not aimed at product launching. Moreover, for strategic reasons, companies have no interest in filing patents, because that would make the research data public if it exposes the competition. "Due to the fact narrated by the manager of the analyzed center, it can be observed in the managerial reports that the unit has not been able to reach good results in the index relative to intellectual property.

In the researcher's view the Embrapii model is an excellent interaction tool between the university and the industry. Another positive aspect was the possibility of applying the scientific research developed by the masters, "with this project, it was possible to generate results for dissertations and scientific initiation works, besides the possibility of publishing scientific articles"

A negative point reported by the researcher was the depreciation in the laboratories caused by the excess of tests demanded by the projects, "as there are many tests, there is the depreciation

of the equipment of the laboratory and there is no money foreseen in the project for improvement, maintenance or purchase of new equipment. That, I believe, is being reviewed by Embrapii".

In the company representative's view, the greatest benefit of the partnership with the Embrapii center is the division of the financial costs inherent in the project, as well as being able to count on the entire laboratory infrastructure of the center "... our research center is small, we would not have equipment, nor enough personnel to carry out all the tests that were done." According to Mathews (2002), in emerging countries, where resources are scarce, the external mechanisms of technological advancement are fundamental for the development of companies.

When asked about how the technological learning process occurred, he answered that: "Learning has occurred from the beginning, with meetings with researchers, in the exchange of experiences and from the results generated, whether they are expected or not". This statement corroborates with the theory that when Simon (1947) states that learning is a social phenomenon arising from the interaction between individuals.

The interviewee also ponders the limitations of the project, which may arise from operational issues, "often the results are not applicable or there would be a very high cost in their deployment on an industrial scale."

Table 1 was filled in based on the responses of the company representative and shows in a schematic way that, in his view, the company appropriated the knowledge through a partnership with the Embrapii center.

**\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\***

The column "Interaction" stands out in table 1, the entrepreneur emphasizes that both internally and externally the involvement with the project was broad "There is a technical sector in the company that made several contributions ... In the research institution the coordinator of the project has always been very accessible, and I have been able to contribute with several suggestions for improving project execution. "

Bell and Pavitt (1993) affirm that, the reflex of the technological learning brings the accumulation of the technological capacity, that consequently improves the indicators of competitive performance. The interviewee, the company's representative, corroborates the theory when he states that "the reduction of cost achieved with the knowledge acquired in only one of the projects was able to pay the investment made in all other projects."

## **CONCLUSION**

According to the objective of this study, which is to analyze whether the model of financing for industrial research, incorporated in the Brazilian scenario with the creation of Embrapii, has fulfilled its proposal in the expansion of applied industrial research and encouraged the accumulation of technological capacity in companies, for innovation centers linked to the Federal Institutes. Based on interviews with government, university and company representatives, the Embrapii model, in general, has fulfilled its institutional mission of "Contributing to the development of innovation in Brazilian industry through strengthening its collaboration with research institutes and universities". (Embrapii, 2018)

The Embrapii model also contributed to the expansion of the applied research in the campus linked to the innovation center, bringing the agreement with at least four large companies of

the region, besides generating results for publication of scientific papers and master's dissertations.

Another point observed is the internalization of technological knowledge by the company and the creation of competitive advantages, as one of the results of the approach with the Federal Institute, through the partnership enabled with the resources of the Embrapii model.

In this research it was possible to identify recurrently in the interviews, some points with needs of adjustments. One issue cited was the fact that the physical structure of the laboratories was in precarious conditions, despite having sophisticated equipment. In the opinion of the company representative, for example, the appearance of the laboratories is against the high level of research and the technologies developed in the place.

As a suggestion of future work, it is recommended the application of this same study in other Centers accredited by Embrapii. Try to identify if the gains and difficulties found in the case studied are specific or generalizable issues for the whole Federal Network of Professional Education.

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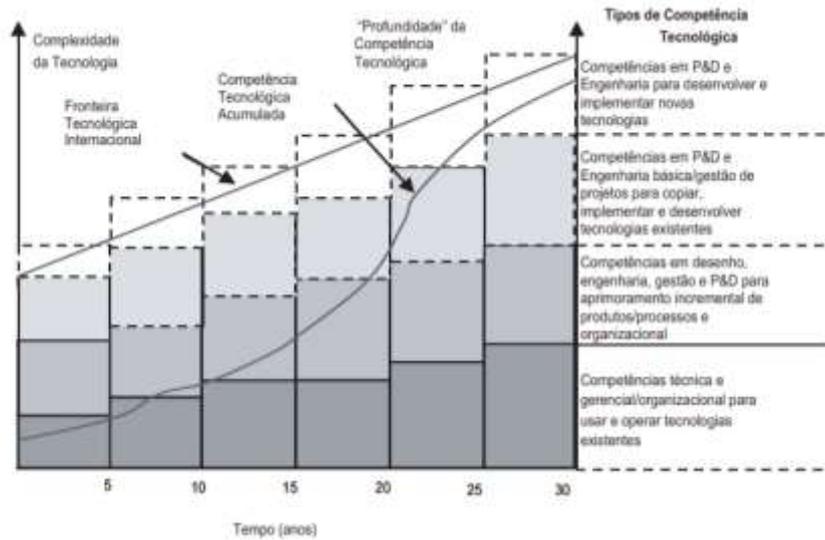
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Figure 1 – Ladder of technological capacities



Source: Figueiredo (2001)

Table 1 - Detailing the characteristics of learning processes

Learning processes	Key characteristics of the learning process			
	Variety	Intensity	Operation	Interaction
	Absent, present (limited, moderate, diverse)	Once, intermittent, continuous	Bad, moderate, good, excellent	Weak, moderate, strong
External acquisition of knowledge	Present (diverse)	continuous	good	strong
Internal acquisition of knowledge	Present (diverse)	continuous	good	strong
Sharing knowledge	Present (diverse)	continuous	good	strong
Knowledge coding	Present (moderate)	intermittent	good	strong

Source: Adapted Figueiredo (2015)

*Track 07 Global and Local Innovation*

**ID #656**

**The influence of non-spatial proximities in the innovation alliance**

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**Abstract**

*External knowledge source is an important counterpart to the company knowledge base and is a critical factor for innovation development. However, the lack of proximity among partners can prevent the access to external knowledge. The proximity goes beyond the geographic aspect, considering also to be cognitive, social, organizational and institutional factors. Inevitably, there is an interrelation among proximities that leads to different outcomes in innovation. The current study aims to understand the influence of the non-spatial proximity in innovation results. Taking an alliance from Brazilian biotechnology and a German company as a case study, the preliminary results suggest that cognitive proximity stands out in the aspects of compensation of the geographic distance. Nevertheless, these proximities vary depending on the type of innovation that that look for in order to reach out with their partner.*

**Keywords:** Non-spatial proximity; Alliances and Innovation;

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*Track 07 Global and Local Innovation*

**ID #726**

**Drivers of innovation and internationalization in new businesses: Evidences in several countries**

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**Abstract**

*This research aims to verify the probability of an entrepreneur to innovate and internationalize their business given their socioeconomic profile, their perceptions and attitudes, and characteristics of the country of origin. Global Entrepreneurship Monitor (GEM) data will be used on early stage entrepreneurs (nascent entrepreneurs and new businesses under 42 months) for the period 2005-2015. From these data, Bayesian networks will be constructed with the variables. A Bayesian network is a modeling and reasoning tool that works with uncertain beliefs. Its structure is composed of two parts: a qualitative component in the form of a directed acyclic graph and a quantitative component in the form of conditional probabilities. In this sense, this research aims to contribute to literature in three ways. First, it offers empirical evidence on the role of innovation as a factor that influences the early internationalization of companies. Secondly, to present evidence based on a single database that factors such as the socioeconomic profile of the entrepreneur, their perceptions and attitudes, and characteristics of the country of origin can influence the probability of innovation and internationalization of new business. Third, this research will be conducted in a large database (GEM) with respondents from 107 countries, which increases the generalization of results and allows possible country differences in the innovation-internationalization relationship to be identified in a single set of data. In addition, the study will also look at a relatively long period (2005-2015).*

**Keywords:** Entrepreneurship; innovation; internationalization;.

**Acknowledgments**

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## EXTENDED ABSTRACT

The literature about the drivers of early internationalization does not seem to have paid much attention to the role of innovation. In his extensive bibliographical research of studies on companies that have internationalized early, Rialp, Rialp & Knight (2005) do not place innovation as one of the resources that explain the early internationalization. This lack is striking because early work in the field of international entrepreneurship emphasizes the role of innovation and technology as important drivers of early internationalization (Oviatt & McDougall, 1994; Knight & Cavusgil, 1996).

Traditionally, these two routes for the growth of companies have been studied separately and “(...) only recently innovation and internationalization are increasingly seen as being strongly interrelated, with entrepreneurship representing the *trait d’union* between the two.” However, the intersection between innovation, internationalization, and entrepreneurship is a field of study with a number of research gaps. Starting with the very causal relationship between innovation and internationalization that is controversial. An important part of the literature argues that companies are internationalized to exploit their superior innovative capabilities in various markets. According to other scholars, the relation between innovation and internationalization is almost insignificant and even negative (Hagen, Denicolai & Zucchella, 2014: 111).

Another point that draws attention in the literature is that most empirical studies on the relationship between innovation and the internationalization of new ventures are typically small-scale qualitative studies with findings that are not entirely conclusive (Ramos, Acedo & Gonzalez, 2011). Studies such as Lamotte & Calovic (2013) and Castaño, Méndez & Galindo (2016) also, point out that more quantitative studies are needed with further study. To corroborate these arguments, the editors Hagen, Denicolai & Zucchella (2014, p.114) responsible for a special edition of the Journal of International Entrepreneurship entitled “International entrepreneurship at the crossroads between innovation and internationalization” claim in the opening paper that “(...) support that the “International Entrepreneurship and innovation” stream is only at its infant stage, thus introducing auspicious opportunities for scholars in the field.” Thus, more contributions are needed to clarify the nature, trends, and dynamics of international entrepreneurship.

In this sense, from the suggestion made by Hagen, Denicolai & Zucchella (2014) deepened in the literature to identify factors that can influence the relationship between innovation and internationalization. In this search, we found authors who demonstrated the importance of factors related to schooling level and previous experience that is strongly influenced by the entrepreneur's age (Becker, 1993; Manolova, Brush, Edelman & Greene, 2002; Stucki, 2016). In addition to these two factors, there is also the genre of the entrepreneur who already has evidence that influences the motivation and expectations of business growth (Carter & Brush, 2004; Gatewood, 2004). However, the influence of these factors requires more studies and empirical evidence that may be generalizable.

Another factor described by several authors is related to the ability to recognize opportunities of the entrepreneur at the international level (Manolova, Brush, Edelman & Greene, 2002; Baronchelli & Cassia, 2014). As owner-managers have different reasons for becoming entrepreneurs, one can from this point distinguish different types, especially those motivated by opportunity and by necessity. In this sense, it is believed that reasons based on opportunity and reasons based on necessity do not affect entrepreneurship in the same way (Reynolds et al.,

2005; Carsrud & Brännback, 2011) and therefore may not affect the early internationalization of companies.

Besides the individual, the literature also revealed the importance of checking the influence of factors related to the company and the country of origin. Wiklund and Shepherd (2003) identified that the aspirations of small business managers in expanding their business activities were positively related to subsequent real growth. On the other hand, studies have shown that economic conditions in a country can affect entry into entrepreneurship (Wennekers, Van Stel, Thurik & Reynolds, 2005).

Based on the arguments listed above, the research intends to address this theme expressed in the following research problem:

*What is the probability of an entrepreneur to innovate and internationalize their business given their socioeconomic profile, their perceptions and attitudes, and characteristics of the country of origin?*

To study this topic, data from the Global Entrepreneurship Monitor (GEM) on early-stage entrepreneurs (nascent entrepreneurs and new businesses under 42 months) will be used for the period 2005-2015. From these data will be constructed Bayesian networks for some variables related to the research problem. According to Pearl (1988), a Bayesian network encodes the joint probability distribution of a set of variables  $v$ ,  $\{x_1, \dots, x_v\}$  as a directed acyclic graph and a set of conditional probability tables (TPCs). Each node corresponds to a variable, and the TPC associated with it contains the probability of each state of the variable, given every possible combination of states of its parents. The set of parents of  $x_i$ , denoted  $\pi_i$ , is the set of nodes with an arc for  $x_i$  in the graph. The network structure encodes the assertion that each node is conditionally independent of its non-descendants given their parents. Therefore, according to Darwiche (2008), the network can be seen as a factorized (compact) representation of an exponentiated probability distribution. The power of Bayesian networks as a representational tool result both from this ability to represent probabilities compactly and from the availability of inference algorithms that can respond to queries about these distributions without necessarily constructing them explicitly.

In this sense, this research aims to contribute to the literature in three ways. First, it offers empirical evidence on the role of innovation as a factor that influences the early internationalization of companies. Secondly, to present evidence based on a single database on factors that may influence this relationship, such as the socioeconomic profile of the entrepreneur, perceptions and attitudes towards entrepreneurship, and characteristics of the country of origin. Third, this research will be conducted in a large database (GEM) with respondents from 107 countries, which increases the generalization of results and allows possible country differences in the innovation-internationalization relationship to be identified in a single set of data. In addition, the survey will also look at a relatively long period (11 years).

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*Track 07 Global and Local Innovation*

**ID #768**

## **Innovations in MSMEs in the United Arab Emirates: An Empirical Study**

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**Christian Amponsah** (Yorkville University, Canada)

### **Abstract**

*Innovate or perish seems to be the business rule today with innovations largely associated with large firms, what of small ones? It's an interesting question to investigate, region, sub-region, industry, sub-industrial sector-wise small firms, with small is beautiful theory, play a significant role in all economies, following which they need to be up-to-date and move along the changing business times. Accordingly, this study is a sample study of innovations decision making in micro, small and medium enterprises in the fast-moving economy of United Arab Emirates, a new (1971) small Arab State, which is said to be a trend setter in the resurgent expansive Arab World. According to the findings of the study, innovation (s) in multiple respects are very much part of the business framework of MSMEs in the Emirates, proving them to be quite dynamic firms, the policy implications of which is to encourage more firms which are quite supportive of the diversified and decentralized industrial business policy of the state. They are run by a well-educated class of entrepreneurs who cannot be expected to fall behind large entrepreneurs or companies.*

**Keywords:** Innovation; United Arab Emirates.

### **Acknowledgments**

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## **Track 08**

# ***Innovation & Digital Transformation in Local/Global Business***

*Track 08 Innovation & Digital Transformation in Local/Global Business*

**ID #552**

## **Competitive intelligence, innovation and performance: Theoretical model proposal**

**Renata Giacomini Menezes** (Instituto Metodista Izabela Hendrix, Brazil)

**Cristiane Fernandes De Muylder** (Universidade Fumec, Brazil)

### **Abstract**

*In the face with the dynamism of the markets, the organizations seek to apply tools to establish new strategies that aim at a better performance and permanence in the market. In this context, this research consists that the competitive intelligence action generates innovation that generates performance. Thus, the objective of the research is to construct an analysis model of the involvement of these three constructs: competitive intelligence, innovation and performance, focusing on sectoral analysis. Theoretical validation was performed using the EBSCO Global and EMERALD Insight databases, reinforcing the relationship between the constructs, as well as the description of the variables involved in the model for each construct. The contribution of the article was to advance the theoretical discussion before a model of relationship between the constructs, allowing a sectoral analysis, generating new strategic factors and paradigms. This research instigates the construction of a survey for empirical validation of theoretically proven relationships that can greatly contribute to the analysis of sectoral and country performance.*

**Keywords:** inteligência competitiva, inovação, performance, modelo teórico..

### **Acknowledgments**

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*Track 08 Innovation & Digital Transformation in Local/Global Business*

**ID #576**

## **Crowdsourcing as production model that uses collective intelligence, the collaborative culture and the formation of communities**

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### **Abstract**

*Crowdsourcing is a recently developed term that refers to the coparticipation process in a company's activities, via an online community and in an open and/or closed way. Any member of this community can complete attributed tasks and be paid or not. Despite originating in the computing sector, companies have started to use crowdsourcing for a wide range of tasks. It has been verified that companies are using crowdsourcing to carry out tasks related with the market, concentrating on three main areas: product development, advertising and promotion, and market research. The present study is qualitative and objective to study marketing activities under the perspective of crowdsourcing. Finally, the study case used to understand the phenomenon are Coca Cola, PepsiCo, Netflix, and Amazon.*

**Keywords:** Marketing; Crowdsourcing; Strategy; Coca Cola; Pepsico; Netflix; Amazon..

### **Acknowledgments**

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## INTRODUCTION

The internet has enabled a rise in the resolution of issues that are common to a group of individuals, which is also known as crowdsourcing, this being a viable option for resolving complex tasks, including in the corporate environment (Affeldt, 2012; Eskenazi *et al.*, 2013; Libert & Spector, 2010). However, the opening up of crowdsourcing presents a challenge in terms of the solutions obtained, since they can be sabotaged, stolen, and manipulated at low cost by various market players (Affeldt, 2012; Eskenazi *et al.*, 2013; Libert & Spector, 2010). In particular, the opening up of crowdsourcing offers individuals the opportunity to present antisocial behavior with actions that tend towards plagiarism, sabotage, and the collective manipulation of solutions. Although the techniques for guaranteeing acceptable crowdsourcing operations have constantly expanded, there is not yet any definitive solution for protecting against all possible forthcoming attacks and dilemmas. Within this context, the crowdsourcing marketing perspective emerges (Affeldt, 2012; Brabham, 2013; Gummesson, Kuusela, & Närvänen, 2014; Oishi *et al.*, 2014). Crowdsourcing in marketing represents a way of enabling exchanges through various activities such as market research, communication, the development of new products and tests, the development of innovative ideas, and others, within the virtual environment. However, companies should also be aware of possible limitations and ethical questions related to crowdsourcing. Some promising areas for applying crowdsourcing in marketing activities have been identified: product development, promotion, advertising, and marketing intelligence. When developing a product, companies can make use of crowdsourcing as a tool for gathering data that can serve to help in the development of improvements for existing or potential users. In other cases, companies that are in constant contact with experts via crowdsourcing can identify problems and resolve them more quickly. With regards to promotion and advertising activities, crowdsourcing tends to facilitate tasks such as creating designs, creating fliers, creating banners, etc. From a marketing perspective, crowdsourcing creates the opportunity to interact with large groups of potential consumers (Affeldt, 2012; Eskenazi *et al.*, 2013; Libert & Spector, 2010; Oishi *et al.*, 2014). Of course, motivational elements or gamification strategies are needed to keep participants interested and involved in the process. Also, via crowdsourcing companies can drive the promotion of their brands through enthusiastic volunteers, outsourcing the creation of content to the target segments, as well as collecting innovative ideas and solutions for the needs of the market (Baines, Fill, & Page, 2013). In the area of marketing intelligence it is perceived that crowdsourcing enables data to be supplied and knowledge to be created for the marketing intelligence area, in particular impacting on its result: decision making based on market opinion (Affeldt, 2012; Brabham, 2013; Eskenazi *et al.*, 2013; Libert & Spector, 2010; Oishi *et al.*, 2014). One example is Lean Survey, a startup that mixes crowdsourcing and mobile technology to carry out studies of opinion. Launched at the start of 2015, in a short space of time it has experienced growth that is rarely seen in technology companies. It already has paying clients and has gained investments to improve its product in its primary role of gathering data from the market.

Thus, an academic study that sheds light on strategic and operational marketing activities in the crowdsourcing sphere is appropriate. The analysis unit chosen was the marketing activities and crowdsourcing of the company amazon.com.

Given the context, the following research problem was outlined: how is crowdsourcing used by some companies. The article has raised some notes about: marketing environment; crowdsourcing; the usage of crowdsourcing in the four companies considered in this scientific investigation.

## **METHODOLOGICAL PROCEDURES**

The article was developed based on a qualitative methodology. For that, a theoretical revision was made about concepts that underpin the discipline of marketing and crowdsourcing. To facilitate the understanding of the themes studied, the article makes use of cases for illustrative purposes of companies that make use of crowdsourcing. Professionals directly related to marketing activities answered a semi-structured questionnaire, which enabled data to be collected on the subject studied. Case studies are adopted when “how” and “why” types questions are posed. They are used when the researcher has little control over events and when contemporary phenomena included in some real-life context are under focus (Demo, 1995; Diógenes, 2005; Rampazzo, 2005).

In addition to the application of the semi-structured questionnaire, triangulation was also performed for the data collection. Sources such as company website, informational articles and other fonts were used. It is believed that the verification of the different forms and approaches in the use of the triangulation technique in scientific production can help researchers (Demo, 1995; Diógenes, 2005; Rampazzo, 2005).

Finally, it was possible to illustrate the use of crowdsourcing in companies such as: Coca Cola, PepsiCo, Netflix, and Amazon.

## **THEORETICAL FRAMEWORK**

In recent years, consumption trends have evolved in an unexpected way and in parallel with the expansion of the digital universe via social networks and as a consequence of the crisis that has affected the world in the last decade (Gatautis & Vitkauskaite, 2014; Libert & Spector, 2010). Proof of this is the emergence of the collaborative economy, a phenomenon which, little by little, has gained much strength and is breaking the consumption paradigms that were established up until now, with the millennial generation being the main factor. Technology is changing traditional business models and focusing on the needs of consumers (Howard *et al.*, 2015).

The time of the owners' society has been left behind and today the digital revolution is creating new productive relationships and transforming global consumption patterns. The collaborative economy has emerged in this way, involving a system in which goods and services are shared and exchanged via trusted digital platforms, with a reputation for a better service being at the core of buying and selling decisions. Thanks to these digital platforms, the barriers to mistrust have decreased, based on the use of user profiles with evaluations and references that give rise to new ways of relating, exchanging, and monetizing economic goods in traditional business models (Howard *et al.*, 2015).

The internet, GPS, the portability and sociability of new technologies, crowdsourcing, the open-house culture, the maker movement, and the emergence of a new generation of citizens with a greater capacity and reach for impacting their environment via one click, are just some of the technical and cultural components that have been taking root to consolidate a new model of exchange that is redefining the way of doing business and relationships, through the exchanging of goods and services between citizens (Gatautis & Vitkauskaite, 2014; Libert & Spector, 2010).

For this reason, the main value added by this new tendency for collaboration, besides financial profits, is the production and development of knowledge, since through being shared it can be

seen as a starting point for new business models. The collaborative economy model can lead to personal benefits, both at an economic level and in terms of personal and intellectual growth, but it is subject to one limitation: the desires of the individual (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

The true potential of this model lies in the integration of various people in the value creation process, both economic and social (Howard *et al.*, 2015). By establishing that each individual can work in a different area of expertise in the economy, it is discovered that there is a potential infinity of possibilities for creation, innovation, and even financial empowerment in small, medium, and large projects (Boyce, 2014).

The era of the collaborative economy supposes a cultural change. It is an access economy in which private drivers, domestic workers, accommodation, and hotel rooms around the world can be found (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010). The immense growth in the collaborative economy in recent years, globally speaking, would not have been possible without technological development. The evolution of platforms that offer online market systems together with P2P technologies are determining facts that favor this model, guaranteeing an ecosystem in which exchanging goods and carrying out online transactions becomes as easy as inputting certain personal data and clicking a few times (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

Named by TIME magazine in 2011 as one of the “10 ideas that will change the world”, the collaborative economy has positioned itself today as the pinnacle of a new financial model. Thanks to changes in habit, we have come to be in possession of accessibility. Specifically, much of its structure is based on the application of new technologies to establish networks for exchanging, renting, and bidding, and communities created to divide goods, spaces, or services (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

The figures for this phenomenon are ever more surprising. Thousands of people who travel around the world stay in private properties using the Airbnb platform; millions of people use the services of Uber to reach their destinations; and almost half of the global population has an account with Spotify, which allows them to hear an infinite amount of music online. According to Forbes (O’Connor, 2013), last year around US\$ 3,500 million circulated globally within the collaborative economy, which represents a 25% increase in relation to the transactions recorded in this sector in 2014. This model is covering ever more sectors of society and in particular the day to day life of citizens. Airbnb already operates in 25,000 cities in 192 countries, where it offers more than 600 thousand places to stay, ranging from individual rooms to European castles. In turn, Uber is present in more than 100 cities in 45 different countries and is valued at more than US\$ 18,000 million (Boyce, 2014).

The seriousness of the global economic crisis is reflected in the number of states on the edge of bankruptcy and in the high unemployment rates. The growing concern about ecology and environmental health in the last decade has made people discover and incentivize collaborative consumption that prioritizes the reuse of objects that no one longer uses, instead of acquiring new products (Boyce, 2014). For this reason, many people in different regions of the world have found in the collaborative economy an ideal way of acquiring products and services that they need without compromising their financial situation, since this model prioritizes the use of objects over ownership of them. This rejuvenated concept has already aroused the creativity of millions of people who show that we are at a circumstantial point in which the collaborative economy can be used in an ever more innovative and socially responsible way (Gatautis & Vitkauskaitė, 2014).

The future presents various challenges for the collaborative economy, since besides regulations and rules concerning the processes, there is a need to strengthen trust between those involved in order to continue taking firm steps towards sustainable development. This model works thanks to the empowered citizens who work together, but this collaboration requires the regeneration of trust in the people that surround us (Boyce, 2014).

The collaborative economy tries to offer new alternatives to the current system. It proposes learning to value the intangibles that are created, such as the emissions economy, the connections between people, and our constant capacity to create. It is the future of solidarity among citizens. We create projects, we divide resources, and we obtain profits knowing first hand those who benefit (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

Marketing undoubtedly represents a fundamental component in the formulation and implantation of strategy, because strategic management has to permanently deal with an environment that is in constant change, in which two entities and forces stand out (Hooley, Piercy, & Nicoulaud, 2008; Hooley, Saunders, & Piercy, 2001; Toledo, 2011): the market and the competition. This obliges organizations in competitive and aggressive environments to base their actions on a market-orientated philosophy. The relevance and pertinence of marketing in market-orientated organizations, which maintains a double focus between market and competition, can be highlighted via three roles or tasks that constitute the central point in its strategic procedure (Hooley, Piercy, & Nicoulaud, 2008; Hooley, Saunders, & Piercy, 2001; Toledo, 2011).

The first role or task of marketing is to identify the characteristics, profiles, requirements, and demands of the customers and effectively communicate and disseminate the information to the organization as a whole. The second role is to determine the competitive positioning in order to adjust the resources, capacities, and scopes of the organization to the diversified needs of the customers (Kotler, Kartajaya, & Setiawan, 2011; Lambin, 2002). This task implies recognizing that the markets are heterogeneous; it is therefore up to the organization to identify the segments that compose them, judge the level of attractiveness of each one of them, and at the same time analyze the competitive condition for attending to them. The analysis will determine the segmentation strategy that the organization will adopt, in the search to attend to its scopes in terms of growth and return. The third revealing role of the relevance and pertinence of the marketing in the competitive procedure relates to the task of implanting the strategy, which means aligning the organization's resources in order to plan and execute the delivery of value, and consequently customer satisfaction (Hooley, Piercy, & Nicoulaud, 2008; Ulph, 2011). Marketing contributes in the coordination of efforts that aim to guarantee customer contentment and maintain it. And from this synergy the strategic marketing and operational marketing arise, the former being involved in actions to understand the market through market segmentation processes, the identification of targets, and subsequent application of the strategy for positioning goods and services in relation to the chosen target (Aaker & McLoughlin, 2010; Lambin, 2002, 2009). Following the strategic phase, the operational marketing is conceived, which mainly involves determining four fundamental points so that the goods and services attend to the market, namely: product, place, price, and promotion (Kotler, Kartajaya, & Setiawan, 2011; Kotler & Keller, 2009).

The most common way of applying crowdsourcing in market research is to gather data via surveys and questionnaires. The interviewees are subjected to a series of simple questions and the results are subsequently used to create a product strategy. Given that these questionnaires in some cases involve a monetary reward for the interviewees, there is a considerable problem when crowdsourcing is used for investigation. Here the provision of false data should be

highlighted, which can lead companies to restrict their online surveys to only the target population (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010), thus impeding anyone pretending to form part of the object demographic group with the intention of earning extra money. The payment can affect the answers in another way. Bearing in mind that the company is paying them, many respondents may provide answers that represent an unreal image of a company or answers that are seen as desirable. The best way to avoid this occurring is to carry out the market research using complex questionnaires that contain some fields to complete in writing (own words), as well as requiring a minimum number of words (Hossain & Kauranen, 2015; Stanke & Drogosch, 2015). In recent years, many companies have studied the market, placing projects on crowdsourcing websites to see if people are willing to support them with their money. The clear distinction between people's opinions and their willingness to pay for something can be noted, leading to a very useful indicator for the future success of the project (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

The development of products based on ideas created in crowdsourcing is an area in constant growth. Crowdsourcing is also widely used since companies are seeking innovative solutions for their problems. For some time, companies have been using it for the development of new products. Applying crowdsourcing to develop products implies three main differences in relation to centralized development in a company (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010):

- It is not only limited to customers, but also includes potential customers or anyone willing to help and supply his/her ideas.
- It allows companies to obtain direct feedback, without third parties (such as distributors) being involved in the process.
- The companies can select specific areas in which improvements should be made.

The most common use of crowdsourcing is in advertising and promotional activities. This model of crowdsourcing has become popular in recent years, given that its main advantage is it enables companies to save a lot of money and use the coparticipative crowd to spread their message (Stottlemyre, 2015). Even companies with larger advertising budgets have been involved with collective collaboration in certain periods of time, by including existing and potential customers in projects in the form of an open invite, or even paying them to post positive comments on blogs and websites. Crowdsourcing can be used in promoting or reconstructing the identity of an institution's brand or even a location (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010). Hypothetically, in situations with a limited marketing budget and expensive media markets in specific areas, it is technically possible for a company to change its strategy to a creative approach, by inviting customers and potential customers to participate in campaigns to improve its image. The campaign can obtain personal experiences and promote them on a website and a Facebook page. In the case of a positive result, via crowdsourcing and increased visibility the company can increase brand awareness and awareness of the physical establishment as a place to visit (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

While crowdsourcing is generally recognized as a solution for resolving the activity of repetitive businesses and creating content, it can also constitute a recipe for reinvigorating the marketing strategy, taking advantage of coparticipation to improve marketing activities, which can be a big game changer. Companies from the top of the corporate world have made use of crowdsourcing in their marketing efforts. In fact, 11 of the 12 biggest global brands (as listed in Interbrand's 100 Best Global Brands for 2014) constantly mentioned and approved the use of crowdsourcing for marketing and innovation (Bestglobalbrand, 2014).

Curiously, when the Place variable of marketing is analyzed, crowdsourcing operates on two fronts: in the first, crowdsourcing constitutes the place itself for offering a company's services. In contrast, the contracting party can make use of crowdsourcing as a source of data for deciding on its future physical or virtual place, based on the feedback from users pre-qualified to navigate within the environment (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

## **RESULTS OF THE RESEARCH**

In a multifaceted field of knowledge, but still lacking in a higher methodological density, such as Administration, triangulation is a useful tool for the production of knowledge based on methodologies that allow the approximation and apprehension of phenomena of reality in a comprehensive and in depth. The qualitative case studies, so common in this science, call for mechanisms that can broaden their scientificity.

Here are some examples of using crowdsourcing. The presentation was structured through data obtained through the triangulation of the semi structured questionnaire survey, company websites and other sources.

### **Case 1 – Coca Cola**

Although repeatedly used today, the operational models embedded in terms such as crowdsourcing and collaboration do not exactly constitute novelties in marketing: via surveys, for example, this activity has always sought to draw on the information derived from consumers of the Coca Cola Brazil brand. However, technologies have enabled this process to be carried out more openly and more transparently.

In Brazil, Coca Cola has bet on collaboration in projects such as Refresh Your Ideas, which last year received more than 250 thousand suggestions for art to decorate the cans for the soft drink Sprite (subsequently, this contribution from the consumers also appeared on a sneaker, launched in partnership with the Redley brand). Via actions of this type people establish much deeper relationships with brands.

The crowdsourcing actions of Coca Cola have more to do with brand positioning and marketing. One of the most notable cases is that of the video collectively created in Singapore to launch Coca Cola Zero, an action that was later repeated globally.

### **Case 2 – PepsiCo**

PepsiCo offers the biggest global portfolio of food and drinks brands, which includes 22 different product lines that annually generate more than US\$1 billion in sales each. Its main businesses – Quaker ® (cereal), Tropicana ® (fruit juice), Gatorade ® (sports drink), Frito-Lay ® (snacks), and Pepsi Cola ® (fizzy drink) – also produce hundreds of other tasty and nutritious convenience foods and drinks that are known and respected throughout the world.

Since 1953, PepsiCo has been one of the main food and drinks companies in Brazil and operates in the market via preferred and market leading brands such as Quaker ® (cereal), Toddy ® and Toddyinho ® (chocolate drinks), Elma Chips ®, Lucky ®, and Eqlibri ™ (snacks), Mabel ® (cookies), Gatorade ® (sports drink), Lipton ® (ice tea, in partnership with Unilever), Kero Coco ® and Trop Coco ® (coconut water), and H2OH! ® and Pepsi Cola ® (fizzy drinks).

In total, the company has more than 19 plants and more than 100 sales branches located throughout Brazil and the talents of around 13 thousand employees, who have already chosen

the company 13 times as one of the best workplaces in Brazil. Since 1997, the company has maintained a close partnership with AmBev – the Americas Beverages Company – for the production, sales, and distribution of Pepsi®, H2OH!®, Gatorade®, and Lipton® to more than one million sales outlets throughout the country.

At PepsiCo, the employees are united by the commitment to achieve sustainable growth by investing in a healthier future for people and the planet, which is also believed to be a more successful future for PepsiCo. At PepsiCo this is called commitment to Performance with Purpose; that is, PepsiCo promises to:

- Offer a broad portfolio of food and drinks that attend to the local tastes of the consumers;
- Discover innovative ways of minimizing its impact on the environment, including the conservation of water and energy and a reduction in the volume of packaging;
- Provide a great place of work for its employees; and to respect, support, and invest in the communities where it operates.

In the global setting, PepsiCo has already developed various actions based on crowdsourcing: among these, the Dwemocracy campaign to choose new flavors for the Mountain Dew line of drinks sold in the United States, and the well-known broadcasting of a Doritos commercial created by a consumer in the highly-valued Super Bowl intervals. Little by little, this creates greater consumer loyalty and strengthens the brand's performance indicators.

Around four years ago, the PepsiCo brand also conducted an experiment with crowdsourcing. It made a bold proposal to its consumers: they should invent new flavors of potato chips. This is an example of a crowdsourcing campaign. A task that is normally developed by an employee of the company itself is handed to the public in a free challenge format. This call from PepsiCo also proved to be quite fruitful. It is not by chance that since then other companies from the sector have sought to do something similar to this idea.

### ***Case 3 – Netflix***

For your business to succeed, much planning, research, and the creation of strategies that are consistent with your target public and operating area are needed. With Netflix it was no different. The main TV via internet service in the world, this giant did not save on creativity and efforts to attract and charm its public, whether in the form of interacting through social networks or in the quality of the service offered.

In 2006, the company promoted Netflix Prize, a competition that would give 1 million dollars to whoever was able to make at least a 10% improvement to the platform used. The initiative is known as crowdsourcing, in which different people work voluntarily and collaboratively in the same environment and project, seeking the same objective in this case, which besides the prize, involved the winner making improvements to the company's already famous platform.

If you have already experienced Netflix, you know that you need to answer some questions about the type of content you prefer. Using this segmentation, the company is able to recommend what it judges to be of interest to you. This segmentation is also very important for you to develop your marketing strategies. Depending on the strategy of the sales funnel your possible client is in, the way you will approach the content available will be different. If the consumer is well fed over his/her trajectory, he/she will almost certainly be likely to buy when the time comes.

In 2013, in order to compete as equals with television companies that were consolidated in the market, such as HBO and Showtime, the company knew that losing the quality of what it was

producing was not an option. Since then, various original productions have been launched, such as House of Cards, Narcos, Orange is the New Black, and even series made in partnership with Marvel, such as Daredevil and Jessica Jones, which have been highly praised and consumed.

Thus, one of the most relevant marketing lessons is to invest in content marketing in order to become a reference in your operating area. Create a blog, write articles that solve your potential clients' problems, and by using your knowledge, educate them with regards to your products and services. With this strategy you convey credibility and professionalism and will also strengthen your ties with your public.

The social media team at Netflix does not miss an opportunity to create engagement. Aware that for many subscribers watching series is sacred, in "The ten commandments of Netflix", actors from its main series presented 10 commandments for those who watch series. For this reason, it is not enough to merely create an account with some social networks. It is necessary to be active, interacting in a close and personalized way, even when someone is dissatisfied. At these times, you should find the best way of dealing with the situation in order to resolve your client's problem.

When Netflix offers its service for a month for free, it is giving the chance to try it to see if the consumer really likes what is on offer. This test may be what was lacking for an indecisive consumer to close a contract and shows concern about the target public.

#### **Case 4 – Amazon**

According to the British consultancy Interbrand (2016), the Amazon brand alone is valued at US\$18,625 billion, occupying position number 20 in the ranking of the most valuable brands in the world, besides occupying position number 15 in the ranking of the most influential brands in the world. The company also occupied position number 56 in the ranking of FORTUNE 500 magazine (companies with the highest turnover in the American market) in 2013.

The company, which is the biggest online retailer in the world, sells more than 22 million different products to 179 countries and has more than 62 million customers, a turnover of more than US\$48 billion, and more than 31 distribution centers throughout the world, totaling more than 840,000m<sup>2</sup> of warehouse space. Moreover, it has six international web pages: besides amazon.com in the United States, there are local websites in England, Germany, Japan, France, Canada, China, Spain, and Italy. Amazon is the 10<sup>th</sup> most visited website on the Internet, with more that 62% accesses made in the United States. North America alone was responsible for 54.6% of its sales in 2010. The period with the highest volume is the month of December, when the company dispatches approximately 3.4 million orders daily to 200 countries.

Amazon is still the owner of various other businesses such as A9.com, which develops the electronic commerce and advertising search engine; Internet Movie Database (also known by the abbreviation IMDb), an online database of information on music stars, cinema, movies, programs, television programs, and commercials; and Alexa Internet, a service that measures how many users visit a website and other related statistics.

Like Netflix, Amazon will produce its own content to complement its on-demand sales catalogue. It already has 21 movie projects and 9 own series in development. Since the end of 2010, the company Amazon Studios has received tens of thousands of scripts on its website, sent by aspiring scriptwriters and filmmakers. If one becomes a TV series, the author will receive more than US\$55 thousand, or in the case of a feature-length film, US\$200 thousand. Warner Bros is a partner of Amazon for the production of feature-length films whose first screening will be in the cinemas.

Instead of buying a script and then investing in the production of a feature-length film or the pilot of a series, Amazon first invests in the development of the script and in the production of test videos, which are evaluated by thousands of volunteers. The authors receive comments in order to adjust their scripts in the hope that they will be become movies and series.

For whoever knows Mechanical Turk, Amazon's "online crowdsourcing market", its Amazon Studios will sound familiar. For example, Amazon put its best new test movies from 2011 on Amazon Instant Video, its video streaming service. The customers saw the projects thousands of times, according to the company. Now it is using the opinions and comments left to rewrite the scripts.

Amazon has also gathered data on how many times customers watched the test videos and how many watched the videos in full. This form of implicit feedback is just as useful, or sometimes more useful, than explicit feedback, revealing a lot about the possible commercialization of these ideas.

Amazon Studios recently made "Blackburn Burrow", the film script from the scriptwriter Jay Levy, into a digital comic story, in order to obtain more information from consumers. HQ, available from the Kindle store, has become Amazon's most downloaded free comic and comes with a survey of opinion about what people think of the story, according to Levy.

Obviously, market research in creative processes is nothing new. Hollywood tests movies using focus groups all the time. But this is not done on such a large and open scale as the Amazon approach. There is often no public feedback almost until the movie is launched and the production of movies is an interactive process, draft after draft. Amazon is doing well to find more places over the course of the process to obtain feedback.

Understanding that marketing is characterized as an intangible capital and that it can, therefore, interfere directly in the company's revenue, it becomes fundamental to know new strategies that can be increased to this capital, in order to boost the revenue of the business and increase its competitive value. In this sense, understanding the development of crowdsourcing is of paramount importance. As illustrative cases it is possible to unveil emerging concepts that are associated with crowdsourcing, the reputational capital of organizations, the development of web 2.0 and the network society.

Still reflecting on the findings of this study, it is observed that the marketing needs to be rethought and very well designed so that it is viable for organizations to ensure the maintenance of their brands' reputation in a context that demands increasingly more transparency and less information asymmetry.

## **REFLEXIVE ANALYZES**

Many questions have arisen in light of this rise. As this economic model expands and advances towards consolidation, more critical positions have emerged that oppose its development, since for many traditional entrepreneurs it represents disloyal competition within the sector (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010). The growth of platforms such as Airbnb and Uber have become the subject of controversy around the world. In the case of Uber, demonstrations and protests have been seen from taxi drivers, who from Washington, Mexico City, Bogotá, and Madrid demand regulations and even punishments for this model, which independently of the position taken in relation to it, reveals a generalized and shared desire on the part of consumers throughout the whole world to find solutions that increase their access to

goods and services, that satisfy the needs of 21<sup>st</sup> century society, and that enable a horizontal dialogue based on reputation and trust that offers a structure of exchange where all of us have the possibility of being both consumers and producers at the same time (Boyce, 2014).

With this panorama, the major challenge that faces the collaborative economy is regulation, since at the moment there is no clear regulatory framework and we are faced with the need to create rules that provide safety and confidence to those involved (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

The reputation systems implanted by these platforms provide users with the necessary information about the good or service they wish to have access to, although this is not always sufficient (Boyce, 2014). It is necessary to provide a regulatory response when there are legal and market loopholes that impede operators' access to providing goods and services. Creating rules makes sense in a case such as this, when the market is incapable of achieving a result that offers the resources in an effective way (Gatautis & Vitkauskaitė, 2014; Libert & Spector, 2010).

It is undeniable the changes in the market with the advent of the technologies captured by the Internet, the artificial intelligence, the internet of things and the outsourcing. A new place and new interpersonal relationships can result in the emergence of a new paradigm and new business opportunity. In crowdsourcing it is seen that a company assumes a job that has already been carried out by the employees, retrieving the concept of co-creation. It then outsources using an open invite to a group of people, generally using the internet, whether via mobile form or others. This definition implies that companies trust their customer more with regards to the process of creation, conception, choice, and launch of a product. It is when Company X has a problem and decides to ask the online crowd for recommendations for the best solution. This simple but powerful idea has serious implications, such as more access to a vast range of talents that are outside the organization, the opportunity to find creative and innovative ideas, more opportunities for obtaining a firsthand view regarding customers' desires, resolving problems, and enabling the public to feel they are the owners of the organization (Toledo, 2016).

Hypothetically, if the company *Greenfoods* is offering \$20,000 in a competition to find ideas for its next TV campaign for a snack, using a crowdsourcing platform, this type of measure imposes new challenges and new threats for the current operators. In this case, LAT, the marketing agency with which *Greenfoods* has been working since 2000, was put off the project. Is this the future of marketing? What will happen with already existing marketing agencies? Moreover, the implications of managing the information in the CROWD link need to be considered, which will directly influence the marketing intelligence subsystems, in accordance with the maze of information and noise between participants, which could make decision making difficult. Since it is difficult to control the participating public, and remembering that these customers are not company employees and that the agreement is probably not written, if there is not sufficient and clear leadership by the company the project will get out of control. In addition, this type of initiative requires time, attention, and communication skills (Toledo, 2016).

From a marketing perspective and considering MIS (marketing information systems), which in their essence equate to the management of generalist knowledge focused on an exclusive market, in this interim it is noted that the contribution and influences of the methodologies that involve crowdsourcing ultimately act directly or indirectly in the subsystem: marketing intelligence, internal records, analytical marketing system, and marketing research.

Since it reflects the participation of many in the contribution of new ideas, information gathering, and processes for generating these new ideas, crowdsourcing supplies companies with a greater quantity of data to be analyzed by the marketing analytical system. This in turn will be tasked with removing intellectual noise and general knowledge. From this new question emerge regarding how this knowledge will be stored and where: in the internal records of the company or in the open or closed crowdsourcing subsystem. And from here the mechanisms that support the marketing research will have to develop new methods for collecting data that are not only internal to the company but external to it but under two aspects: market and crowdsourcing. Finally, it will be asked if the human skills and technologies that form part of the marketing intelligence are or will be suitable for transforming the inputs from the crowd into effective marketing actions, which since its genesis constitutes a facilitator of exchanges and not the opposite (Toledo, 2016).

## **FINAL REMARKS**

In the business world, crowdsourcing is a very used and important thing. Generally, companies call for collective intelligence to do something that would normally be the responsibility of an internal team. Or for a job that would be performed by a specialist firm.

This is a common practice, too, among small nonprofits or community organizations with limited budgets. In such cases, they use the crowdsourcing strategy as a means of spreading a message or promoting an event.

Not everything is a sea of roses. There is the other side of the coin, for example, lack of control. That's because when you work with crowds, you do not have people in your hands. It should be considered that all these people are not employees and therefore should not obey the company. This, in turn, makes tracking all the stages of the process difficult. A communication flaw in the middle of the road, for example, can put everything to waste. It is worth remembering that, when they collaborate, people do not expect only financial returns, but rewards such as recognition, freedom, attention, transparency ... And they want to be heard. Many companies are not prepared for this.

Companies have no limit to adopt crowdsourcing. Some common situations:

- collect data on the market and products / services;
- perform tests, after all, people love to point out faults in products / services;
- know the opinion of the client or potential customer about a product / service and seek more creative and innovative ways for their offerings;
- search for ideas for logos, slogans, physical or virtual store layout - usually done through competition;
- make schedules, and in that case, competitions also work well. They allow people to create various ways to encode and frame websites, applications, and so on;
- find solution to a complex problem or gaps;
- streamline customer service, for example, allowing users or fans to answer questions on Twitter and Quora;
- engaging the customer and making him the brand's advocate;
- offering manual labor, dividing a large and complex task into small parts and letting people do the work;
- recruit talent;

- Crowdfunding - the company can then measure the consumer's interest in the product / service and carry out pre-orders before its development.

Google, Wikipedia, Amazon, Netflix, and Facebook are only some of examples of quite young organizations that had already achieved success at the start of the 21<sup>st</sup> century. They all have something in common, besides the fact that they are all well established companies in their respective operating sectors: they emerged, grew, and consolidated via the propulsion engine known as Web 2.0. The changes supported by the internet have also implied various changes in business administration activities, including marketing. The transfer of power to crowds of consumers has led to a reduction in costs. This combination of innovative and cost reduction constitutes value innovation, a basic factor for customer retention, standing apart from the competition, and obtaining appreciable results, thus reducing mortality.

Crowdsourcing is a production model that uses collective intelligence, the collaborative culture, and the formation of communities to solve problems, create content, and seek innovation. Its existence depends directly on the involvement and participation of people, supporting the existence of a new type of user, the producer: one who wishes to participate in the stages of production as well as merely consuming.

When addressing the article's main objective, it was verified that the employees interviewed in the field research were not yet prepared for the implementation of crowdsourcing. It was noted that:

- Companies do not have an established institutional mission, and of those that do, most follow depleting and unengaging standardization;
- Companies seek to differentiate themselves from competitors strictly by manipulating the marketing mix (quality, customer service, and price);
- Entrepreneurs act exclusively in the wholesale segment and their owners do not judge approximation with the final consumer to be important, arbitrarily leaving this task to middlemen, who do not have the preparation or the legitimacy for this. The lack of knowledge regarding the business model based on crowdsourcing was also evident, as well as the lack of some essential practices for its implementation;
- Only some companies communicated that they sought to make a contribution to the final users by developing collections, and even these confirmed that this occurs in an unstructured way via informal conversations with the users.

How can those responsible for company communication take advantage of crowdsourcing? If mass collaboration is developed in social networks, one of the bases for communication actions, there is logically no way to develop actions without the strict intervention of the company's communication sectors. It is an integrated job, which should be discussed in terms of associative strategies. In this case, research and development and communication are closely linked.

A collaborative action is an integrated marketing and communication action. In the same way, using bloggers to evaluate products today is a basic form of research and development, networking, and communication with consumers, who become co-creators of products and services as well as interlocutors with those responsible for corporate communication. A consumer who produces a video and posts it on YouTube, commenting on the characteristics, qualities, and defects of a product is also being collaborative with the company's communication sector, and as such should not be seen as someone who only interferes in a negative way (in the case of criticisms) in the company's image, but as an interlocutor who, in one form or another, is divulging the product and the brand. This concerns a change of paradigm that needs to be absorbed and considered in the corporate communication process.

A significant number of advantages are therefore perceived for companies that adopt mass collaboration practices in the research and development of products. The strategic importance of this concept for companies that launch themselves into these surprising endeavors is ever clearer and more consolidated in their planning. It is up to those sectors that are responsible for communication to think of strategies that incorporate the collaborative work of consumers into their actions.

Finally, the article proposes a study of theoretical references pertinent to the theme of marketing and crowdsourcing and illustrates the emu theory in specific business cases. It allows: a clarification of the subjects studied, a qualitative abrodation of the theme, academic assistance for future researchers and encouragement for future questions and elaboration of hypotheses.

The study presents some limitations that give rise to the opportunity to embark on future studies. As it is an exploratory study, there was no validation of causality between variables, which may diminish the empirical value of the findings. In this context, the sample is small and non-probabilistic, which on one hand made applying the interviews in the field study viable, but on the other does not enable the results to be generalized. In continuity, it is recommend that future researchers carry out the same research, using a quantitative method or a qualitative method in a different period from the one presented. We also suggest that multiple case studies are conducted using other companies.

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*Track 08 Innovation & Digital Transformation in Local/Global Business*

**ID #621**

## **Building a data-driven marketing department**

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### **Abstract**

*This article seeks to improve understanding of data-driven marketing by examining the experiences of managers implementing big data analytics in the marketing function. Through a series of research questions, this exploratory study seeks to define what big data analytics means in marketing practice. It also seeks to uncover the challenges and identifiable stages of big data analytics implementation. Fifteen open-ended depth interviews were conducted with marketing and analytics executives in a variety of industries in Ireland and the United States. Interview transcripts were subjected to open coding and axial coding to address the research questions. The study reveals that managers consider marketing big data analytics to be a series of tools and capabilities used to inform product innovation and marketing strategy making processes and to defend the brand against emerging risks. Additionally, the study reveals that big data analytics implementation is championed at different organizational levels using different types of dynamic learning capabilities, contingent on the champion's stature within the organization. From the qualitative analysis it is proposed that marketing departments undergo five stages of big data analytics implementation namely, sprouting, recognition, commitment, culture shift and data-driven marketing. Each stage identifies key characteristics and potential pitfalls to be avoided and provides advice to marketing managers on how to implement big data analytics.*

**Keywords:** Data Analytics; Business Intelligence; Customer Analytics; Customer Data Management; Data Mining..

### **Acknowledgments**

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## **INTRODUCTION**

The term marketing big data analytics (BDA) refers to the technologies and statistical techniques whereby marketers analyze large amounts of data to make useful inferences about customers and competitors. It is evident that becoming data-driven allows firms to better understand their costs, sales potential and the emerging marketplace opportunities. However, managers are challenged to make sense of a rapidly emerging and evolving set of data analytic tools on which they must place bets and figure out how to integrate analytics with their strategic decision-making process. A 2016 McKinsey & Company Global Institute Report concluded that sectors of the US economy had only achieved between 10% and 60% of the value McKinsey had forecasted in 2011 to be achievable from big data analytics within the next five years (Henke et al. 2016). US retail, for example, had only accomplished 30 to 40% of the forecast, citing lack of analytical talent and siloed data within companies. Other challenges have also been cited which are symptomatic of a lack of clear understanding of BDA implementation processes. For example, the failure to extend the success of their analytics efforts beyond their initial case study, the inability to interpret and translate analytics results into managerial decisions and a looming fear that ethical and social implications of analytics will cause unanticipated problems (Fleming et al. 2018). The difficulties of successful BDA implementation have also been attributed to failure to create a data culture that integrates analysis and decision-making (Diaz et al. 2018; Goran et al. 2017). These challenges are especially salient in marketing departments, which are on the frontline of efforts to become data-driven. Yet, these challenges are hardly surprising since we suspect that BDA implementation may be taking more of a “learn-as-we-go” approach rather than a structured deliberate top-down implementation process.

The purpose of this article is to provide guidance to marketing managers on how to best implement BDA to support the marketing function. While many chief marketing officers are coping with BDA as a rapidly unfolding area of expertise in which decisions must be made with strong implications for long-term competitiveness, they are grappling with these issues with little guidance in how to do so. The present exploratory research study addresses this research gap by examining three research questions. First, this paper seeks to define what BDA means in marketing practice and what capabilities are most valuable at different levels in the organization. The second objective is to identify the implementation challenges of BDA in a marketing context. The third goal is to identify the organizational factors that influence the stages by which marketing departments become fully data-driven.

Analytics allow marketers to determine the success of marketing initiatives by measuring ROI and marketing attribution (Wedel and Kannan, 2016). The reputation of marketers has suffered from not adequately attributing returns on advertising spend (Homburg et al., 2015). Historically, chief financial officers have been critical of marketing professionals for not adequately demonstrating ROI on marketing expenditures and for using creativity and brand equity nebulously as evidence of adequate performance.

Marketing academicians have also been addressing these concerns for some time with research linking strategy and tactics to market-based assets and shareholder value (Srivastava et al., 1998). Improvements in data integration and analysis that allow precise attribution of marketing spend is increasing marketing accountability. Marketing analytics is generally viewed by top management as bringing efficacy to marketing decision-making and ROI requirements (Maddox, 2006). Research by Feng and colleagues (Feng et al., 2015) supports this assertion by showing a consistent growth in marketing departments’ power and influence in the United States based firms during the period 1993 through 2008.

Big data refers to data of substantive size that presents challenges to conventional database, software and analysis tools (Manuika et al. 2011). Big data is therefore a subjective concept defined in the moment by the relative growth in digital data flows and information technology innovation as dictated by Moore's Law (Chan 2013). Gartner Inc. (2011) describes big data as having three characteristics popularly referred to as the three Vs: volume, velocity and variety. According to Gartner Inc. large volumes of data create storage and analysis challenges. Variety refers to the flow of data from different sources and in different formats such as transaction, social media and click stream data that must be integrated and linked to actors and brands. Velocity refers to the speed with which data is produced and must be analyzed to inform decisions.

## **RESEARCH QUESTIONS AND BACKGROUND**

The essential question for marketing departments is how to best capture, integrate and analyze data to inform sales and marketing decisions using emerging technologies and techniques. The rapid growth of the three Vs of customer data leaves marketing managers with no room for complacency. In addition, the proliferation of omni-channel experiences and the increase in user generated content means that brand related messages are continuously being created at big data scale by friendly and unfriendly actors. Marketers are negotiating a variety of tools and techniques including building internal software capabilities or transitioning existing capabilities to Cloud and building teams that know analytics, product and customer equally. It is within this hyperactive environment that BDA is becoming crystallized in the mind of the marketing community. In this circumstance, marketers are unlikely to have a uniformed understanding of marketing BDA. Yet, marketers who are unable to process and react to big data, risk losing control of their brand messaging (Payne, Peltier and Barger, 2017). Therefore, the first research question asks the following:

**Research question one:** What does BDA mean in marketing practice and what BDA capabilities are most valuable at different levels in the organization?

While the marketing function and its relative power and influence within the firm is of increasing importance, little systematic research exists to date on marketing capability implementation (White et al., 2003) and more specifically on how marketing departments are accomplishing BDA implementation. This study seeks to uncover a more systematic understanding of marketing BDA implementation experiences, specifically in terms of the organizational factors that facilitate or hamper the marketing organization's goal to become data-driven.

Organizational culture, while important, has not been widely studied in terms of influencing the marketing strategy capabilities of the firm (Deshpande and Webster Jr., 1989). More specifically, the dynamic capabilities literature with the emphasis on sensing, learning, filtering (Day, 1994; Day and Schoemaker, 2016) while potentially relevant, has not been used to explain the organizational processes of marketing BDA implementation.

BDA poses a unique challenge for marketing since the same data is often required by multiple departments. For example, logistics, sales and marketing use the same data and scaling BDA operations often means centralizing data management and analytics as an organization-wide resource. BDA implementation may involve sharing or shifting responsibility between, for example, marketing and IT, making it necessary for managers to figure out how responsibilities for BDA should be shared among functional areas (Berkooz, 2016). Although the marketing department may have been an early adopter, eventually it must often make its analytics

capabilities available company-wide. BDA is not only creating larger data sets but also adding new variables such as time and location, allowing more analysis and real-time marketing tactics (Bradlow et al., 2017). Hence, data planning becomes a priority for marketing departments and pressure is growing for marketing executives to make their organizations more data-driven. This research seeks to understand how these challenges affect BDA implementation, which leads to the second research question:

**Research question two:** What is the BDA implementation challenges and processes in a marketing context?

As earlier discussed, marketing managers are confronted by a barge of new concepts from Google Analytics to text analytics, machine learning, predictive modeling, and advertising optimization to be understood and implemented. Internally, marketing departments struggle to learn quickly by bringing in consultants, recruiting skilled expertise and by updating the skills of current employees. Analytics tools often become trendy and obsolete with months adding to the frenzied pace of learning required of marketing and analytics employees. Within this context it is useful for managers to understand if their approach to BDA implementation is consistent with certain stages of development and consequently whether certain factors are more essential to success at different stages and the pitfalls to be avoided. Against this background, at third research question is asked.

**Research question three:** Are there detectable stages in the firm implementation of marketing BDA?

## **METHOD**

To study an implementation process that is still underway a grounded theory research method was employed. Grounded theory involves embedding the research in the empirical context and developing and applying concepts from the context and literature to achieve explanatory power (Glaser and Strauss, 1967). A basic assumption of grounded theory is that emerging concepts are shaped and best reported on by those involved in their development (Glaser and Strauss, 1967; Hollmann et al., 2015; Homburg et al., 2017). Figure 1 details the research procedure pursued to address the research questions. The research commenced by reviewing the literature on big data analytics, which is primarily industry focused, including several periodic tracking surveys. From this process we developed initial research questions, which we refined as we further consulted the literature and conducted interviews. Like other marketing strategy researchers (e.g. Challagalla et al., 2014; Homburg et al., 2017; Malshe and Sohi, 2009) we pursued a theoretical sampling method of recruiting participants with a deeper understanding of the subject matter and by using snowballing techniques when necessary rather than random sampling techniques to recruit participants. It was determined that theoretical saturation had been reached when interviews yielded limited additional insights (Strauss and Corbin, 1998).

Fifteen marketing and analytics professionals from the US and Europe involved in marketing BDA implementation participated in depth interviews for this research. The firms were from a variety of industries including financial services, media and publishing, energy utility, airline, telecommunications and management consulting. Table 1 lists the job titles of study informants that include chief marketing officers, CRM managers, director of analytics and analytics consultants. Informants ranged from middle to senior management and all had over two or more years of experience in marketing analytics and or big data analytics implementation environments.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

An interview protocol ensured the research questions were investigated across all interviews. The first question addressed by the interviews was the meaning of BDA analytics to the organization and its role in marketing strategy. The questions then progressed to organizational priority and challenges to BDA implementation. Finally, the interview questions moved to the role of the marketing staff and the experiences and outcomes of implementation to date. Respondents were then asked about those who championed the BDA effort in their organization and to discuss the learning process involved in the implementation of BDA. This methodology is commonly used in qualitative research (Yin, 2011; 1994) to identify patterns in interview responses. Informants were encouraged to provide examples to illustrate their points to minimize ambiguity of interpretation (Glaser and Strauss, 1967).

The interviews were audiotaped and subsequently transcribed. We undertook iterative reviews of the 43 pages of interview transcript first using open coding to identify zero-order coding categories comprising actual language used by participants. Tables 2 and 3 present the coding categories supporting the first and second order categories that ultimately addressed the third order research questions. We then conducted axial coding by creating first-order categories reflecting subdimensions of our research questions (Nog and Gioia, 2012) and categorizing the zero order codes to support each axial code. Zero order codes determined to be irrelevant to our first order codes were abandoned consistent prior research practice (Homburg et al., 2017; Tuli et al., 2007). Table 2 illustrates that the first order category of decision-making tools was used to categorize a variety of tools and applications mentioned in discussing marketing related BDA. The emergent themes from this grounded research analyses are discussed in the next section.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

## **RESULTS AND DISCUSSION**

### ***The meaning of BDA in marketing***

The research finds that managers regard marketing BDA as decision making tools and capabilities for informing product innovation and marketing strategy and for defending the brand. Managers mentioned several decision-making tools or capabilities such as customer lifetime value analysis, predictive modeling, data visualization and tracking social media among others (see Table 2). The purposes for which these tools and capabilities are applied were structured as second order categories consistent with grounded theory research. Informants indicated that marketing BDA's central focus was to inform product innovation and marketing strategy. This was most evident among digital native firms. Digital native firms have a digital infrastructure producing structured data that makes them data driven by default. According to one consultant interviewed, digital-native firms apply BDA in areas such as prospecting, acquisition, sales cost reduction, advertising optimization, predictive modelling and A/B testing. One of the business-to-consumer digital-native firms interviewed in the telecommunications industry pointed out that the key focus of their use of marketing analytics was predicting CLV and maximizing ROI by minimizing customer acquisition and customer maintenance costs against anticipated CLV. A large business-to-business telecommunications equipment supplier shared that their interest in consumer data analytics is primarily concerned with forecasting consumer needs and trends over a three-year planning horizon by analyzing

traction and social media data. The current product development model of the firm is building automated services into products and shifting employees from service delivery to support.

The second purpose of marketing BDA is defensive brand protection. This was primarily observed among brand centric firms. Attempts by brand-centric firms to develop a digital core can be expensive. According to a consultant interviewed, brand-centric firms initially take a risk management approach to BDA. For these firms, the brand is their biggest asset so their first reaction is “how can we use big data to protect our brand”. Consequently, tracking clickstream and social media to identify and manage risk to the brand takes early priority. This defensive approach may lead to a siloed approach to digital transformation in which firms fail to recognize the necessity of fully integrating digital and retail store channels until it’s too late. For example, Sephora Inc., a company not interviewed here, credits its success at digital transformation to avoiding the tendency of legacy firms to initiate digital transformation by building online channels as separate companies resulting in a lack of cross functional integration and customer centricity. Instead, the company fully integrated its channels and loyalty programs and embraced social media as an engagement channel. (Bornstein and McGinn, 2014).

### ***The role of champions in the implementation of BDA in marketing***

Another theme that emerged from the interviews was the important role of champions in BDA implementation and how they functioned using dynamic sensing capabilities. To compete effectively in rapidly changing environments, in addition to having a strong resource base such as protected technology, firms need certain capabilities that allow them to integrate, build, and configure internal and external competencies to address rapidly changing environments (Teece et al., 1997). Dynamic capabilities are clusters of sensing, filtering and learning processes that allow firms to react and seize opportunities as the environment evolves.

An observation from the interviews was that the speed and degree of marketing BDA implementation is a function of the type of dynamic capabilities involved and that these capabilities are a function of the level at which marketing BDA is championed within the firm. These observations are presented in Figure I. Day and Schoemaker (2016) identify six sub-dynamic capabilities of firms coping with change in dynamic environments, namely peripheral vision, vigilant learning, probe and learn, flexible investing, organizational redesign and external shaping.

### ***The use of different capabilities depending on organizational level***

This study found that three sub-capabilities are especially influential in building marketing BDA capabilities. These sub-capabilities are vigilant learning, probe and learn and organizational redesign. *Vigilant learning* involves remaining alert to often weak signals in the environment and interpreting the meaning of these signals before acting on them. When BDA is championed by lower level operatives, vigilant learning becomes critically important. Lower level champions with limited resources are hard pressed to detect emerging techniques and software applications likely to achieve traction in market. Rapid growth and emergence of multiple competing software and analytics services create uncertainty. Lower level champions engage in vigilant learning by sifting through emerging techniques, analytics services and software applications before placing bets on those most likely to match the needs of the firm. Because delivering early ROI on marketing analytics investments is essential for convincing top management to increase resources, lower level champions are forced to go with proven established turnkey solutions.

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

The *probe and learn* capability were suggested by Day and Schoemaker (2016) as a means of reducing the likelihood of placing early bets on new technology or opportunities that end in failure. Before fully committing to an investment, a real options approach is taken by pursuing multiple, small designed experiments to assess payoff before explicitly committing to the most fitting option (Dixit and Pindyck, 1995). Middle managers with resources and market knowledge are effective in building marketing BDA capabilities. Unlike lower level staff, middle managers have specific knowledge of customer trends and market planning requirements. As a learning approach, probe and learn can facilitate a gradual shift in the decision-making culture to becoming more evidence-based. Middle-managers can ease this transition by becoming more tolerant of mistakes or at least not resist senior management's encouragement of experimentation as in, for example, Facebook's mantra of *move fast and break things* (Taplan, 2017).

Another dynamic capability, *organizational redesign*, is required by firms to execute new strategies (Day and Schoemaker, 2016). Marketing BDA implementation involves substantial investments such as integrated data warehousing and cloud-based services that increase centralization of BDA initiatives often away from the marketing department and greater coordination between marketing and IT is required. Change on this scale must be championed by senior management. Organizational redesign should be the preferred approach of enlightened senior managers in well-resourced firms. Consequently, senior managers indicate greater use of outside consultants and creation of centralized BDA capabilities in high performing firms seeking transformative change. The underlying themes and results of this research are summarized in Table IV.

### ***The stages of developing BDA in marketing***

Discussions with managers involved in implementation reveal that the journey of marketing departments in implementing BDA analytics can be structured into five stages. These stages are *sprouting*, *recognition*, *commitment*, *culture shift* and eventually *data-driven marketing*. Figure III presents the essential characteristics of each stage and identifies some pitfalls that may impede implementation at each stage.

\*\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*\*

#### ***Stage 1: Sprouting***

The first stage of BDA implementation and the one that is most applicable to small and medium-size firms often starts with a turnkey application such as Google Analytics, initiated by a recent graduate joining the firm. This is the first entry into analytics for many departments. These are the *sprouts* that will attract the attention of top management internally. Marketing analytics tools are run by staff who report to middle management. They often have limited support and budget to create the dashboards necessary for adequate periodic or real-time reporting.

A UK and Ireland BDA consultant explained that in his experience, when firms lack C-suite BDA expertise, interest in analytics usually comes from junior management, especially recent recruits. The consultant further explained that despite the enthusiasm of lower-level champions, their efforts are not likely to deliver key performance indicators necessary for strategic decision-making because they don't fully understand the scope of the business. These champions often pursue objectives like increasing web traffic independently of the business strategy. One lower level recent recruit shared that progress at the early stages of analytics implementation involved having his team members aggressively seek out free online training opportunities to build and improve their skills.

Although these early efforts at marketing analytics may be somewhat armature, they illustrate to senior management the need for a more comprehensive dashboard of performance indicators. Often these early dashboards are only geared towards management and fail to capture the interest of many project teams. It is important that early analytics efforts reach out to these teams to understand their requirements and provide tools and data that address their needs. For example, an in-house media production team may be interested in real-time feedback. These efforts sprout new shoots beyond the organizational core and increase support for resource commitments to BDA. Success of early analytics initiators requires that they quickly determine the differing interests of their internal customers (marketing sales, public relations, advertising, finance etc.) and emphasize different aspects of often the same data to address their needs (Stone and Woodcock, 2014).

A likely pitfall at the sprouting stage is the tendency of some managers to become flustered by the pace of change and take the position that ‘analytics is changing so fast’ that it is impossible to keep pace’ and consequently go into stasis. This may lead to the outsourcing of marketing analytics to advertising agencies, which undermines the probe and learn process and the experimentation and customization necessary for marketing BDA progress.

### ***Stage 2: Recognition***

In the recognition stage, the efforts of early analytics champions begin to show results, and sections of the organization begin to grasp the importance of BDA investments for growth. This stage is usually influenced by discussions with outside consultants who explain the journey to becoming data-driven and the need for data warehousing as a basic hurdle. This stage is characterized by the marketing department progressing to descriptive analytic methods such as social media tracking, cluster segmentation and customer lifetime value estimation often based extensively on assumptions rather than precise estimates. The marketing organization is beginning to appreciate the metrics it needs to track to improve agility of marketing, sales and advertising strategy. Some managers react to the challenges of this stage by placing too much reliance on partners, like advertising agencies, logistics partners and sales partners to provide data and analytics. Although genuine collaboration is essential, it can become an avenue to delay and dependence. Reticence to build internal human capital and technology capabilities at this stage can also impede organizational learning.

### ***Stage 3: Commitment***

At the commitment stage, robust top management support is manifested by investments in data warehouses and the recruitment of analytics professionals and consultants. A publishing industry analytics executive mentioned that as momentum shifted toward BDA, they quickly scaled their capabilities through cloud migration. At this stage there is an effort to transition analytics from a marketing department capability to an organization-wide capability. Filling the analytics skills gap and integrating diverse streams of data on each customer becomes a priority. The organization begins to experiment with new data-driven and digital marketing strategies to evolve its business model within the big data environment. Emphasis on short-term ROI targets is a likely pitfall. As one informant put it “firms that obsess about ROI on digital initiatives and don’t take the occasional leap of faith will achieve small results from big data”.

### ***Stage 4: Culture shift***

Organizational culture is “the pattern of shared values and beliefs that help individuals understand organizational functioning and that provide norms of behavior in the organization” (Deshpande and Webster Jr., 1989). Having achieved some measure of appreciation of

analytics, becoming a truly data-driven marketing organization requires a change in the culture for all but those digital native firms that were designed from the start with an analytics core (Meer, 2015; Slater et al., 2011). A 2016 survey of managers by McKinsey and Company found the failure to fully embrace a digital culture and invest in digital initiatives to be an important correlate of firm underperformance (Goran et al., 2017).

At this stage, the presence of data scientists in the organization moves BDA efforts beyond the descriptive to the predictive. From the organic learning process of exploration and experimentation, a dominant philosophy begins to emerge. At the core of this philosophy is treating each customer according to their profit potential and A/B testing of marketing initiatives to ensure that new initiatives demonstrate superior ROI compared to the status quo. Integrating customer transaction data across touch points with clickstream, social media and 3<sup>rd</sup> party data is a defining threshold of becoming data-driven.

A consultant interviewed remarked that “at a certain point marketing BDA involves a bit of magic that is more than the sum of its parts”. The appointment of more BDA personnel such as data analysts and customer insight analysts provides greater voice to analytics within the marketing organization and increases momentum for a data-driven culture. This shift is exemplified by the observation of a consultant who mentioned that statements like “do you have the data to back that up” and “based on my analysis it seems like we are missing out on customer engagement with our touch points” become increasingly frequent within departmental discussions. A/B testing and its influence in decision-making is another telling indicator of the culture shift. The scientific methodology of A/B testing makes it an effective means for junior analysts to get their ideas implemented. It may flatten the decision-making process as junior analysts are able to demonstrate the efficacy of their ideas with an A/B test, reducing the likelihood that their proposals are flatly ignored by middle managers (Ries, 2011).

However, this culture shift is fraught with *ethical dilemmas* that need to be resolved in the interest of clarity on the role of analytics in marketing and sales decisions. Among these is the integration of customer data from third party suppliers. Third party data is collected without the direct consent of consumers and while the metadata is innocuous, customer specific data can provide uncomfortable insights into an individual’s private life and risk profile.

European managers were especially concerned about the risk associated with integrating third-party data with their proprietary data but appeared equally enthusiastic about the early benefits of their efforts. Ethical dilemmas may also arise from the use of transaction data that can, for example, predict a customer’s stage of pregnancy, which when used for targeting purpose could prove disruptive to the customer’s personal life (Duhigg, 2012). Marketers who follow the data may find themselves uncomfortable with its implications. For example, retail banks are highly regulated and are often concerned about how marketing tactics suggested by analytics may be interpreted by regulators and employees are sensitive to how analytics may lead to certain socioeconomic groups being treated differently. As the culture shift unfolds, ethical issues need to be resolved in the interest of team cohesiveness.

A potential pitfall of the culture shift is the failure to prioritize branding over analytics. As the data-driven culture begins to dominate, firms need to make sure that their brand philosophy and values are not sacrificed in the interest of short-term ROI targets. Managers must, for example, ask themselves if the marketing tactics demonstrated to be effective are consistent with the positioning and goals of the brand. One manager in the long-distance calling industry at a firm with a strong culture of A/B testing shared that his firm no longer does brand advertising. The firm markets primarily by placing product advertising on Google search and Facebook. A year-

long study by the firm tested product advertising versus brand advertising and found that brand advertising failed to elicit positive ROI in terms of increased sales. However, consumers have little trust in long distance calling cards as they often don't deliver the minutes promised on face value (Torres, 2008). Consequently, advertising that seeks to establish brand credibility should improve ROI. The benefits of brand advertising are often cumulative over several years. While it is recognized that consumers may not initially find brand advertising in the product category believable, it is worthwhile to consider if the opportunity to build a strong expendable brand over time is being missed when decisions are based only on ROI considerations.

The second pitfall as an analytics culture takes shape is that the marketing function fails to coordinate the relationship between *creativity and analytics*. The survey questions probed managers on their opinions of the role of creativity within a BDA environment. The consensus is that marketing needs analytics and creativity, perhaps, in equal proportions to realize its full potential. Traditionally, the advertising creative process would be informed by periodic usage and attitude studies involving focus groups and surveys. Now the creative process must consider big data sources such as click stream and social media as sources of insight and evaluation.

Programmatic advertising also influences the types of advertisements most likely to be impactful. Advertising across media such as billboard, search and television must be even more coordinated or optimized at present to trigger the desired customer response (Nichols, 2013). Although the managers interviewed were firmly convinced that creativity remains a core aspect of marketing going forward, they seem uncertain about how to systematically achieve a balance of creativity, analytics and ROI to advance the practice of marketing.

The third pitfall managers need to guard against as a data-driven culture takes hold is biasing their marketing strategy by focusing disproportionately on strategies and tactics for which data is available while avoiding areas in which data are limited. One manager interviewed shared his frustration with not being able to integrate certain qualitative factors capable of having short-term impact into their mathematical models even though he was convinced that these factors were impacting customer decisions. A possible implication of this is the *streetlight effect* decision-making bias, often explained by the parable of a drunk who loses his/her keys in the dark but searches for it under a light across the street. Researchers are often criticized for the streetlight effect (Rai, 2016). Frequently, it is the case that researchers conduct large numbers of studies on topics for which data is available while more worthy research questions go unaddressed because data acquisition is. Similarly, managers need to guard against this mistake by not disproportionately focusing on decisions for which data is readily available while ignoring issues with deep implications for the firm's strategic direction.

### **Stage 5: Data-driven marketing**

Customer equity faithfulness or treating each customer according to their profit potential is a core principle of data-driven marketing (Johnson et al., 2012). A mature data-driven consumer marketing organization identifies hundreds of micro-segments in its customer data-base using integrated transactions, click stream and third-party data. Consumers are exposed to advertising of products created for each microsegment using programmatic advertising optimized across channels for target effectiveness. Consumers are selected and offers are refined using predictive AI algorithms as more is learned while the consumer interacts with the products or retailer. To minimize incidents of under or over investment in customers, customer acquisition and maintenance costs for each microsegment is determined by precise estimates of CLV. Advanced BDA firms apply BDA cross-functionally for marketing, accounting, logistics, production, sales and channel partnerships (Spiegel, 2014). This scale of operation means real

time analysis of data as it flows and moving access to results beyond IT and marketing into functional areas where middle managers and lower level employees make operational decisions (Davenport et al., 2012).

## **CONCLUSIONS AND FUTURE RESEARCH**

This exploratory study of BDA implementation identifies five clear stages to BDA implementation within marketing departments. The study highlights the change in organizational culture involved in transitioning marketing philosophy from unqualified commitment to customer centricity to customer equity or treating each customer according to their profit potential. This research identifies some implementation pitfalls such as over reliance on external partners for BDA learning that can slow marketing BDA progress. This knowledge is relevant to both managers in the field as well as academics teaching BDA topics, especially from a strategy implementation point of view.

The present study clarifies the role of the marketing department in BDA implementation. Specifically, it suggests that external trends such as programmatic marketing and social media tracking generate flows of big data that forces the marketing function within the firm to become more data-driven regardless of their initial commitment to change. The marketing department plays the role of initiator of BDA within the firm. As these trends gather momentum, marketing is well placed to lead customer data integration and ensure cross functional access to data. Ultimately, BDA will lift marketing's credibility and influence within the firm by improving its ability to assess return on marketing investments. However, it is critical that marketing managers not losing sight of their mission in favor short term ROI considerations. Marketing managers must strengthen the firm's commitment to creativity and to the values of its brands.

Within the firm, BDA implementation is championed at different levels from junior recent recruits to senior management. BDA champions rely on different types of dynamic learning capabilities, namely *vigilant learning*, *probe and learn* and *organizational redesign*, contingent on the champion's stature within the organization. This study identifies a reliance on vigilant learning capabilities by lower level champions of BDA implementation before having the benefit of well-resourced organizational transformation championed by top management

This research is an initial step in understanding the processes by which an organization becomes data-driven. Generalizability was not the objective of the study given the grounded theory research methodology employed. However, as BDA implementation matures, a variety of generalizable research questions can be pursued including further substantiation of issues unearthed by this study. A specific exploration of the five-stage model to becoming data-driven through a quantitative study across industries would be the next logical extension of this research. The findings of this study along with further research will be instrumental in improving managers' understanding how to accelerate progress and avoid the pitfalls in becoming a fully data-driven marketing organization.

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**Table 1. Study informants**

<b>Firm</b>	<b>Job Title</b>	<b>Location</b>
Telecom Equipment Manufacturing	VP of Product Development	USA/China
Telecommunications	Global Head Healthcare Vertical	USA
Advertising	Chief Marketing Officer	USA
Energy Utility	Manager of Data and Business Intelligence	USA
Telecommunications	CRM Manager	USA
Management Consulting	Analytics Consultant	Ireland & UK
Retail Banking	Chief Marketing Officer	Ireland
Management Consulting	Analytics Consultant	Ireland & UK
Media Company	Analytics Manager	Ireland
Telecommunication	Head of Online Marketing	Ireland
Management Consulting	Analytics Consultant	Ireland & UK
Audit/ Consulting	Audit Manager	Ireland
Financial Services	Marketing Consultant	Ireland & UK
Airline Analytics Service Provider	Management Consultant	Ireland & UK
Publishing	Director of Analytics	USA

**Table 2. Exemplary coding results for meaning of big data analytics**

<b>Zero Order Categories</b>	<b>First Order Categories</b>	<b>Second Order Categories: Purpose</b>	<b>Third Order Categories (research question)</b>
Customer lifetime value A/B testing Predictive modelling Managing customer churn Moving beyond historical data Data visualization A single integrated record of the customer Real-time profiling of customer Tracking social media Tracking click stream Predicting customer risk Forecasting consumer needs Analyze traction/click data Analyze social media data Data makes product smarter Using 3 <sup>rd</sup> party data for product development Customer service support Improve customer experience Minimizing customer acquisition cost Selling/service cost reduction Integrating data	Decision-making tools and capabilities	Informing product innovation and marketing strategy by all firms but especially digital natives  Defensive brand protection (primarily brand-centric firms)	<b>The Meaning of BDA in Marketing Practice</b>

**Table 3. Exemplary coding results for the five stages in BDA implementation**

Zero Order Categories	First Order Categories	Second Order Categories	Third Order Categories (research question)
Tools like Google Analytics Recent recruits Tactical performance indicators Not integrated with firm strategy Seek free online skills training Seek analytics application opportunities with internal customers Tactical objectives: increase page visits Bottom-up decision-making	Sprouting	1 <sup>st</sup> stage BDA implementation	Data-driven marketing
Descriptive analytics Imprecise assumption-based estimates Senior management discussions with external consultants Exploring relevant metrics Finding external sources of data What are we doing about big data?	Recognition	2 <sup>nd</sup> stage BDA implementation	
Data warehouse investment Recruiting analytics expertise Scaling of BDA capabilities ROI on BDA investments Micro-segmentation/customer profiles	Commitment	3 <sup>rd</sup> stage BDA implementation	
Do you have data to back that up Prove new is superior to present Flattening the decision-making process Integrating third-party data Data ethics dilemmas Branding priorities verses analytics	Culture Shift	4 <sup>th</sup> stage BDA implementation	
AI/ deep learning algorithms Precise CLV Programmatic advertising Data scientists Balance creativity with data driven	Mastery: Data driven	5 <sup>th</sup> stage BDA implementation	

**Table 4. Summary of themes and results**

Themes	Summary of Results
<b>Marketing BDA as tools and capabilities for innovation, strategy and risk management (Research Question 1)</b>	<p><u>Analytics Tools and Capabilities</u></p> <p>Acquisition, churn, advertising optimization, predictive modelling, A/B testing, CLV management, social media tracking and data integration – especially digital native firms</p> <p><u>Purpose: Informing Product Innovation and Marketing Strategy</u> – especially technology firms</p> <p><u>Purpose: Defensive Marketing</u> Clickstream and social media tracking to manage risk – especially brand centric firms</p>
<b>Implementation of BDA in marketing means the organization must sense and interpret the environment and have a devoted champion (Research Question 2)</b>	<p>Implementation is a function of dynamic capabilities (sensing, learning, filtering) relating to the degree to which marketing BDA is championed in the firm.</p>
<b>BDA Champions use different dynamic capabilities depending on their organizational level (Research Question 2)</b>	<p>Recent recruits use vigilant learning to develop turnkey tools and focus on customer churn and acquisition, whereas senior management uses organizational redesign capabilities to invest in warehousing and predictive analytics.</p>
<b>BDA capabilities in marketing develop in stages (Research Question 2)</b>	<p>Five stages of marketing analytics identified: Sprouting, recognition, culture shift and data-driven marketing. There are pitfalls and progress points associated in each stage</p>
<b>Organizational culture shift most pronounced in brand-centric firms (Research Question 3)</b>	<p>In becoming data-driven, all but digital native firms need to work to embrace a digital culture, focus on customer profit, A/B testing and ROI.</p>
<b>Becoming Data-Driven Marketing involves the entire organization (Research Question 3)</b>	<p>Integrating customer transaction data, such as clickstream and social media data and integrating third party data means becoming data-driven and requires capabilities other than those of marketing. Organizational goals take precedence over marketing's desires.</p>

Figure 1 Research procedure

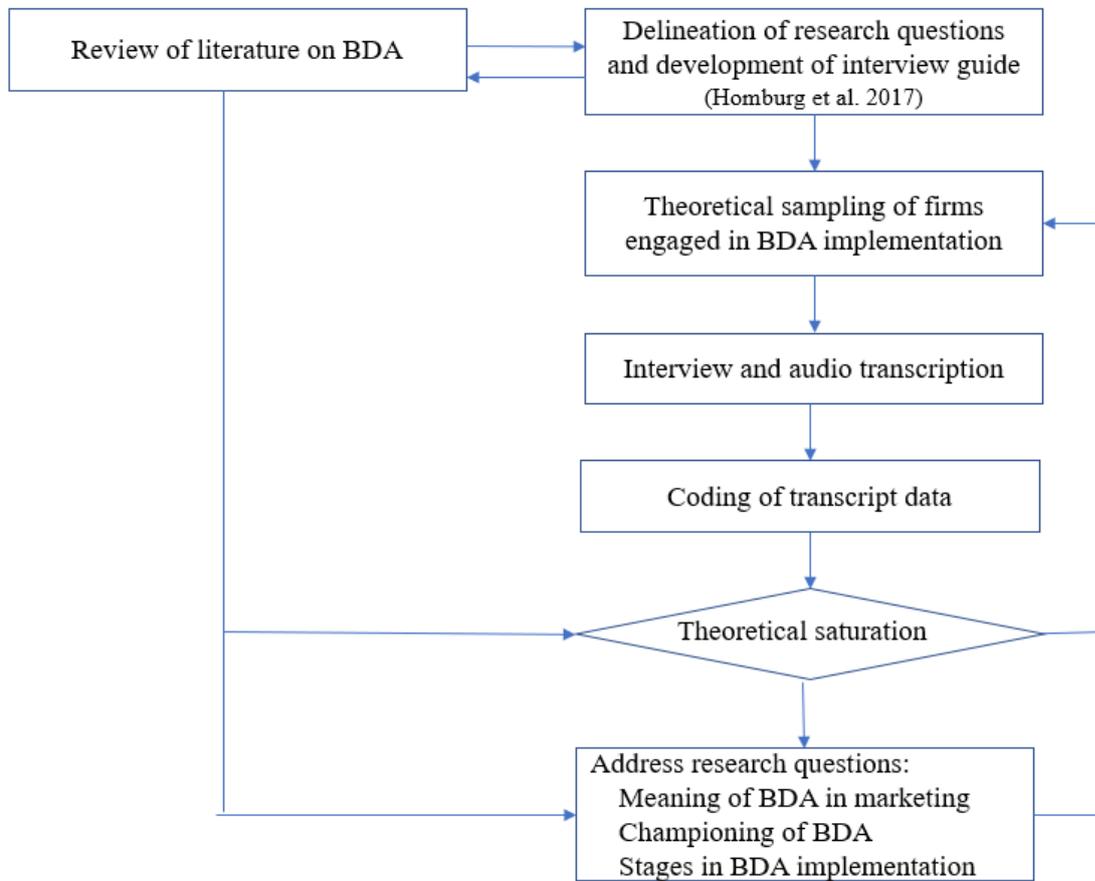
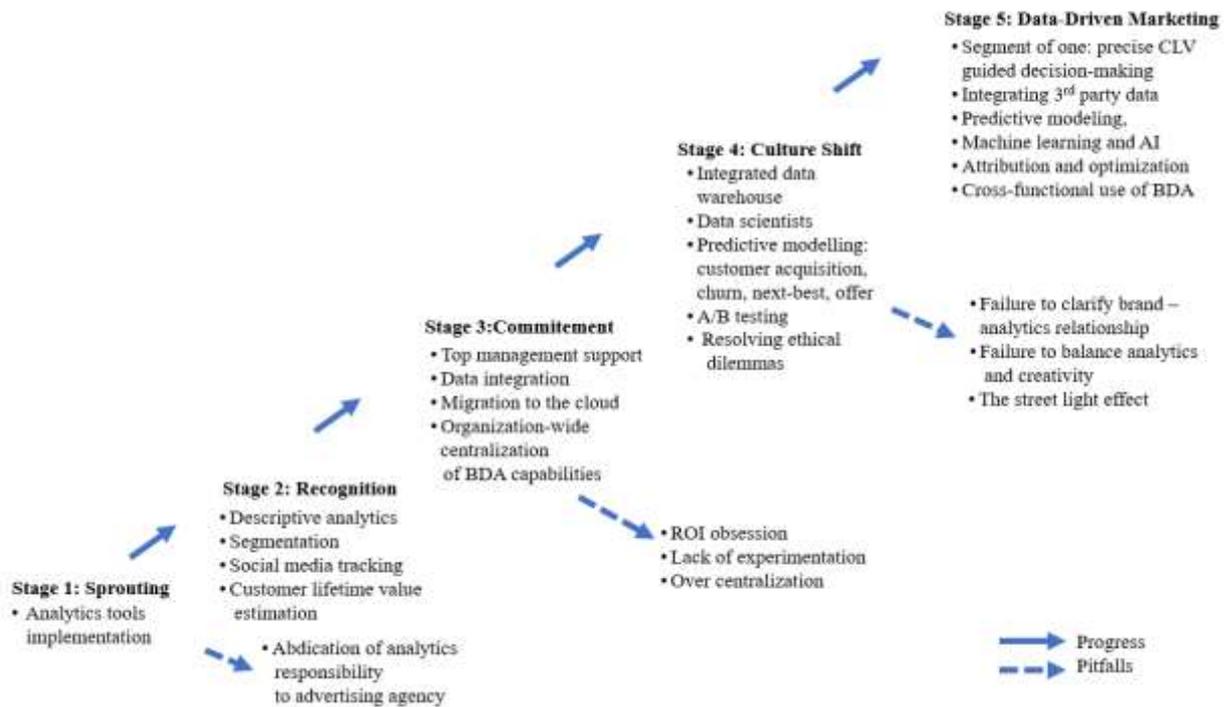


Figure II Marketing big data analytics implementation and dynamic capabilities



**Figure III The Five stages of marketing big data analytics implementation**

*Track 08 Innovation & Digital Transformation in Local/Global Business*

**ID #723**

## **Big Data and Systemic GeoAnalytics: Innovation in optimizing scenarios for utility companies in Local Business**

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### **Abstract**

*What will utility operations be like in 3 years' time? And what about 30 years from now? How many operational bases will there be and in which locations? This research studies the influence of geographic variables and optimization models on operational KPIs of AES Eletropaulo, an energy distribution company in Brazil, in its emergency response service. Different information perspectives were used (traffic, microclimate, trees, real estate, occurrences and crew movements) on an innovative spatial discretization for computational purposes. Four algorithms (Brute Force, Hillclimbing, Genetic, K-Means) were developed to simulate base composition scenarios. The results enable assessments to be carried out that support better decisions for utility companies. This research introduces new elements in terms of impact assessment metrics for innovation adoption and performance management in traditional sectors in the local and regional context and suits Smart Cities and Smart Territories platforms. This is, therefore, a Big Data platform with geographical optimization that is unprecedented in the Brazilian electricity sector.*

**Keywords:** Big Data; Brazilian Electricity Sector; GeoAnalytics; Innovation; Local Business; Utility Companies..

### **Acknowledgments**

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## INTRODUCTION

This work, the result of ANEEL R&D Project 0390-1076/2014 – “A Study for Proposing and Analyzing Composition Scenarios for Operational Bases by way of a Systemic Geo-Intelligence Platform” looks at the influence of geographic variables on the key performance indicators (KPIs) of the operating area of AES Eletropaulo when answering emergency calls in the region covered by its energy distribution concession in the São Paulo Metropolitan Region.

The focus of the study is to identify the influence of the location of the operational bases in the emergency response operation and to check the consequences that possible changes of address of these bases have on their performance indicators.

It is important to stress that the current location of the bases is a natural consequence of the historical evolution of the provision of energy distribution services in the city of São Paulo, and that obviously it did not take into account the city’s current geographic situation; the opportunities to acquire available real estate (plots of land) were cross-checked against the sensitivity of the planning area of the operation. AES Eletropaulo serves more than 6 million consumer units, representing approximately 16.6 million inhabitants and approximately 25% of the Brazilian GDP.

The analyses and conclusions of this work took into account the extensive database made available by AES Eletropaulo and relied on the vision of the concessionaire’s professionals as far as concerned their advice with regard to the *modus operandi* of the company. Statistical prediction, evaluation, analysis and validation models were created, which served as the basis for the construction of software that will be available to AES Eletropaulo for future consultation and for supporting its strategic decisions. The innovation lies in the fact that since this software was made available, the concessionaire’s planning area has had an unprecedented geospatial view of the relevant variables in the concession area, precisely in order to check the consequences of urban changes on the performance of its teams.

The most surprising conclusions of the work are the decisive influence of the traffic variables on operational performance and the relationship between the geographical location of the bases and the road network. In particular, by simply redefining the coverage area of each current base, possible immediate gains are noted for each team by way of a significant improvement in the performance of the service time for the first occurrence of the day, which is the occurrence that is impacted by the location of the base.

In the long term, as the software is used by the planning teams, the tool that has been developed will allow for a drastic adjustment in the number of operational bases, thereby freeing up an important company fixed asset. It may also modify the logistical procedures used for positioning company vehicles and equipment.

As the urban dynamics of cities involve evolutionary phenomena – the occupation profile of neighborhoods, the volume of new real estate developments, the increase in the number of vehicles, the opening of new roads, among others - the software developed is capable of incorporating into its calculations other quantities that represent the urban complexity and can, therefore, over time be used to check whether such changes are capable of influencing the flow of traffic, thereby generating unforeseen difficulties for meeting service response times.

The results achieved also allow the company to check whether the number of call centers and their position in the urban network are the most appropriate at each moment in the evolution of the urban characteristics of the São Paulo Metropolitan Region. This equation is sufficiently complex to suggest that the conclusions are exposed not only by the simple identification of the

best addresses for positioning the service bases, but also by the generation of service time estimates, in order to provide elements for decision making, and to decide at what moment the concessionaire should review the positions due to possible changes.

For this to be possible, the work of analyzing variables and developing evaluation and results exposure criteria uses a digital map platform, which introduces the concepts of geographic intelligence and spatial statistics into the decision process (Lee; Kang, 2015; Francisco et al., 2006; Lloyd, 2010). Digital maps help analysts understand the evolution of changes in operating conditions in urban areas better and offer the possibility of quickly performing complex spatial calculations, which consider street and road situations with different traffic capacities and journey speeds at various times of the day and days of the week. Combined with climate change, local tree cover density and the real estate value of the regions, the software uses geographical algorithms that indicate the best locations for positioning the operational bases in each situation, both today and in the future.

The software that was developed allows for assessments to be carried out and decisions made about repositioning the operational bases immediately and routinely, provided that access to the databases used for monitoring traffic, the weather, the characteristics of the tree cover and real estate values used in constructing the geographic-digital analysis model is maintained.

## **RESEARCH DEVELOPMENT**

### ***Project Objectives and Product***

In general terms, the project objective and product are shown in Figure 1.

The inclusion of the existing KPIs that are traditionally monitored by AES Eletropaulo, and the adaptation and/or possible creation of new indicators linked to real estate performance and its idiosyncrasies are an intrinsic part of this work. This platform will be used to analyze the KPI Predictive Models by way of a flexible model into which variables can be dynamically and continuously inserted for monitoring growth in the demand for assets and the need for operational bases that satisfy the different conditions as defined in the energy distribution rules.

## **METHODOLOGY**

Figure 2 shows the macro-stages involved in developing the methodology. The sub-topics describe each stage in greater detail.

### ***Survey of the variables, analysis and using the data***

The development of all the ideas and related solutions started with AES Eletropaulo making of an operational database available that had more than 1.2 million records of emergency response calls handled by Eletropaulo's teams in the region it serves between December 2012 and November 2015. The emergency response data were supplied to the R&D team in data-tables containing a total of 12 million pieces of data (variables and observations) to be analyzed and including the following details: location of the emergency; the time the request for assistance was registered; the time the team left; the time the team arrived at the place of the emergency; the team responsible; the equipment; and the type of occurrence.

These data were incorporated into several other service processes, in an initial phase called “Proof of Concept”, in which other services, especially Meter Reading and Bill Delivery, Fraud Inspection and Technical Notes were analyzed.

The recorded field occurrence data, especially the registration, departure and arrival times, were compared with consistent traffic data from the GisBI/Here external database. The consistency of the data collected/annotated by the field teams was then checked by reading the journey times of vehicles (light and heavy) in the urban area, which were consolidated by way of São Paulo Metropolitan Region’s traffic monitoring systems. The work used as its reference data the information that had been processed and worked on by GisBI, and based on the data of Here North America, LLC, taken from its service called “Traffic Patterns”. This originated from the systematic monitoring of vehicles equipped with GPS and other types of journey control, whose license to use during the R&D development period was included in the contractual amounts.

As input for identifying (and updating) the typical traffic time for each road (to and from), the traffic base used in this project has a minimum history of 3 years that is being constantly updated (every 15 minutes), with hourly averages for each typical day of the week. This represents 13,171 different patterns of average journey times per day of the week and category of functioning roads.

For preliminary comparison purposes, journeys between the operational bases and the first occurrences registered for each team were considered for a period of one year (from December 2012 to November 2013), for total success in 111,912 occurrences, with two criteria being calculated for each comparison (shortest route and fastest route), which are available in the GisBI/Here database.

### ***Enriching the variables and conceptual modelling***

Based on the conclusions of the debates and methodological definitions of the previous stage, and to make it possible to add the different possible variables to the model that was to be proposed for locating the operational bases, the team started detailing and enriching the databases. This work required special dedication so that all the bases to be included in the methodology retained a spatial geographic coherence with the original data and, at the same time, allowed for the mathematical integration of different amounts, which were conveniently described in the actual development stage of the geospatial analysis computer model.

Previous studies (Francisco, 2010; Kirschner, 1971) showed the feasibility of concentrating a large volume of data into a grid as a possible simplification of the geographic distribution of different size databases with different meanings.

Despite this on-screen simplification possibility, the researchers nevertheless considered that the problem of locating AES Eletropaulo's operational bases in the defined concession region involved not only the question of the distribution of variables across the territory (and its geography), but the observation of journey times along routes (streets and avenues), as characterized by the region’s traffic data coming from the GisBI/Here base. In other words, it required that each (and every) square on the grid be characterized as the origin and destination of journeys from all the other squares.

This conjugation of information and necessary iteration of the data of different origins and measures, it was noticed, turned the solution of the problem into an example of “NP-Complete”, which in the theory of computer complexity means a special level of difficulty for solving problems in polynomial time.

This motivated the group to take the initiative of seeking aggregate representations and computable algorithms for solving the search for the optimal positioning of the bases within the grid, in order to generate conditions for AES Eletropaulo's planning teams to take decisions under operational conditions.

### ***Development of the Spatial Analysis Algorithm***

The title adopted for this R&D proposes using the expression “systemic geo-intelligence” (A Study for Proposing and Analyzing Composition Scenarios for Operational Bases by way of a Systemic Geo-Intelligence Platform) as an innovation of the analysis and operational planning process within a power distribution concessionaire (Lacerda, 2000).

The aim of the innovation is not only to modify and/or increase the theoretical and practical instruments used by the professionals involved in these tasks within energy distribution companies by way of yet another piece of geographical technology. The idea is to transform all the complexity of spatial analyses into an instrument that is simple enough to be adopted in the day-to-day practice of operationally planning this type of public service, by incorporating the analytical possibilities of geographic platforms, which were made accessible very recently for this type of public service thanks to the rapid development of digital maps and their dissemination for use by everybody, notably by way of applications linked to the planning of traffic routes in cities, among other aspects (Ballou, 2006; Coelis, 2006; Barros, 2005; Lacerda, 2000).

Companies that already used maps and graphic resources in their most sophisticated strategic analyses now have the chance to develop new planning routines based on the intensive use of spatial reasoning on simplified platforms that do not require specific GIS software training. The assumption is that from this work it becomes possible to spread the geospatial culture among analysis and operational planning professionals, by way of interfaces that can be easily manipulated (Francisco, 2011; Wanke, 2001).

### ***Urban conditioners***

The initial hypothesis was that some urban characteristics would need to be considered in formulating a mathematical-statistical analysis algorithm that was capable of recognizing, at any time, the influence of changes in the concession area, in particular, under conditions involving:

- Traffic on routes used by emergency response vehicles;
- Identification of and access to occurrence times;
- Local tree-cover patterns (interference with overhead cabling)
- Intensity of atmospheric phenomena (rain, wind and electrical discharge)
- Real estate vectors (land value of the operational bases and urban occupation trends)

In terms of traffic it was necessary to pay special attention to the times noted down by the field teams for their vehicle journeys to the place of occurrences. This work was carried out in the preliminary phase of this study, when a small number of inconsistencies was detected in a sample of 111,912 team journeys, which undoubtedly derived from the operational forms being badly completed, which is fully understandable, although undesirable when checking performance, given the emergency conditions and sometimes the urgency of these services.

### ***Volume of Data versus Processing Capacity***

After this initial cleaning up of the database of real journey times between the base address and the occurrence address, the challenge was to check the journey times on these same routes, given by the platform GisBI/Here, whose data make traffic patterns available that have an impact on journey times and that, in theory, could be measured every 15 minutes, 7 days a week.

This comparison work of both the journey times for each specific emergency response call-out was carried out in the preliminary phase and indicated a strong correlation, which allowed the GisBI/Here databases to be adopted more readily and confidently as a reference for producing the final algorithm for supporting the decision and for planning better locations for the operational bases.

One of the major challenges identified by the R&D team was to find a way to simplify the geolocation issue of eventual occurrences in such a way that the volume of information to be considered in the calculation of journey times from the operational base to the occurrences could simultaneously respect the strength of this correlation, without, however, overloading the algorithm to the point where it could not be processed by ordinary computers and in the worst of hypotheses would require a supercomputer.

### ***Address representation squares***

The solution adopted was based on the premise that it was necessary to reduce the number of geographic variables in the matrix of occurrence and base address possibilities in order to make a computer solution possible that was accessible to the concessionaire's team of professionals. In other words, it was necessary to check the hypothesis of representing a series of real addresses in the city from a random division of the concession area territory into squares with 1000-meter long sides, and converging all the addresses from that square on the address closest to its centroid (Francisco, 2010; Wangenheim, 2006; Wanke, 2001).

In doing so an undefined (and certainly huge) number of possibilities for addressing occurrences started being controlled in a smaller matrix of squares, each representing a portion of the concession area territory. The centroid addresses then became the origin or destination of the journeys, the times of which would be given by the GisBI/Here traffic routes, which are made available in the concession area and standardized every 15 minutes of the day and night, 7 days a week.

This decision implied checking other proposition possibilities involving squares with sides less than 1000 meters in length to make the calculation even more precise and representative. But simulation of the number of mathematical interactions in each of the hypotheses indicated that a square with sides 1000 meters long was a good choice, because of the size of the concession area for making calculations feasible by the algorithm, since all addresses made available (from any centroid) should be checked in terms of journey times to all other addresses (other centroids) (Lloyd, 2010).

Figure 3 shows the estimated processing time, which is a function of the number of iterations between the various addresses (closest to the centroids of the squares), according to the number of squares. The graph makes obvious the physical limitation of processing a data matrix of the "all addresses for all addresses" type. It shows that the simplification of 1000-meter-sided squares with representative addresses closest to the centroids of the squares is at the limit of computer feasibility for the AES Eletropaulo concession region.

### ***Cost versus Time Matrix***

After simplifying the address matrix, it was necessary to check the behavior of the data available in the various databases chosen for undertaking the work. Each of the squares, represented by the address closest to its centroid, received all the geolocated information belonging to that particular square.

The databases of occurrences (AES Eletropaulo), real estate value, weather and tree cover (information taken from AES Eletropaulo's own description of the occurrences, because the city administration does not have territorial coverage of this information) were transferred to the squares, as of course were the journey times between the squares, two by two (traffic by GisBI/Here database), concentrating them in the address near the centroid.

Any type of information that can be expressed by its geographical location characteristics could be placed in the squares in the same way, which gives a universal character to the research carried out by the R&D team. It is certainly capable of being reproduced in other analyses, whether logistical or not, for any territory in any city in Brazil, or the world.

In this work, the combination of the various factors (databases) inserted in the grid, weighted according to the interest of the analysis, was called the “cost matrix” of the system analyzed, whose values can be assessed from the reference KPIs.

Because of the ANEEL performance requirements, in the analyses presented below this cost matrix will always offer as an output the journey times between each particular square and those squares that represent the location of the best placed operational bases in the territory, from the table of occurrences weighted by the variables of the system's cost matrix.

Interpretation of the territory as squares allows for mathematical computer modeling and therefore considers:

- The adjustment of the positioning of the AES operational bases depends to a certain extent and among other factors on the journey time between the bases and the occurrences.
- The road network is dealt with as a graph comprising nodes and the vertices that link them, as shown in Figure 4.
- To make computation of the results feasible on everyday commercial equipment some simplifications were introduced, such as dividing the area into 1 km-sided squares.

### ***Calculation of the best location for the bases***

The simplification introduced by the squares allowed for an understanding of the calculation processes, but did not modify the nature of the computing problem to be solved. In other words, to find the best location for the bases would require mathematical calculations that are computationally intractable because of the volume of interactions between all the squares.

To overcome this difficulty, modeling had to incorporate different calculation algorithms by approximation, known for the solution of NP-complete problems. These algorithms were used, therefore, to define the best place for positioning the bases, when the volume of calculations became computationally intractable. For these calculations by approximation, Brute Force (an attempt to solve the NP-complete problem), Hill Climbing, Genetic and K-means algorithms, which are explained below, were applied.

For the traffic data, Here's API was used, which adopts a traffic pattern that is the result of studies that take into account the historical data of several years, and supplies the time and distance between two points on the road network in the concession region, in this case, the addresses closest to the centroids of each square.

As collection and preparation of the traffic data takes several days to process, traffic data for 8:30 a.m. on December 15, 2015 (Tuesday) were extracted for the simulations shown below.

### ***The geographic problem transformed into a matrix problem***

The geographic problem of determining the best position for the bases was then converted into the mathematical problem of determining which positions give the lowest weighted location cost of the bases in a matrix in which each cell represents a square, as shown in Figure 2, above.

For calculating the best location, a cost matrix was considered that determines the journey cost (time) between each origin and each possible destination, and a weighting of the square that determines the weight of this square as a journey destination.

The algorithm can therefore be used to determine the best position for the bases according to any criterion. For example, it is possible to adopt the journey time between the squares as the cost matrix and the number of occurrences for each square as weighting.

In this way, it was possible to determine the locations of the operational bases that allow the smallest average journey time to occurrences, although this mathematical/matrix approach allows the position to be calculated according to any other criterion that it is wished to use.

## **DEVELOPMENT OF THE OPTIMIZATION ALGORITHMS**

As already mentioned, the work analyzed four iterative calculation methodologies, the characteristics of which will be presented below (Items II.3.1 and II.3.2). The methodologies for producing iterations were introduced into the algorithm using a C++ program (C++ 11 standard) for processing on an ordinary computer.

The basic calculation of the concession area under these conditions is developed considering the journey costs between all the squares, two by two, with the square destined to receive an operational base being the one that has the lowest cost in the cost matrix. The configuration cost is given by the sum of the multiplications of the weighting of each square and the journey cost from the operational base to that square. The average cost per occurrence in each operational base location situation is the total cost divided by the weighting, as shown in Figure 5.

### ***The “Brute Force” method – Implementation (not feasible with more than 3 bases) of the NP-Complete problem***

This is the most intuitive method: it tests journey costs from the operational bases placed on each one of the squares to all the other squares.

The operational base is placed on the square that has the lowest total cost.

- The method is not feasible for configurations with a lot of squares;
- That is why, for the purposes of this work, the maximum number of iterations was fixed at 10 million, in other words, just over one hour of processing time on the normal computer with a good performance that was used in this project;
- This time corresponds to calculating the position of two bases, if the data of the AES concession area are taken into account;
- It can be used to measure the results of the other methods;
- It can be used for areas that are smaller than the concession area.

It provides a precise result, although massive processing makes it unfeasible in the case being studied, which has a greater number of operational bases. To check the feasibility of iterations (and processing) according to the number of bases, the processing time was estimated from the number of iterations necessary, considering from one to ten simultaneous operational bases. Processing time becomes computationally unfeasible (years of machine processing) starting from the optimization of 4 operational bases.

### ***The Hill Climbing, Genetic and K-means methods***

The table in Figure 6 highlights the concepts, characteristics and limitations of each optimization method developed in the project.

## **IMPLEMENTATION AND PERFORMANCE TESTS**

Tests were performed considering from 1 to 2 bases with simulation of the 4 algorithms and verification of the location of the optimal bases in comparison with the Brute Force (ideal solution) method. For 3 or more bases, the tests consisted in evaluating the performance of the solutions.

## **RESULTS**

Among the main findings are that traffic has a great and significant influence on the positioning of the bases. In the conditions observed, the Hill Climbing method converges faster to the best solution, but the intermediate results do not consistently approximate to the best result. The Genetic method requires more iterations, but consistently approximates to the best result: the more generations there are the better.

These results influenced the decision to make a fourth genetic method available with refinement, which we call “GENETIC + HILL CLIMBING”. This method uses the genetic method, as intended, and takes the best solution to apply the Hill Climbing method to it just once. The idea is to take the best possible generation and optimize it in a way that the Genetic method is unable to do in itself. The performance needs to be taken into account with all the data in order to assess the best uses for the algorithm in each case. The K-means method apparently converges on a point that is not lowest cost.

Figure 7 shows the arrival and leaving costs of each square in AES Eletropaulo's concession area (as described in 2.3). Figure 8 shows an example of the final configuration for the 5-base simulation. General maintenance of the current service indicators is estimated (in particular, average service and journey times) as are cost reductions resulting from a reduction in the total constructed area of the bases, which reach tens of millions of *Reais*.

In completing the implementation, development of the system platform (software) was completely web-based to allow AES Eletropaulo analysts to access it via a browser in order to define the simulation variables (traffic, real estate dynamics, weather and tree data) and the weights of these variables, to select the number of bases, the optimization method and the specific parameters and to simulate the KPI scenarios and their measurement, as shown in Figure 9.

## **CONCLUSIONS**

The introduction of the concepts and possibilities of geotechnology and geointelligence into the operational activities of utility concessionaires can be considered an inexorable trend in methodological advances and business practice, notably of the company that dedicates itself to activities that are distributed throughout the territory, in both urban and rural areas.

The R&D project that was developed shows that the concepts, considerations and methodologies of geostatistical calculations can be introduced into the day-to-day business routine without the professional planning and operational management professionals having to learn or incorporate all the complexity and nuances of GIS (Geographic Information Systems) software that is available in the market.

The system developed (software) aims to offer an automated implementation instrument for the geographical calculation methodology for reallocating the operational bases in AES Eletropaulo, and is the main result of the work that was carried out. The system considers simple objectives for the introduction of the variables to be considered in the analyses and reasonable computing times with the possibility of carrying out studies in multiple change scenarios involving the urban and weather conditions of the concession region.

The same system may be used in other regions, provided local variables are made available and introduced in combination with the operational data of any power distribution company in the country, or even in other countries. The digital map resources are integrated into the tool that was developed and, therefore, the results of this R&D are not limited to the geographical area of the AES Eletropaulo concession, and can also serve other types of public service concessionaire.

For the concessionaires' planning and operational management teams, the results of this R&D offer the possibility of immediate incorporating geotechnologies into their professional activity, without requiring an in-depth knowledge of spatial statistics. This possibility may induce a new level of operational performance, and prove that significant improvements may be introduced in the provision of public energy distribution services, thus constituting great methodological success for those who adopt the computer system that was developed for reallocating the operational bases.

This research introduces new elements in terms of impact assessment metrics for innovation adoption and performance management in traditional sectors in the local and regional context and suits Smart Cities and Smart Territories platforms. This is, therefore, a Big Data platform with geographical optimization that is unprecedented in the Brazilian electricity sector.

This is, therefore, a Big Data project with geographical optimization that is unprecedented in the Brazilian electricity sector.

<b>Objective</b>	To develop a methodology based on statistical models, operational research and geo-referenced data analysis that allows for an optimized configuration of AES's assets, without interfering with the operational performance of the technical and commercial services in the field.
<b>Project Product</b>	An analytical platform that has a tool for exploring the various scenarios resulting from the possible structuring of the operational bases (number/location/size) and the supply of services in the field, which will enable the concessionaire to replicate the analyses carried out, by systematically optimizing the geographic performance of the location of their operational bases.

Figure 1. Project Objectives and Product

Figure 2. Stages in the development of Big Data and Systemic Geo-intelligence methodology

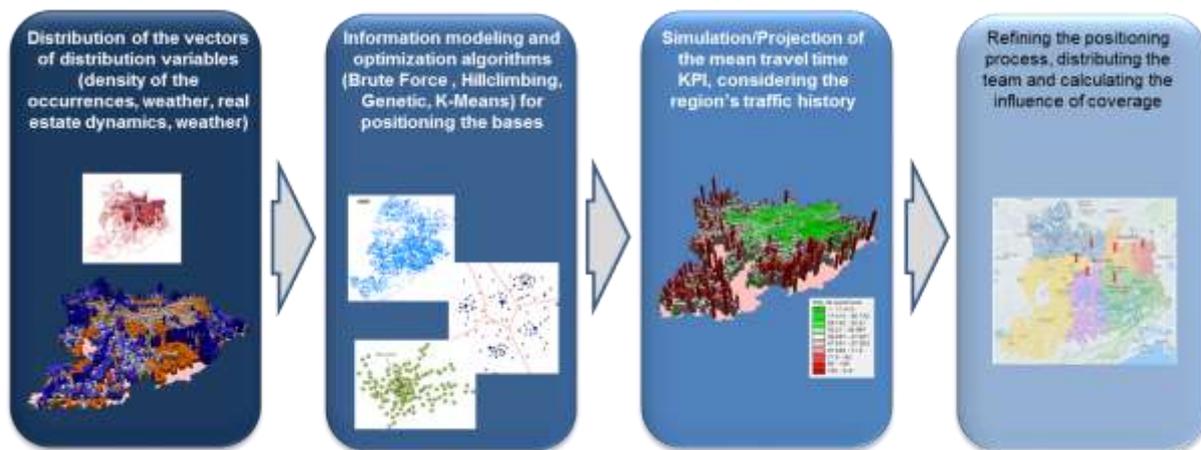


Figure 3. Relationship between the size of the square and processing time for the computer solution adopted by the study



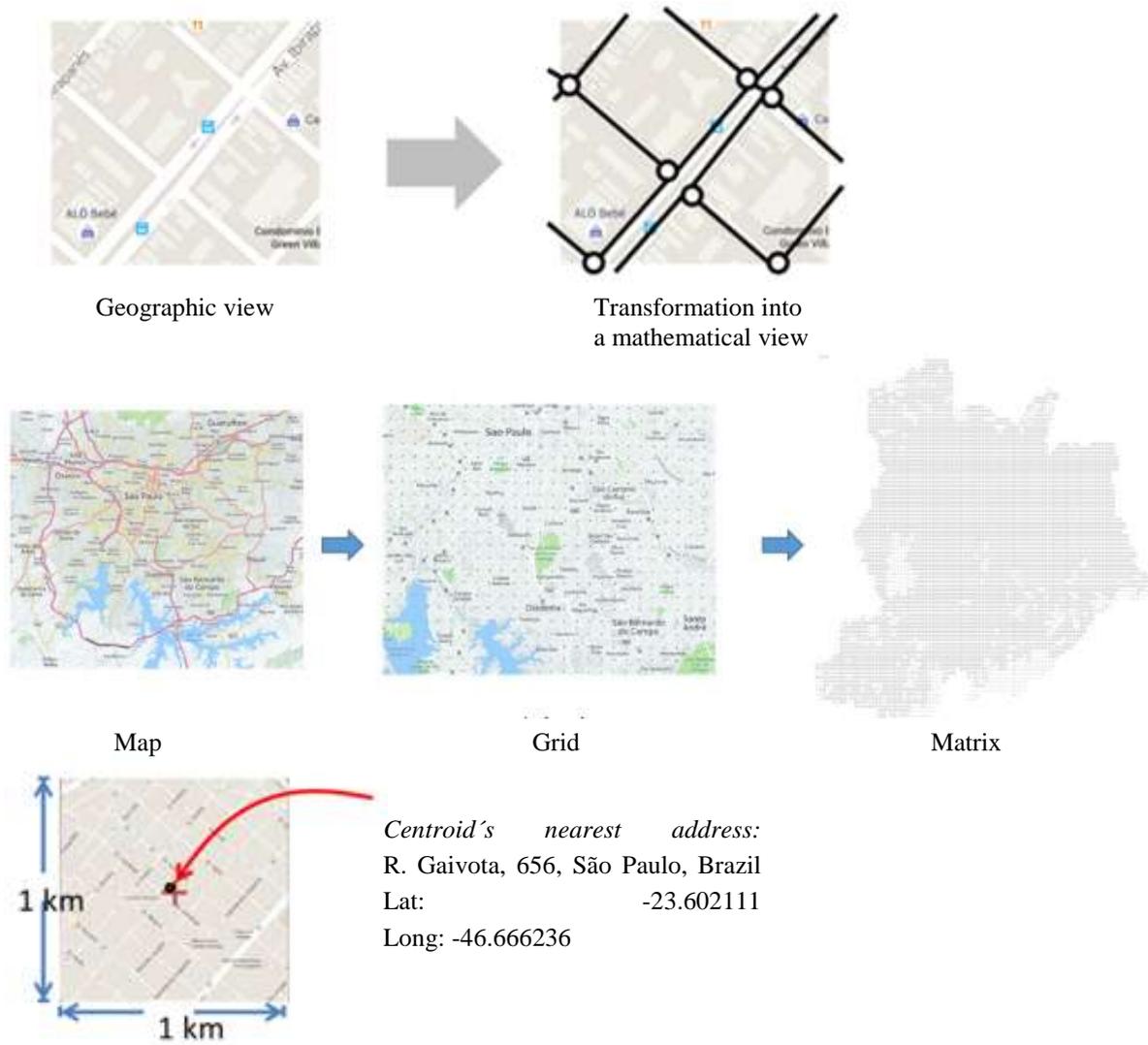


Figure 4. Transforming the geographic view into a mathematical view (matrix representation) for computer enablement of the algorithms developed in the project

$$Custo_{configuracao} = \sum_{i=1}^{N_{bases}} \sum_{j=1}^{M_{quadrículasDaBase_i}} Custo_{ij} * Ponderacao_j$$

$$Custo_{medio} = \frac{\sum_{i=1}^{N_{bases}} \sum_{j=1}^{M_{quadrículasDaBase_i}} Custo_{ij} * Ponderacao_j}{\sum_{k=1}^{P_{quadrículas}} Ponderacao_k}$$

Figure 5. Formal definition of the average cost per occurrence

	Description of the algorithm – Characteristics and Limitations
<b>Hillclimbing</b>	<p>This method comprises calculation iterations considering the following stages:</p> <p>An initial configuration is chosen by draw.</p> <p>One base at a time is moved to each one of the squares adjacent to it. The cost of each one of the nine possible configurations is calculated and the base is moved to the position on which the configuration has the lowest cost. The procedure is repeated for all the bases successively until no movement of any base results in a cost reduction.</p> <p>The result depends on the initial draw, in other words, the “initial seed” for the draw of the initial configurations. Sometimes the initial position is such that a final position is arrived at which is a “local minimum”, not representing the best possible situation. The calculation module allows the number of initial draws of the method to be determined, which is very fast and allows thousands of attempts to be calculated.</p> <p>The number of draws that gives the best result is unknown, because it depends on the heterogeneity of the cost matrix and the weightings. Generally, the bigger the number the better the result.</p>
<b>Genetic</b>	<p>This comprises the following stages:</p> <ol style="list-style-type: none"> <li>1. An initial population of configurations is chosen by draw.</li> <li>2. The cost of each configuration is calculated. A number of the lowest cost survivors is chosen.</li> <li>3. Each survivor generates a number of descendants and equal to the number of bases in the following way: each configuration base is substituted one at a time by another drawn base. The descendant configuration is compared to a list containing all the configurations tested in order to generate more repetitions.</li> <li>4. The cost of the new population along with the survivors of the previous generation and the new survivors are chosen.</li> <li>5. The process is repeated until the desired number of generations is reached.</li> </ol> <p>It is not limited to the minimum number of locations. The quality of the solution depends on the number of generations. There is no guarantee that the solution will be optimal, or the best of all solutions.</p>
<b>K-Means</b>	<ol style="list-style-type: none"> <li>1. An initial configuration is chosen by draw.</li> <li>2. The coverage of each base on the configuration is calculated.</li> <li>3. In each area of cover the best position for the base is calculated.</li> <li>4. The two previous steps are repeated (in other words, no new draw is carried out) until the positions for the bases are established.</li> </ol> <p>It depends on the initial draw. The quality of the solutions depends on the number of repetitions. There is no reason to believe that stability is reached at the point of lowest cost.</p>

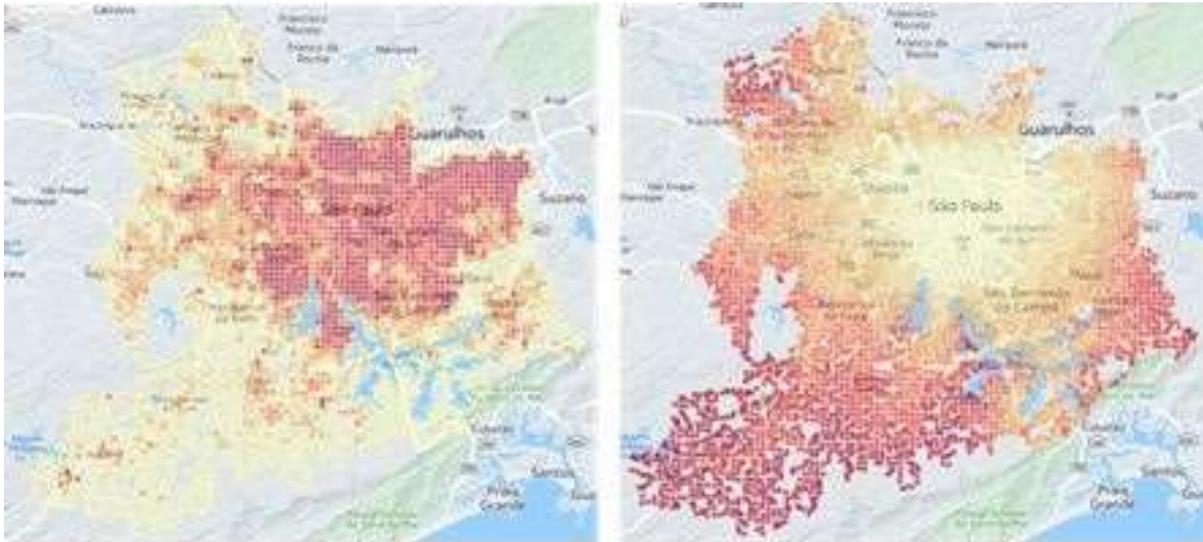


Figure 6. Description of the algorithms implemented in the project

Arrival cost

Departure cost

Figure 7. Costs of reaching and leaving squares in the AES Eletropaulo concession area

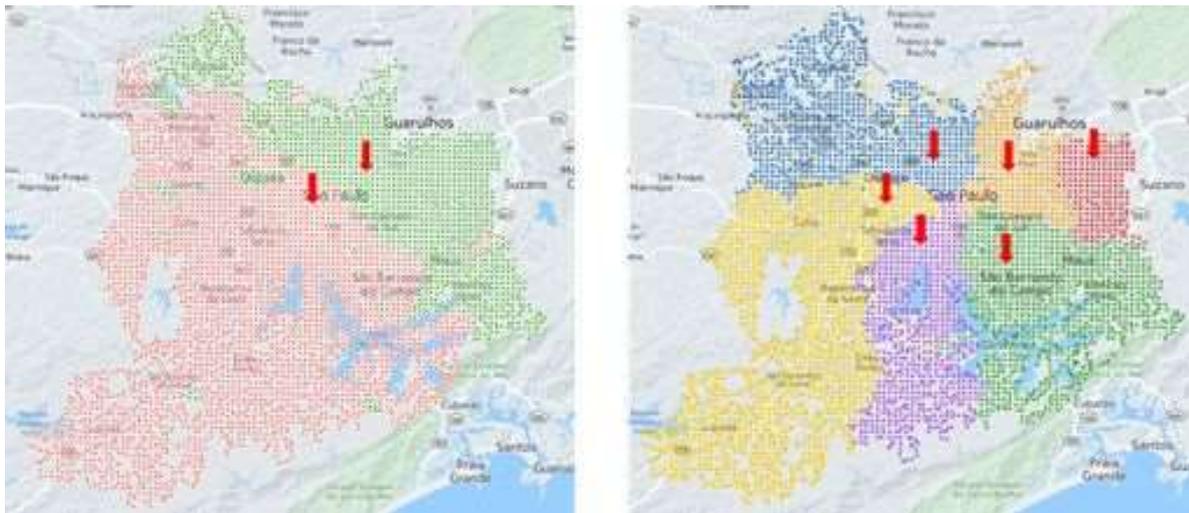


Figure 8. Example of optimization in the composition of 2 (left) and 5 (right) operational bases

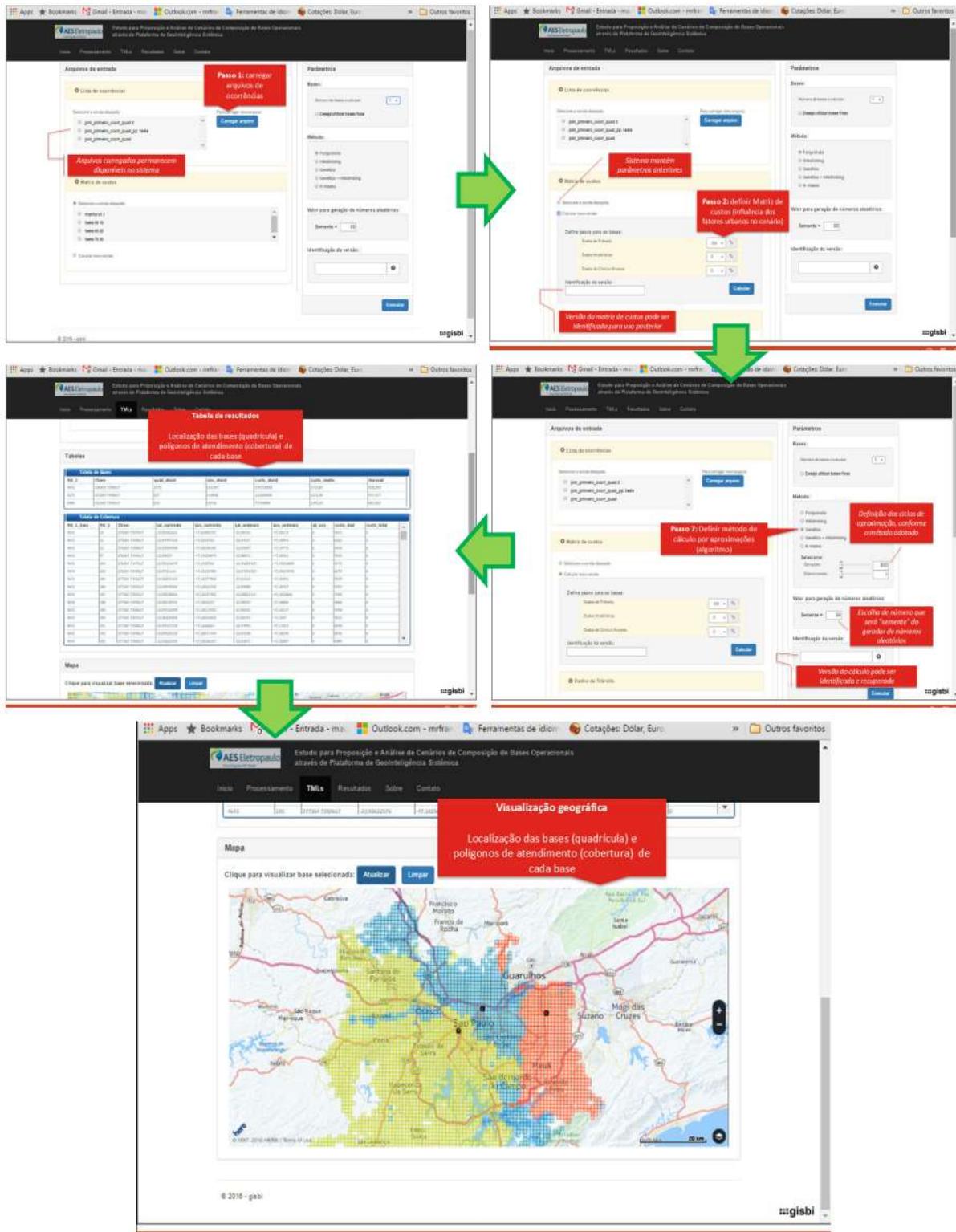


Figure 9. Big Data and Systemic GeoAnalytics Platform

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## **Track 09**

# ***Creative Economy***

*Track 09 Creative Economy*

**ID #564**

**Creative Cities: consolidating the concept in a  
comprehensive approach**

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**Abstract**

*The paper proposes a definition consolidation of Creative Cities. A systematic review and a meta-analysis were conducted with constant comparison method. A dataset formed by 59 publications was collected and analyzed through citation network and inductive categorization techniques. After identifying manifestations and patterns of Creative Cities from different approaches in the literature, the authors propose a complex, well-defined and integrated definition of Creative Cities considering its multidimensionality.*

**Keywords:** Creative cities; urban space; creativity; urban development; cities..

**Acknowledgments**

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## **INTRODUCTION**

Concepts are one of the pillars of scientific knowledge, being abstract frameworks created from reality to generalize, typify and categorize empirical experiences (Seel, 2012). Concept formation is part of several aspects in human development, from human cognitive formation (Vygotsky, 1978) to the proposal of new theories and paradigms (S. Carta, 2017; Nersessian, 2002).

Concepts are consolidated throughout years or decades, being built upon three main characteristics: i) a phenomenon that is represented by the concept and subject to its definition; ii) characteristics and attributes that operationalize and differentiate the concept; and iii) a specific term responsible for comprehending the concept definition, characteristics and variables (Sartori, 1984).

For example, when analyzing Creative Cities based on these characteristics, three aspects justify the need to consolidate its definition: i) it is limited to a unidimensional approach; ii) the literature development is fragmented and sparse in approaches and focuses, interfering the development of scientific knowledge (McKinley, 2010; Walsh, Meyer, & Schoonhoven, 2006); and iii) there is no parsimony in the literature due to different approaches and conflicts between definitions and manifestations (Weber, 2015).

Weber (2015) argues that it is through divergences and conflicts in terms, definitions and manifestations that the need for conceptual consolidation is stressed. Therefore, the aim of the paper is to propose a definition consolidation of Creative Cities. The consolidation is aimed at considering Creative Cities scientific development in a comprehensive approach while presenting a complex, well-defined and integrated concept definition.

A systematic review of Creative Cities with a meta-analysis of the historical development of the field was done with constant comparative method. A citation network was created to understand the interaction between publications and an inductive categorization was conducted to identify Creative Cities main attributes. The techniques were applied to 59 publications divided in two datasets: 23 publications collected from worldwide databases (named Contemporary Publications) and 36 publications that are cited by the first dataset (named Seminal Publications). The arrangement of the datasets is further explained in the Research Design chapter.

## **RESEARCH DESIGN**

The research is a systematic review of the literature with an analysis of the historical development of the literature (S. Carta, 2017; Grant & Booth, 2009). The methodology used is the constant comparative method from Glaser and Strauss (2009) that is aimed at creating – or testing – properties and categories of a phenomenon. With the identification of such aspects from the literature, it is possible to propose a definition or theory.

The steps proposed by Glaser and Strauss (2009) have flexible and integrated properties, allowing the authors to revisit each step to achieve the best results. An inductive categorization was done by analyzing the datasets and identifying patterns that became categories (D. R. Thomas, 2006). The technique allows the authors to identify characteristics, patterns and limits that provide evidence to propose a definition. The software used to analyze the data and manage the inductive categories was Atlas.ti (Friese, 2014).

Besides, a citation network was created using Pajek software. The citation network is useful by allowing the authors to understand how both datasets are linked and the main areas of research in Creative Cities (De Nooy, Mrvar, & Batagelj, 2011).

### ***Data collection and saturation***

The research is based on two datasets. The first dataset (named Contemporary Publications) was collected through a search for “Creative Cit\*” keyword in the abstract from two worldwide relevant databases – Emerald and Sage – without a specific time frame. 65 publications were found but exclusion criteria were applied to publications: i) without double blind review process (interviews, book chapters, editorials, reviews); ii) without the concept; and iii) without theoretical development nor bibliographic references to the concept. After the application of the exclusion criteria, 23 contemporary publications published between 2006 and 2015 were analyzed to highlight the concept manifestations.

Manifestations are considered the way authors in the research sample understand the phenomena of Creative Cities. Manifestations are more embracing approaches when compared to definitions, not allowing the reader to operationalize the concept or specify its attributes, but providing insights of its characteristics (Seel, 2012).

The authors were not able to identify definitions in the contemporary publications, which were limited to manifestations of the phenomena. Therefore, references used in the publications to support these manifestations were collected and analyzed, resulting in the second dataset (named Seminal Publications). 36 seminal publications between 1989 and 2010 were analyzed to identify the concept’s definitions.

The research design in Figure 1 is a conceptual map made in Cmap Tools software, allowing the reader to better understand the research and improving its reproducibility (Freeman & Jessup, 2004). Data collection saturation was achieved when the data analysis didn’t provide new definitions or attributes of the phenomena (Glaser & Strauss, 2009; Patton, 1990).

### ***Research Validity***

The research validity was achieved by internal and external approaches (Kolb & Hanley-Maxwell, 2003). Internal validity was achieved through content validity, a subjective and systematic technique for verifying if the research steps and results are coherent with the concept. The content validity was achieved through the analysis of manifestations and definitions to verify if the concept main characteristics were represented in the results (Cooper & Schindler, 2016).

External validity refers to results generalizability and method reproducibility. It was achieved by completing the steps suggested by Glaser and Strauss (2009), such as saturation of databases search, review of methodological steps, mapping of the research design and articulation between the research objective, literature, method and results (Laperrière, 2008; Vieira, 2004)

\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\*

## **EXPLORING THE LITERATURE**

Landry and Bianchini (1995) were the first authors to develop the concept of creative cities, then developed by Landry (2000) with several editions of his book. Landry’s approach focused on the role of cultural industries (arts, music, dance, etcetera) in the reurbanization of the United Kingdom, becoming the mainstream approach.

By the end of the 1990's, the concept of creativity spread and was applied in several contexts – including in creative industries. Creative cities approach was explored focusing on the relevance of specialized labor for the development of creative economy; instead of focusing solely on cultural industries (DCMS, 1998).

From the 2000's, mainly due to Florida (2002; 2005) and the creative class concept, researchers explored creative cities as a vector for attracting and retaining creative class and its skilled workers. Despite Florida's contribution being relevant to the literature, it has received several critics from economic (Kokkin, 2005), social (Donald, Morrow, & Athanasiu, 2003) and public policy (Peck, 2005) points of view.

Table 1 shows the first dataset (Contemporary Publications) collected and analyzed in the research. The aim of the dataset is to present the manifestations of Creative Cities in the literature, being how the authors understand the empirical manifestation of the concept (Seel, 2012).

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

Four aspects are highlighted in the dataset: i) there are no definitions of the concept, only manifestations based on previous publications; ii) there are differences between these manifestations, mainly considering subjects such as culture and arts (as in Sepe and Trapani, 2010; Lloyd, 2011; Méndez and Moral, 2010; and Flew, 2012); iii) manifestations are focused on the specificity of each publication; and iv) none of the manifestations consider all the aspects found in the dataset.

Table 2 shows the second dataset (Seminal Publications) collected and analyzed in the research. The aim of the second dataset is to complement the manifestations in Table 1 by presenting the authors cited in the papers of the first dataset. The table shows manifestations and definitions for Creative Cities and related concepts found in the second dataset.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

Some characteristics from the second dataset may be highlighted: i) there is a range of concepts from different approaches to the phenomena (as Creativity, Culture, Entrepreneurship and Urbanization) which represents the literature plurality (Gerring, 1999); ii) most of the publications are books rather than scientific papers with rigor and theoretical development; iii) the publications have simpler and less multidimensional aspects than the contemporary publications; and iv) almost half of the citations are concentrated in two authors (Florida and Landry).

The only definition that fits the characteristics described by Sartori (1984) is in Landry's *Creative Millieu* concept (Landry, 2000). Besides it being a definition of regional creativity and not of creative cities, Landry (2000) approaches the phenomena in a broad and unidimensional way without defining the necessary precondition for a creative milieu. Therefore, the manifestations in Table 1 and 2 explicit what are these preconditions, complementing the concept multidimensionality of creative cities.

## **LITERATURE ANALYSIS AND DEFINITION PROPOSAL**

Since the research considers two datasets to identify patterns towards a comprehensive approach, two discussions are held: the citation network and the inductive categorization. Then,

the definition consolidation is proposed considering the multidimensionality and development of the literature.

#### Citation network

Through a Pajek analysis on components, representing how strongly connected the publications are, we found that the relations were not dense enough for a strong component.

The weak component in Figure 2 represents that the contemporary and seminal publications are weakly connected with the node size representing the amount of citations received. Figure 2 displays how contemporary publications from the first dataset (orange nodes) cite the seminal publications from the second dataset (blue nodes).

#### \*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\*

The network shows the flow of citations and how relevant each publication is to the literature. The first highlight is on the centrality of Florida publications (2002; 2005) with 19 direct citations. Landry and Bianchini (1995) are the second most cited authors with the creative city concept, and Landry (2000; 2006) the third with the creative milieu concept. The 10 direct Landry citations represent a second literature ramification from a cultural point of view.

Based on the network, Florida and Landry are the two main publications in the literature. P. Hall (2000) and Peck (2005) have, respectively, four and two citations but do not present significant differences between Florida and Landry's definitions to be considered new ramifications in the field. Clark (2004) has three citations with a specific concept in the entertainment industry.

The network in Figure 2 and the amount of citations in Table 2, based solely on the authors and concepts, show how fragmented the literature is. Despite its usefulness, a network analysis does not allow the authors to identify patterns on how each publication defined or represented the manifestation of the concept.

#### ***Datasets inductive categorization***

Both datasets were categorized with Atlas.ti software. The authors did not use deductive categories, therefore allowing the appearance of inductive categories. The citations were categorized by their themes and clustered in 17 subcategories; which were clustered in nine categories and presented in a conceptual map in Figure 3. The numbers in the conceptual map represent how many times each category and subcategory appeared in the analysis.

#### \*\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*\*

Economy and Industry category has the most citations and comprehends economic, financial, firms and competitive advantage aspects in a creative city. It is divided in Economic Development and Creative Industries subcategories, representing the role of creative industries and how they influence economic development. Tölle (2013) and Acs and Megyesi (2009) represent the Economic Development; Comunian (2010) and Montgomery (2005) represent in Creative Industries.

Human Capital category is the second most relevant and is related to the contribution of workforce, creativity and formal knowledge to a creative city. It is divided in Creative Class and Education subcategories, representing Florida's influence and the specificity of education from other authors. Creative Class is represented by Méndez and Moral (2011) and Florida (2002); Education is represented by Montgomery (2005).

Arts and Culture category is the third most relevant, representing the first focus in the literature regarding creative cities. It has no subcategories since the authors do not differ arts from culture and consider the cultural dimension as a whole. Alvarez and Yarcán (2010) and Monclús and Bassols (2006) represent this category; besides Landry's publications.

Government category, divided in Public Policy and Infrastructure, represents the role of formal institutions and specific policies that foster creativity and the structure provided for it to develop. Martí-Costa and Miquel (2012) and T. Hall and Hubbard (1998) are examples in Public Policy; J. M. Thomas and Darnton (2006) and Landry (2000) in Infrastructure.

Social Interaction category also does not have subcategories since the authors consider all forms of social interaction as relevant to a creative city. It comprehends the interaction between individuals in a society and is fostered by diversity, tolerance, social norms and culture. It is represented by Chang and Teo (2009), P. Hall (2000) and Florida (2002).

Globalization category is focused on how the interaction between two regions (e.g. towns, cities, countries) affects creativity. It is divided in three subcategories with Globalization representing a broader aspect with economic, political and cultural interactions as in Murdoch, Grodach, and Foster (2015) and Scott (2006); Tourism as in Martí-Costa and Miquel (2012) and Harvey (1989); and Immigration as in Pruijt (2013) and Landry and Bianchini (1995).

Quality of Life category represents its relevance for creativity to develop, considering it is the most important asset for a creative city. It is divided in Quality of Life and Public Spaces, focusing on personal and collective aspects of the subject, respectively. Evans (2009) and Harvey (1989) represent the personal aspect; McAuliffe (2013) and Landry and Bianchini (1995) represent the collective aspect.

Entrepreneurship and Innovation category is straight-forward and divided in Entrepreneurship and Innovation, representing how entrepreneurs and innovation from startups and traditional companies are relevant to economic development and absorb the creative class. Catungal, Leslie, and Hii (2009) and T. Hall and Hubbard (1998) are examples of the first subcategory; Shaw (2013) and M. Carta (2007) are examples of the second one.

Diversity and Tolerance category comprehend a broad aspect of a creative city including ethnic, racial, cultural, religious and sexual orientation aspects. It is divided in Diversity, regarding a society's plurality in such aspects and represented by Pruijt (2013) and Florida (2005); and Tolerance, regarding how society deals with all kinds of diversity is represented by Lloyd (2011) and Holden (2007).

## **DEFINITION PROPOSAL**

With the review of the literature considering its concepts, manifestations and definitions, the authors identified that there has been a development in the comprehension of creative cities. In the seminal publications, the manifestations are specific in areas such as culture and creative class, expressing unidimensional manifestations of the concept. In the contemporary publications, their authors articulate different aspects from the seminal publications, representing more complex and multidimensional manifestations.

The definition proposal in this paper is based on both datasets and structured by the categories from the inductive categorization, allowing the authors to achieve a comprehensive approach that considers the literature development and addresses the multidimensionality of the concept. The aspects in the definition are transversal, therefore it would be naive to state that they were

based exclusively in a specific category. Yet, the most influential category in each aspect is highlighted. Therefore:

Creative Cities are defined geographic spaces with a structure formed by i) formal institutions capable of providing a healthy and sustainable environment that encourages educational growth and creative and innovative businesses (Connectivity Capital); ii) cultural apparatus that enhance local characteristics and inspire cultural exchange with other regions (Cultural Capital); iii) public and private urban areas that allow creativity flow through exchange of ideas and experiences between people (Social Capital); iv) a society open to cultural, religious, ethnical, racial, creedal and sexual orientation differences (Multi-social Capital); v) creative and innovative businesses that absorb specialized workforce and transform knowledge into innovation (Technological and Innovative Capital; Industrial Capital); and vi) structural and social foundations that allow the region's globalization (Global Mobility Capital).

The interaction between aspects allows attraction and retaining of a creative and economically active population (Human Capital), urban regeneration and development, cultural enhancement of the social network (Livability Capital), global competitiveness of local businesses and economic development in the region.

## **FINAL REMARKS**

This paper was conducted in progressive steps starting from the analysis of contemporary publications and deepening the analysis to the seminal publications cited by them. The authors proposed a definition that builds on previous contributions and provides a path to further measure the concept based on its dimensions and attributes.

This paper aims to propose a definition consolidation of Creative Cities. Besides the manifestations found, one broad and unidimensional definition of the concept was identified in Landry (2000). The subsequent literature aimed at complementing and operationalizing the definition in different dimensions, being the contribution of this paper the consolidation of such multidimensionality in a comprehensive and state-of-the-art approach of the concept.

Gerring (1999) proposes eight criteria that evaluate conceptual reliability of a definition: familiarity, resonance, parsimony, coherence, differentiation, depth, field utility and theoretical utility. According to the author, these criteria play an important role in concept formation and Table 3 shows how each one is applied to this research, ratifying the definition quality, validity and relevance.

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

The definition of Creative Cities proposed in this research allows researchers to further study the construction of quantitative metrics. These metrics allow the proposition of structural theories that objectively relate the creative capacity of a city with its economic and social aspects. From the results, the authors expect new researches that develop quantitative evaluation instruments for each dimension of the proposed definition, broadening the scope of this research through the proposition of other theories and models.

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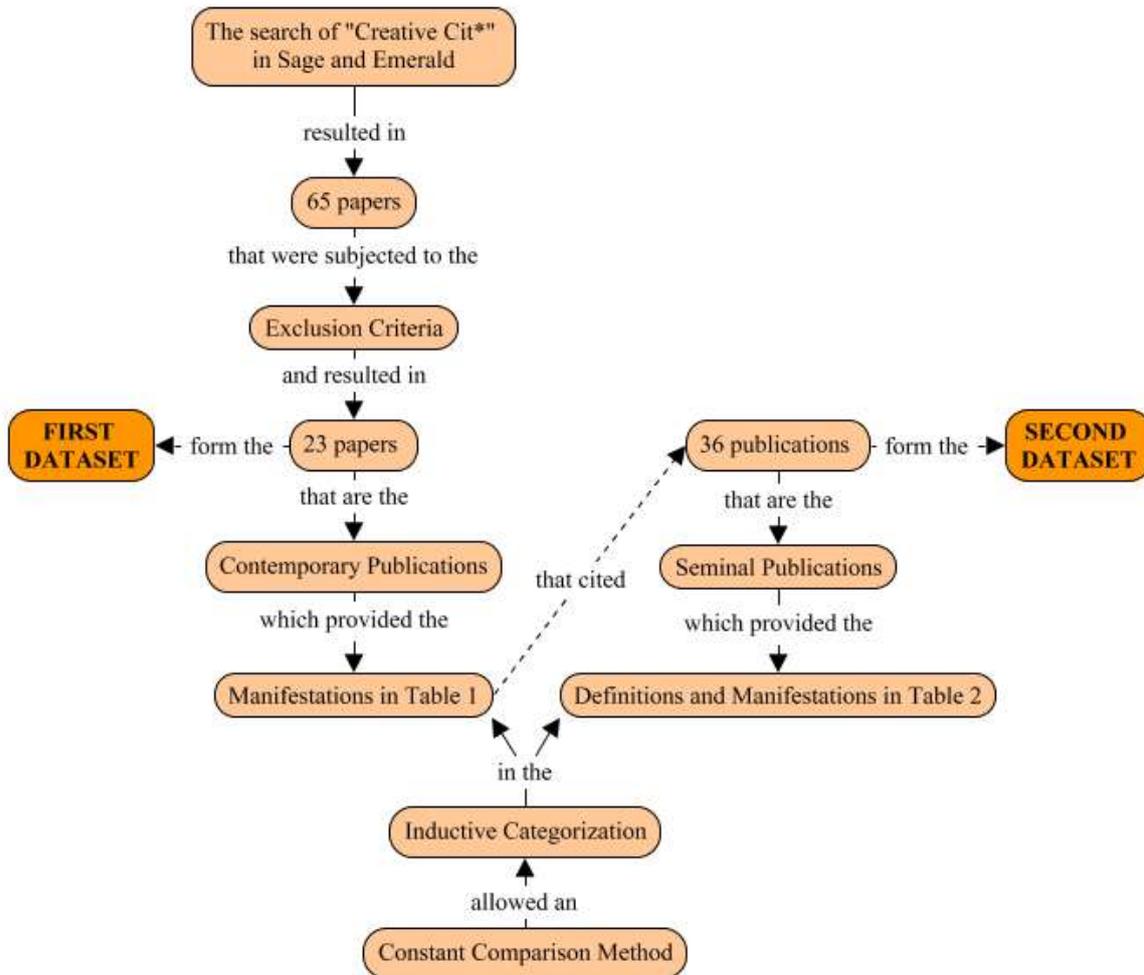
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Figure 1. Research Design



**Table 1.** Manifestations in the First Dataset (Contemporary Publications)

Publication	Creative Cities Manifestation	References Used*
Alvarez, Sepe, and Di Trapani (2010)	Creative cities revolve around the design, promotion and activation of urban areas established due to their particular local characteristics. Such areas become creative clusters as a result of economic and structural innovations, related to the realization of innovator projects achieved with the help of local development strategies based on the economies of excellence, culture and territorial quality. This framework includes the creative milieu, intended as a place, which may correspond to the whole city or to a part thereof, and which contains the characteristics necessary for generating a flow of creative ideas and innovations.	M. Carta (2007); Florida (2005); Maitland and Newman (2009); Mommaas (2004)
Alvarez and Yarcán (2010)	Creative cities are a cultural-led regeneration, and emphasis on creative production may not always bring success, as authenticity and experience are essential ingredients for the success of the creative city.	Holden (2007)
Alvarez, Durmaz, Platt, and Yigitcanlar (2010)	Creative cities are cosmopolitan, with an inspiring public realm, clusters of creative activity and a comparative advantage over other cities in some creative sector. Creative cities do not attempt to mix culture and tourism, they are not placing for tourists, and they would not necessarily be called “cool” and would certainly not look to an imported class of creative people to provide the cultural energy.	Durmaz, Yigitcanlar, and Velibeyoglu (2008); P. Hall (2000); Yigitcanlar (2009)
Anttiroiko (2014)	Creative industries and creativity as a generic attribute of social life provide opportunities to generate business and jobs and to increase the attractiveness of local communities. As a part of this trend, arts, culture and creativity have become important topics in town planning and industrial development.	Gibson and Freestone (2006); Landry (2006); Monclús and Bassols (2006); Scott (2006)
Catungal et al. (2009)	A creative city builds on earlier entrepreneurial models of urban governance centered on the provision of infrastructure, subsidies and amenities to lure highly mobile corporations.	Florida (2002); Landry and Bianchini (1995); Harvey (1989); T. Hall and Hubbard (1998); Peck (2005)
Chang and Teo (2009)	Creative cities are marked by social and economic ‘turbulence’ and their evolution often takes place amidst a backdrop of “growing disparities of wealth and opportunity, and multiple forms of social exclusion”. Creative cities are ever-evolving places, adjusting to changing global economic and social conditions, and perpetually undergoing recurrent cycles of innovation and regeneration. As part of a city’s transformation, new sectors, urban practices and ‘regimes of representation’ emerge all the time, replacing old activities and landscapes in what has been describe as the ‘creative destruction’ of cities.	P. Hall (2000); Miles (2005); Mitchell, Atkinson, and Clark (2001)

\* The references were indirect citations in the original papers, but they are displayed in a column to optimize the reading.

Comunian (2010)	‘Creativity’ is considered in its broadest sense, looking at how innovation can help cities to solve their everyday problems. The interactions between artists and the community are often cited as examples. The idea of culture as an engine to support a city’s image and economic development is also portrayed. The focus was on an improvement of the city (with potential economic returns) through creative interventions and cultural activities. A new interpretation of the creative city emerges as a place where creative industries are concentrated and supported.	Landry and Bianchini (1995); Landry (2000); Montgomery (2005)
Evans (2009)	Creative city is the association between quality of life, amenities and inward investment/firm relocation was also established in these early studies who emphasize the value of ‘tolerant’, ‘open’ and vibrant places attracting and retaining the new creative and ‘knowledge’ workers.	Myerscough (1988); Florida (2002); Landry (2000); Clark (2004); Drucker (2007)
Flew (2012)	Leading attractors of globally mobile capital and skilled workers in an increasingly globalized economy.	Evans (2009)
Kong (2014)	Creative cities have become sites of transnational investments and artistic and cultural influences. These bring potential benefits with enlarged resources and opportunities, reduced costs, wider markets, enriched artistic experiences, and enhanced sensitivities to cultural differences.	P. Hall (2000); O'Connor (2004)
Lloyd (2011)	[A desirable place] has to be open. It has to be diverse. It has to have a visible gay community; it has to have lots of different races and ethnic groups. A great city has two hallmarks: tolerance for strangers and intolerance of mediocrity.	Florida (2002); Hodges and Kahn (1989)
Markusen and Gadwa (2010)	At least three sets of norms and goals can be distinguished in creative cities: economic impacts, regenerative impacts (on the surrounding neighborhood or region), and cultural impacts.	García (2004)
Martí-Costa and Miquel (2012)	A creative city portrays the link between cultural policies and economic development at the city level. In this sense, the policies related to culture and creativity are instrumental in achieving not only cultural ends but also greater social cohesion, economic growth, attraction of cultural tourism or knowledge workers, and so on.	Pratt (2008)
McAuliffe (2013)	Vibrant public places activated by exciting public art create a distinctive ‘buzz’ that differentiates cities as they compete for the interests of the creative classes. Aligned with processes of gentrification, urban regeneration and city marketing, of creating ‘artist districts’ and innovation hubs, the search for new ways to invigorate the creative economy has ensured a turn towards (re)valuing creativity as ‘innovation’ and ‘creative growth’. It is not entirely clear how investments in creativity will produce the vaunted economic benefits. However, what is clear is that urban managers in many deindustrializing cities have taken on a new appreciation of the value of culture and creativity.	Scott (1999); Scott (2000); Peck (2005)
Méndez and Moral (2011)	Creative cities are the spatial embodiment of the influence ascribed to the so-called ‘creative classes’ in the new dynamics of urban development.	P. Hall (2000); Florida (2002); Florida (2005)

Miles (2012)	Regional economic growth is driven by the location choices of creative people. The core concern of a post-industrial city from this point of view is how best to ensure that that city attracts what Florida calls ‘the creative classes. Creative cities agenda has been instrumental in creating a distinctive and ostensibly deliverable view of urban revitalization that molds the neoliberal city as much as it reflects it. The Creative City strategy constitutes a repackaging of urban cultural artefacts as competitive assets, so that the city becomes judged purely in terms of its economic utility.	Florida (2002); Peck (2010)
Murdoch et al. (2015)	The creative city approach focuses on the economic role of the arts, primarily as consumer amenities. In this regard, artistic and cultural activity indirectly contributes to economic development by attracting affluent individuals and increasing global competitiveness.	Clark (2004); Florida (2002)
Ponzini and Rossi (2010)	Creative cities account of the regenerating potential of culture in contemporary cities. It is considered so not only because of the presence of cultural activities, but also for the presence of a successfully developing creative industrial economy within its metropolitan area.	Acs and Megyesi (2009); Florida (2002)
Pruijt (2013)	Tolerance is a competitive advantage. The central assertion is that successful post-industrial cities exhibit a high level of tolerance for diversity. There is a two-way relationship between the influx of the so-called creative class and a tolerant cultural climate. Under the assumption that governments are inclined to seek competitive advantage, we could say that this perspective focuses on factors that can drive tolerance upwards or at least stabilize.	Florida (2002)
Shaw (2013)	The creative city paradigm views artists and art scenes as stimulating innovative milieus useful for solving urban crises, and as a source of attracting creative workers in other domains. The creative city paradigm assumes a mechanism by which artists and the street-level scenes they produce act as magnets that attract creative professionals in other fields, potentially inspiring creative production and ultimately growth for whole cities.	Florida (2002); Landry and Bianchini (1995)
Suet Leng and Badarulzaman (2014)	Creative cities aim to construct, elevate and stimulate creativity as the underlying economic and social factor that drives our future cities, where culture plays a pivotal role in cities and should be regarded as a viable strategy in urban regeneration. Creative cities have creative industries in the broadest sense, which contribute to enhance the social fabric, cultural diversity and quality of life by creating a sense of community and shared identity within the city. Thus, policymakers should consider the vital role of creativity when planning for a sustainable city.	Florida (2002); Florida (2005); Landry (2006)
J. M. Thomas and Darnton (2006)	Aesthetic and visible infrastructure improvements enhanced the lifestyles of the public and visitors. The creative-cities model is actually a human-capital model; the urban-amenity model is a more appropriate way to explain issues not covered in the human-capital model than is creative cities.	Landry (2000); Glaeser (2005); Clark (2004)
Tölle (2013)	Creative and knowledge-intensive economic activities that are crucial for future urban economic development. Analyzing creative and cultural industries in their respective city region, and has a significant influence on urban decision-makers and thus city development strategies.	Musterd and Murie (2010); Strykiewicz, Burdack, and Egedy (2010)

**Table 2.** Manifestations in the Second Dataset (Seminal Publications)

Line	Publication	Citations Received	Concept in the Publication	Manifestations or Definition
1	Acs and Megyesi (2009)	1	Creative Metropolis	Creative metropolises base their economic development strategies, at least partly, on building communities attractive to the creative class worker.
2	M. Carta (2007)	1	Creative City	Creative cities are a powerful new configuration of dynamic, innovative and action-oriented cities, able to transform the space using their cultural armature.
3	Clark (2004)	3	City as an Entertainment Machine	Cities grow through classic processes driven by amenities and related consumption that attract talented people.
4	Drucker (2007)	1	Knowledge Worker	Knowledge work (e.g., writing, analyzing, advising) is performed by subject-matter specialists (knowledge workers) in all areas of an organization.
5	Durmaz et al. (2008)	1	Creative Milieu	Use the definition proposed by Landry (2000) (line 17 of the table).
6	Evans (2009)	1	-	No specific concepts were used by the author.
7	Florida (2002)	13	Creative Class	Creative class is made of members that engage in work whose function is to create meaningful new forms.
8	Florida (2005)	6	Creative Class	Creative people - the holders of creative capital - drive regional economic growth and prefer places that are diverse, tolerant and open to new ideas.
9	García (2004)	1	Big City	Big cities are arenas of cultural production, forcing houses of cultural innovation, centres of fashion and the creation of 'taste'.
10	Gibson and Freestone (2006)	1	Cultural Economy	Cultural economy is the intersection across a broad spectrum of creative endeavors including music, film, television, drama, art, design and media. These activities have assumed importance in urban policy and city planning singly or collectively as key sectors for often interconnected initiatives in economic development, urban regeneration, place-making, urban design and social planning.
11	Glaeser (2005)	1	City and Creative Class	Uses the manifestation proposed by Florida (2002) (lines 7 and 8 of the table).
12	P. Hall (2000)	4	Creative City	Creative cities, creative urban milieu, are places of great social and intellectual turbulence: not comfortable places at all.

13	T. Hall and Hubbard (1998)	1	Entrepreneurial City	Entrepreneurial cities have the public sector taking over risk-taking, inventiveness, and promotion and profit motivation-lead.
14	Harvey (1989)	1	City Urbanization	The city has to be an innovative, exciting, creative, and safe place to live or to visit, to play and consume in.
15	Hodges and Kahn (1989)	1	-	No specific concepts were used by the authors.
16	Holden (2007)	1	Creative City	A city 's metabolism, its resilience and ability to regenerate itself on a continuing basis is a function of how widely shared meaning making is among people living in a city, and also how much contact and sharing goes on between different people, groups and sectors.
17	Landry (2000)	5	Creative Milieu	Creative milieu is a place – either a cluster of buildings, a part of a city, a city as a whole, or a region – that contains the necessary preconditions in terms of hard and soft infrastructure to generate a flow of ideas and inventions.
18	Landry (2006)	2	Creative Milieu	Uses the definition proposed by Landry (2000) (line 17 of the table).
19	Landry and Bianchini (1995)	3	Creative City	A creative city makes the most of creative individuals, receive contributions of immigrants, uses catalysts, has citizens' participation, develops creative spaces, has early winners and rethinks urban management.
20	Maitland and Newman (2009)	1	-	No specific concepts were used by the authors.
21	Miles (2005)	1	City and Creative Class	Uses the manifestation proposed by Florida (2002) (lines 7 and 8 of the table).
22	Mitchell et al. (2001)	1	Heritage Landscape	A heritage landscape is the physical manifestation of heritage that takes a variety of forms including artefacts, buildings, sites (groups of buildings), townscapes and landscapes.
23	Mommaas (2004)	1	Cultural Clusters	Cultural clusters are seen as stimulating in various ways the development of a 'critical infrastructure', able to function as an on-going source/ environment for artistic/cultural/economic imagination and innovation.
24	Monclús and Bassols (2006)	1	Culture of Cities	The culture of cities lies not only in the arts taking place there but also in the city's fabric, its architecture, and in its cultural heritage.
25	Montgomery (2005)	1	Creative City	Creative cities need to promote artistic, design and technological skills; back local talent, grow the creative industries; offer a good cultural and artistic life; and organize services such as education to support all of this.
26	Musterd and Murie (2010)	1	Creative City	Creative cities are urban regions with multiple cores that relate to each other in a complementary form and less as mono-centric towns-with-suburbs.

27	Myerscough (1988)	1	-	No specific concepts were used by the author.
28	O'Connor (2004)	1	-	No specific concepts were used by the author.
29	Peck (2005)	2	City and Creative Class	Uses the manifestation proposed by Florida (2002) (lines 7 and 8 of the table).
30	Peck (2010)	1	-	No specific concepts were used by the author.
31	Pratt (2008)	1	City and Creative Class	Uses the manifestation proposed by Florida (2002) (lines 7 and 8 of the table).
32	Scott (1999)	1	Cultural Communities	Cultural communities are vortexes of social reproduction in which critical cultural competencies are generated and circulated. They are, too, magnets for talented individuals from other places who migrate to these centers in search of professional fulfillment.
33	Scott (2000)	1	Cultural Economy	The concept of cultural economy has outputs of cultural-products industries that are almost always susceptible to a sort of convergence on place-specific product design contours and cultural content.
34	Scott (2006)	1	Creative City	Creative cities in the modern world are typically organized around production systems marked by shifting interfirm networks and flexible labor markets.
35	Stryjakiewicz et al. (2010)	1	-	No specific concepts were used by the authors.
36	Yigitcanlar (2009)	1	-	No specific concepts were used by the authors.

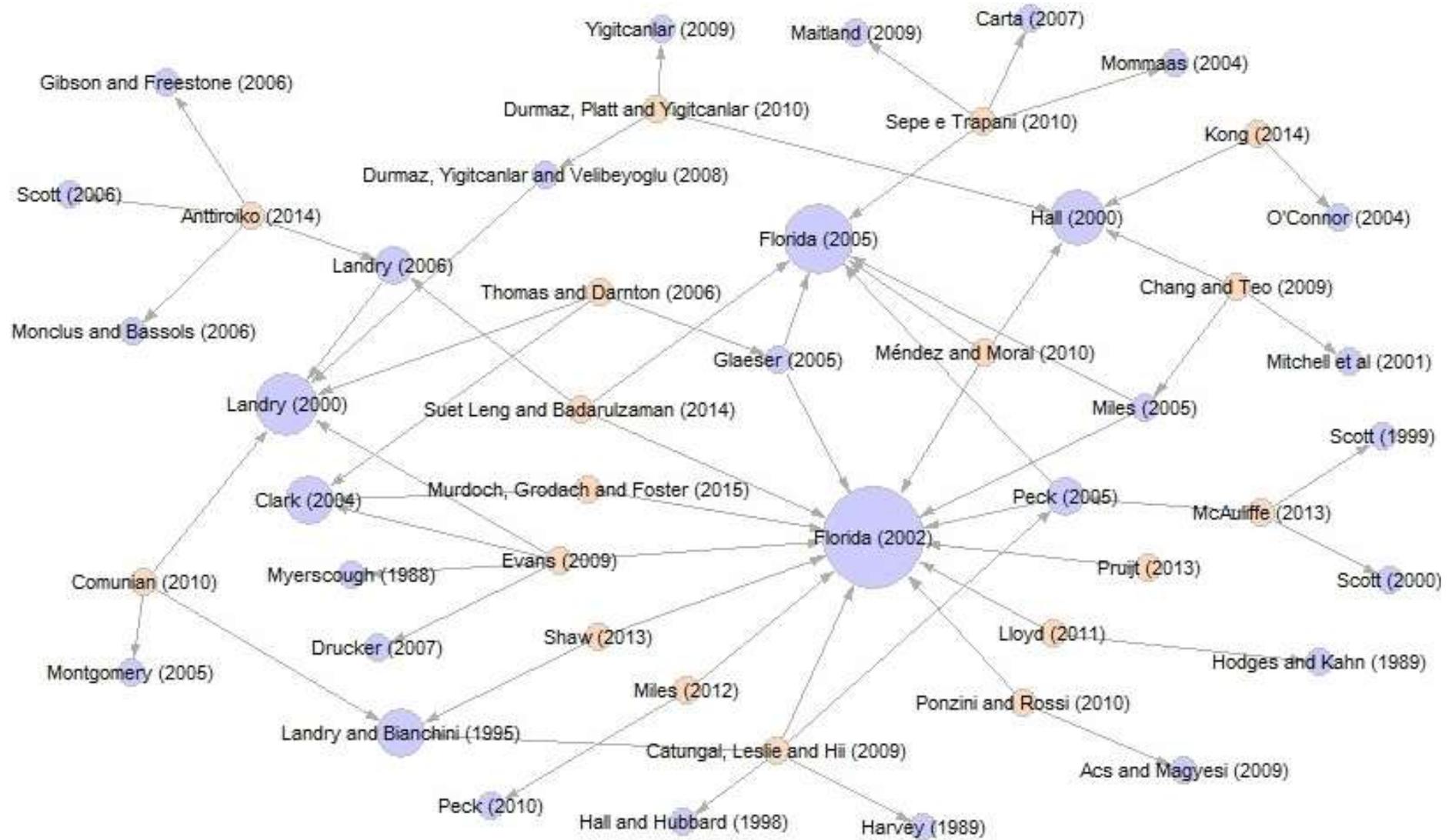


Figure 2. Citation Network

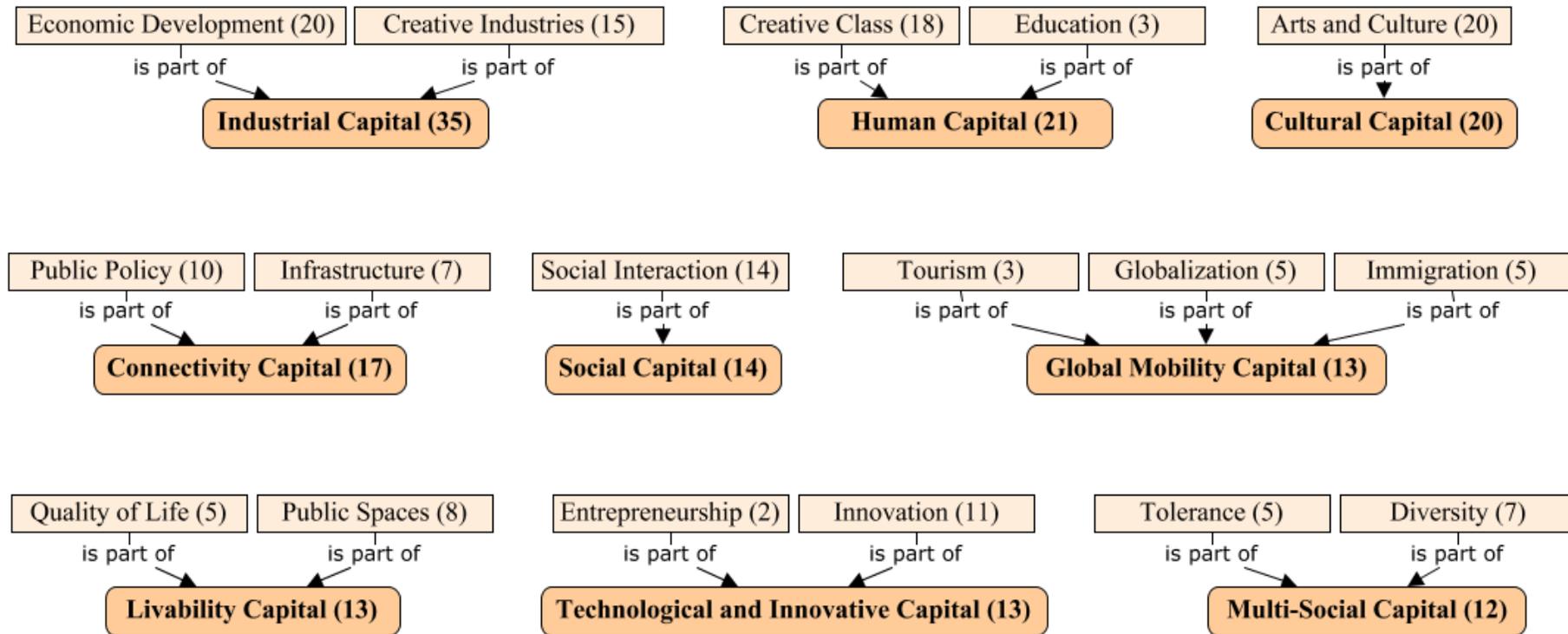


Figure 3. Creative Cities Conceptual Map

**Table 3.** Quality Criteria Applied to the Definition

Criteria	Manifestation of the Criteria in the Definition Proposal
Familiarity	The definition is formed by nontechnical terms and cites variables that are frequent to researchers in the field (such as innovation, culture and entrepreneurship).
Resonance	There is no aesthetic or rhyming appeal in the term “Creative Cities”.
Parsimony	The definition is formed by the concept main dimensions found in the literature. It is accompanied by attributes for future operationalization.
Coherence	The concept comprehends different dimensions from the literature and relates all attributes interactions in the same context.
Differentiation	The concept is broad, considering several attributes from the literature, and is bounded by their interactions towards creativity.
Depth	Creativity is the focal point in the definition and attributes and is responsible for merging all aspects as cause or effects.
Field utility	The concept unifies the seminal and contemporary publications by considering previous contributions and rearranging them.
Theoretical utility	The concept provides a new path for further scientific studies by consolidating previous contributions.

*Track 09 Creative Economy*

**ID #565**

## **Making research easier: Comparing split and comprehensive questionnaire designs in cognitive causal mapping**

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Abstract

*Applying questionnaires is both vital and a hurdle for researchers and, if they are used for cognitive causal mapping, these hurdles boost due to questionnaire size. With such challenge, the research aim is to verify if split and comprehensive questionnaire designs present equivalent results for cognitive causal mapping. The literatures on split questionnaire design and cognitive causal mapping were reviewed and the research was designed following steps proposed by them. Then, an application was conducted with both questionnaire designs, originating a mean cognitive causal map of each type of questionnaire. The datasets were statistically compared with parametric and nonparametric tests. It was observed that there is no distribution difference between them. Ultimately, this research provides insights that there is no difference between split and comprehensive questionnaire design results, allowing researchers to increase productivity in cognitive causal mapping researches.*

**Keywords:** Questionnaire Design; Data Collection; Methodology; Cognitive Causal Mapping; Split Questionnaire..

**Acknowledgments**

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## **INTRODUCTION**

Retaining attention for people to answer questionnaires in scientific researches posits a challenge for empirical researchers. Considering such challenge and that some research approaches and methodologies benefit from questionnaires, including cognitive causal mapping, it is a contemporary challenge to be overcome.

Cognitive causal mapping is an interpretative and subjective methodology focused on collecting a research sample's point of view of a phenomenon, considering their understanding of the influence between variables (Eden, 1988, 1992).

When applying questionnaires for cognitive causal mapping, since it is a methodology based on mental maps and graph theory, every pair of variables may have bidirectional influences. Therefore, the number of questions is exponential to the number of variables in the research, meaning that if there are 10 variables in a research, the questionnaire will be formed by 90 questions (Markoczy & Goldberg, 1995).

The original challenge of conducting efficient questionnaires for scientific research is, therefore, magnified when applied to cognitive causal mapping methodology. Due to these hurdles, several operational problems may arise and compromise the research, such as data reliability, missing data or application cost (Chipperfield, Barr, & Steel, 2015; Groves & Heeringa, 2006; Yu & Cooper, 1983).

With the challenge pointed out, Split Questionnaire Design literature focuses on providing an efficient questionnaire design that collects data from the research sample using a split questionnaire instead of a comprehensive and extensive one. But, although such literature is maturing, there is no published application to cognitive causal mapping methodology.

Therefore, the research motivation is based on two aspects: the hurdles of collecting data with extensive questionnaires and the literature gap of using split questionnaire design in cognitive causal mapping. With such motivations, the aim of the research is to verify if split and comprehensive questionnaire designs present equivalent results for cognitive causal mapping.

Since this is a methodological research, the literature review focuses on the main aspects of split questionnaire design and cognitive causal mapping. The research design chapter describes each step conducted in the research. Then, an application was conducted to gather evidence on the research problem, followed by the results from split and questionnaires designs. The last section focuses on discussing statistical tests that compare both results and provide further improvements on the topic.

## **METHODOLOGY LITERATURE REVIEW**

### ***Split questionnaire design***

Questionnaire design is based on a cognitive approach of data collection, being considered a relevant research step since it bridges literature review and its empirical evidence. When applying questionnaires, the response process is divided in four steps: question comprehension, relevant information retrieval from memory, answer estimation, and answer judgment according to the available alternatives (Lietz, 2010).

Even though the process seems instinctive, a questionnaire design must consider from the research question and literature variables to a sample's acquaintance of conceptual definitions

and its application context. These aspects define if the questions will be nominal or numeric, open or closed, or which scale will be used to measure the respondent's point of view of a specific topic (Krosnick & Presser, 2010).

Besides these structural aspects, details of each question must also be considered since they may bias the data collected (Blair, Czaja, & Blair, 2013; Lietz, 2010). General guidelines for questionnaire design are found in the literature, from question length of 16 to 20 words (Brislin, 1986; Oppenheim, 2000) and the use of specific words (White, Jennings, Renwick, & Barker, 2005) to simpler wording that prevents respondents' uncertainty (Foddy, 1994).

Even though these guidelines are suggested in the literature, there are still problems when applying questionnaires, specifically if they are extensive (Yu & Cooper, 1983). The main problems that arise from extensive questionnaires may be originated from respondents, such as answer burden and reliability (Chipperfield et al., 2015) that lead to missing data and bias (Yu & Cooper, 1983); or from research structure, such as low questionnaire efficiency and high application cost (Groves, 2004; Groves & Heeringa, 2006).

Considering these problems, split questionnaire design literature proposes and tests several design approaches and criteria that minimize them. Even though the efficacy of split questionnaire design is empirically proven (Adigüzel & Wedel, 2008; Raghunathan & Grizzle, 1995), the most efficient design elements are being tested in the literature, as seen in Gonzalez and Eltinge (2007), Chipperfield and Steel (2009) and Chipperfield et al. (2015).

Even though the literature on split questionnaire design is proposing design elements and empirically testing its efficacy, there is no evidence of split questionnaire design efficacy when applied to a methodology such as cognitive causal mapping.

### ***Cognitive causal mapping***

Cognitive causal mapping is a methodology originated from cognitive science that uses mental models literature as theoretical basis (Johnson-Laird, 1980). Mental models are abstract elements existing in our minds formed by several variables related to each other, which ultimately create an abstract dynamic system of interactions (Senge, 1992, 1997).

Since the model is abstract and subjective, cognitive causal mapping emerges as a methodology to capture and design it (Eden, 1988, 1992). The "causal" element of cognitive mapping provides theoretical and methodological basis to understand the impact that variables have on each other, allowing the researcher to analyze and predict consequences caused by disturbances between them (Crescitelli & Figueiredo, 2010; Scavarda, Bouzdin-Chameeva, Goldstein, Hays, & Hill, 2004).

Based on graph theory and from a methodological point of view, variables in a cognitive causal map are connected by arrows indicating cause and effect relations. Since these relations may be bidirectional, arrows are used to highlight the influence direction. Besides, each relation has an influence degree represented by the values in the arrows, providing further insight on the degree of influence among variables, as illustrated on Figure 1 (Bondy & Murty, 1976; Pearl, 1995).

**\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

There are different approaches to cognitive causal mapping (Scavarda et al., 2004), so this research is based on the methodological steps proposed and conducted by Eden (1988) and Markoczy and Goldberg (1995). The authors propose questionnaires as the instrument of data collection to capture what are the most relevant variables and their influences from the

respondents' point of view, using each item in the questionnaire to measure one relation in the map.

Five steps are proposed by Eden (1988) and Markoczy and Goldberg (1995) in the methodology, being reproduced by Crescitelli and Figueiredo (2010) and Barreto (2015): i) identify research variables from the literature; ii) define the research sample accordingly; iii) apply the questionnaire in the research sample; iv) design individual causal maps from the respondents; and v) statistically test the maps to design a mean cognitive causal map that represents the mean relations between variables.

## **RESEARCH DESIGN**

The research was designed using the steps proposed by both literatures reviewed. Since validity and reproducibility are vital elements for a reliable scientific research, each step is presented in detail regarding how the researchers conducted the tests and avoided bias. Besides the literatures reviewed, each research step is accompanied by complementary references on specific techniques.

The first step was to identify, choose and define the variables from the literature to be used in the research (Randolph, 2009; Torraco, 2005; Webster & Watson, 2002). Even though this research used deductive variables, if a research has grounded theory approach, they may emerge from the empirical step (Birks & Mills, 2015; Glaser & Strauss, 2009).

Then, the research sample was defined according to the research objective. One relevant aspect in this step is the definition of the most homogenic sample possible, considering the assumption that, the most homogenic the sample is, less outlier data will emerge (Teddlie & Yu, 2007).

With variables' conceptual definition and research sample chosen, conceptual definitions were simplified for the data collection instrument, considering the research sample's understanding of the topic. Then, the original and simplified definitions were subjected to the analysis of three specialists, addressing face validation (Nevo, 1985).

With the original and simplified definitions validated, the questionnaires were designed. Considering the purpose of the research to verify if split and comprehensive questionnaire designs present equivalent results, two sets of questionnaires were design: comprehensive questionnaire (named CQ) and split questionnaires (named SQs).

The comprehensive questionnaire (CQ) was designed for respondents to assign the influence between variables in a scale from strong inverse relations (represented by -3) to strong direct relations (represented by +3) for each one of the 20 relations between the five variables used in the application (Barreto, 2015; Markoczy & Goldberg, 1995).

Then, split questionnaires (SQs) were designed by dividing the 20 relations from the comprehensive questionnaire into five different questionnaires with four relations each, encompassing different, even and randomly chosen variables that avoid answer bias (Roberson & Sundstrom, 1990). Therefore, for every five split questionnaires answered, the data collected is equal to one comprehensive questionnaire, as seen on Table 1.

### **\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

After conducting a pretest with the research sample (Hunt, Sparkman Jr, & Wilcox, 1982; Reynolds, Diamantopoulos, & Schlegelmilch, 1993) and assuring that respondents understood

the questionnaires, one operational strain arose: respondents with CQs took more time to finish than the ones with the SQs. Since the questionnaires were applied in classrooms, this time difference would generate social embarrassment on CQ respondents. Therefore, the researchers decided to equalize the response time by inserting two elements in the SQs: a small text about the research relevance and qualitative questions regarding each variable.

With the pretest feedbacks and improved questionnaires, the final data collection was conducted. Since the research aims to compare the results from both questionnaire designs, the researchers handled the CQ and the five SQs randomly in each sample group (for every six respondents, one received a comprehensive and five received split questionnaires). The random and even distribution of both questionnaires avoided answer bias from one group to another, emphasizing sample homogeneity.

When applying the questionnaires, the researchers explained the context and research aim to avoid misunderstanding. Then, highlighted the relevance of honest answers on the questionnaires and respondents' anonymity. While respondents were answering the questionnaires, the researchers were available to answer any questions that arose.

The last step of the research methodology was to chart and analyze the data collected from both types of questionnaires. After charting the answers, inconsistent and missing responses were eliminated to avoid analysis bias. Then, the mean influence between variables was calculated with a hypothesis t-test with a 99% confidence interval and module higher than 1.5 (Fay & Proschan, 2010).

The answers in questionnaire ranged from -3 to +3, but no negative averages were pointed out by the respondents. With no negative averages, all the relations in the dataset ranged from 0 to +3, so the authors used a module of 1.5 as a threshold since it excludes the weakest half of relations. In doing so, the authors were able to analyze only the strongest half of the relations according to the research sample.

Using a t-test, researchers were able to design a mean cognitive causal map for each type of questionnaire focusing solely on the relevant and statistically significant relations between variables, according to the research sample. With datasets from both types of questionnaires, six statistical tests were conducted: t-test, paired t-test, F (ANOVA), Wald-Wolfowitz, medians and Wilcoxon.

## **APPLICATION DESCRIPTION**

Since this is a methodological research that theorizes on results equity between split and comprehensive questionnaire designs in cognitive causal mapping, an application was conducted to empirically test such assumption. The literature used for the application was based on fostering and hindering factors of individual creativity, since it is a relevant competence in the contemporary world (Gloor, 2006; Weinert, 2001).

### ***Application literature review***

Creativity literature is comprehensive, from cognitive science (Simonton, 2000) and organizational research fields (Andriopoulos, 2001) to individual and collective approaches (Taggar, 2002). When focusing on creativity from social psychology and considering the influence of the organizational environment, the creativity model used in this research was proposed and later updated by Teresa Amabile in several researches (Amabile, 1983, 1988, 1996, 1998; Amabile, Conti, Coon, Lazenby, & Herron, 1996; Amabile & Pratt, 2016).

Amabile (1988) proposed a componential model of creativity in organizations considering which internal variables influence individual creativity, hence influencing organizational innovation. Even though the model provided insights on how creativity and organizations relate to each other, the subsequent researches further developed the topic (Andriopoulos, 2001).

Amabile and Pratt (2016) proposed an update on the 1988's componential model of creativity considering overall literature development and deepened elements on the subject. The updated componential model of creativity was presented by the authors' review of the definition and manifestation of three creativity drivers that presents the influence of the environment on the individual factors.

According to Amabile and Pratt (2016) in the updated model, individual or group creativity depends on three factors: intrinsic motivation to do the task, skills in the task domain and creativity-relevant processes. Besides, the organizational environment impacts the whole individual or group creativity, being considered in this research as extrinsic motivation.

The authors define intrinsic motivation as the personal enjoyment or satisfaction to do a specific task, originating from one's passion on the subject. It is one of the most relevant factors for individual creativity, exerting more influence than extrinsic factors. An individual's skills in the task domain, defined as technical skills and practical knowledge on the subject, is the second factor that influences creativity, being empirically supported by Hirst, Van Knippenberg, and Zhou (2009).

The original "skills in creative thinking" factor was updated to "creativity-relevant processes" by Amabile (1996) and is defined as a set of intrinsic cognitive processes that allow an individual to approach the task from different perspectives, such as personality traits, singular associations and self-efficacy. The factor was empirically supported by Richter, Hirst, Van Knippenberg, and Baer (2012).

The last factor focuses on the influence of organizational innovation on individual creativity. Even though Amabile and Pratt (2016) divided the factor in "motivation to innovate", "resources in the task domain" and "skills in innovation management" as environmental correspondents to individual factors, this research comprised them in the "extrinsic motivation" factor.

The dynamic componential model of creativity and innovation in organizations, therefore, assumes that an individual's creativity is equally formed by intrinsic motivation, technical skills and creative thinking. Besides the internal factors, extrinsic motivation influences all three factors simultaneously, as seen on Figure 2.

\*\*\*\*\* **FIGURE 2 ABOUT HERE** \*\*\*\*\*

### ***Research sample***

Undergraduate students from a business and design university were chosen as the research sample because they constantly face individual and environmental factors related to their creativity in assigned tasks. The sample is formed by 414 undergraduate students from *Escola Superior de Propaganda e Marketing* (ESPM) in São Paulo, Brazil, being detailed on Table 2.

Since both questionnaire designs were proportionally applied in each classroom, from the 414 respondents, 69 comprehensive and 345 split questionnaires were collected (every five split questionnaires form one complete questionnaire with all relations between variables, therefore 69 complete split questionnaires were collected).

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

After data charting, the researchers analyzed missing and inconsistent data. A total of 11 questionnaires was deleted from the dataset, resulting in 65 valid comprehensive questionnaires and 62 valid complete split questionnaires. With the final dataset, the mean cognitive causal map was designed and statistical analyses were conducted.

## **APPLICATION RESULTS**

To design the mean cognitive causal map, the mean influences between variables were calculated and a t-test was conducted. With a module of 1.5 (being the threshold that represents the strongest half of relations in the dataset) and significance level of 0.05, the mean significant relations between variables on both questionnaires are presented in the joint mean cognitive causal map from Figure 3. Since both maps present the same significant relations, the influence coefficient of comprehensive (CQ) and split (SQ) questionnaires are presented.

\*\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*\*

Even though the mean cognitive causal map does not provide groundbreaking insights on the influence of certain creativity factors since most relations are bidirectional (variables influence each other simultaneously), the result is backed by the literature. In this sense, literature posits that there is an iterative influence between all creativity factors (Amabile, 1983, 1988, 1996, 1998; Amabile et al., 1996; Amabile & Pratt, 2016).

One conceptual aspect to be considered is the absence of the variable “extrinsic motivation” in the map. Relations between other variables and extrinsic motivation were not significant for the research sample considering the threshold of 1.5, even though Amabile and Pratt (2016) updated their framework to consider the relevance of extrinsic motivation.

## **RESULTS COMPARISON**

Focusing on the methodological aspect, a discussion on the differences between split and comprehensive questionnaires is held. When analyzing Figure 3, both questionnaires present the same significant relations between variables, being the first evidence on results equivalence.

Even though means' differences are accepted whereas significant relations are the same, statistical tests were conducted to gather further evidence on how equivalent the questionnaires results are. Two types of statistical tests were used to compare the results: parametric and nonparametric. Several researches also used both types of tests to compare samples, with both being considered independent and not correlated (Dismuke & Sena, 1999; Hollingsworth & Wildman, 2003; Pajevic & Bassar, 2003; Resti, 1997).

### ***Parametric tests***

The first parametric test conducted is the t-test (Black, 1999; Senn & Richardson, 1994). It was used in this research with a module of 1.5 to test if the means of both samples are significant and equivalently higher than 1.5 (considering the 7-point scale used in the questionnaire). The results do not reject the null hypothesis that the means are equivalently higher than 1.5 with a 0.05 significance level on all relations.

The second parametric test conducted is the paired t-test (Goulden, 1939; Hsu & Lachenbruch, 2008). The test was used to statistically determine if the mean difference between both samples is significantly different from zero. With a significance level of 0.05, all 20 relations from both

samples do not reject the null hypothesis, allowing the researchers to assert that the mean difference between both samples is equivalent to zero.

The third parametric test conducted is the F (ANOVA) test (Cuevas, Febrero, & Fraiman, 2004; Gelman, 2005). The test was used to statistically compare if the variances of both samples are equivalent. With a significance level of 0.05, all the relations from both samples do not reject the null hypothesis, meaning that the variances are equivalent.

### ***Nonparametric tests***

The first nonparametric test conducted is the Wald-Wolfowitz test (Friedman & Rafsky, 1979; Siegal, 1956). The test was used to check if there is a significant distribution difference between data from both research samples. With a significance level of 0.01, the test results allow the researchers to not reject the null hypothesis that the distribution of every variable is the same across both samples.

The second nonparametric test conducted is the median test (Corder & Foreman, 2014; Siegal, 1956). The test was used to compare the medians of both samples with a significance level of 0.01. The results do not reject the null hypothesis that the medians of each relation are the same when comparing the split and comprehensive questionnaires results, accumulating evidence on the topic.

The third nonparametric test conducted is the Wilcoxon Sign Test (Siegal, 1956; Wilcoxon, 1945). The test was used to statistically compare the average of both samples and analyze if there are significant differences between them. With a significance level of 0.01, the null hypothesis was not rejected on all relations from both samples, meaning that the difference median of both samples is zero.

Since six different tests were conducted to provide evidence that both samples are equivalent, their summary with the significance levels and results are presented in Table 3.

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

### **FINAL REMARKS**

Considering the research aim to verify if split and comprehensive questionnaire designs present equivalent results for cognitive causal mapping, the literature on split questionnaire design and cognitive causal mapping was reviewed and two questionnaires were designed and applied to the same research sample to gather evidence on results equivalence.

According to research results, both samples have equivalent variances, medians and means above 1.5. Besides, the mean difference and the difference median are zero, and there is no distribution difference between samples. With theoretical arguments and statistical evidence, it is possible to assert that there is no difference on the results when applying a split or comprehensive questionnaire design.

The research results contribute to cognitive causal mapping literature on providing an evidence-based effective technique to apply split questionnaires that present equivalent results to traditional questionnaire application. Considering that cognitive causal mapping methodology leads to massive questionnaires due to bidirectional influence between variables, the research contribution is emphasized.

Besides cognitive causal mapping literature, the contribution is extended to split questionnaire design literature on providing empirical evidence of its efficacy and reliability as a viable instrument design technique that allows the researcher to minimize respondent bias and missing information for massive questionnaires.

The research has two limitations that derive future research suggestions. On the one hand, the research did not test all techniques used in other researches of split questionnaire design literature, where further development is suggested. On the other hand, the research hypothesis that both types of questionnaires present equivalent results are supported by a limited sample, with further applications suggested.

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## TABLES AND FIGURES

Figure 1. Cognitive Causal Mapping Types of Influences

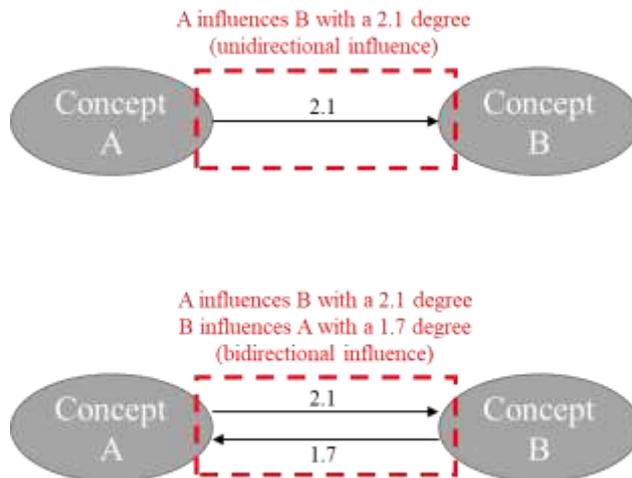
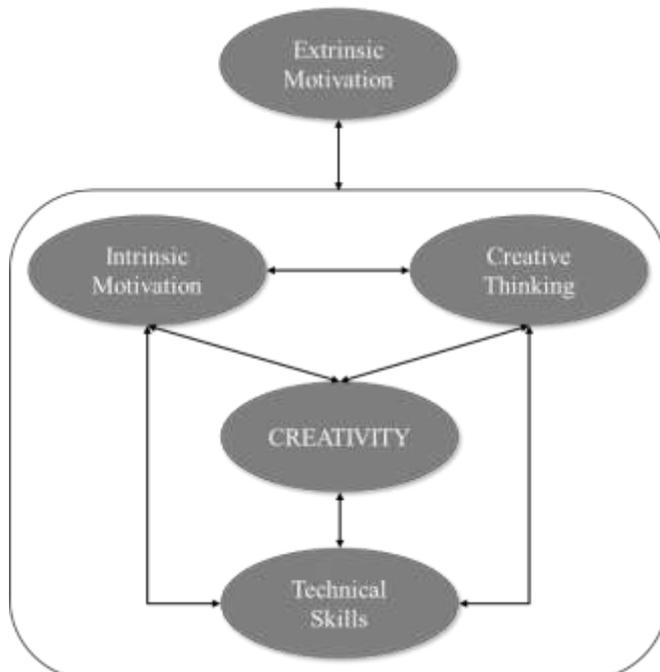


Figure 2. Application Conceptual Model



Adapted by the authors from Amabile (1988) and Amabile and Pratt (2016).

**Table 1.** Questionnaire Design

ITEM	CQ	SQ1	SQ2	SQ3	SQ4	SQ5
1	X	X				
2	X			X		
3	X					X
4	X		X			
5	X				X	
6	X	X				
7	X					X
8	X			X		
9	X	X				
10	X				X	
11	X					X
12	X		X			
13	X			X		
14	X				X	
15	X		X			
16	X				X	
17	X	X				
18	X					X
19	X			X		
20	X		X			

**Table 2.** Research Sample Description

Course	Period	Split Questionnaire Responses	Comprehensive Questionnaire Responses	Total Responses
Business Administration	1	42	9	51
Business Administration	3	33	9	42
Business Administration	5	31	6	37
Consumer Sciences	3	13	2	15
Consumer Sciences	4	12	5	17
Design	3	20	3	23
Design	4	22	2	24
International Relations	6	22	4	26
Social Communication	4	60	13	73
Social Communication	6	44	8	52
Social Communication	7	46	8	54
<b>Total</b>		<b>345</b>	<b>69</b>	<b>414</b>

Figure 3. Joint Mean Cognitive Causal Map

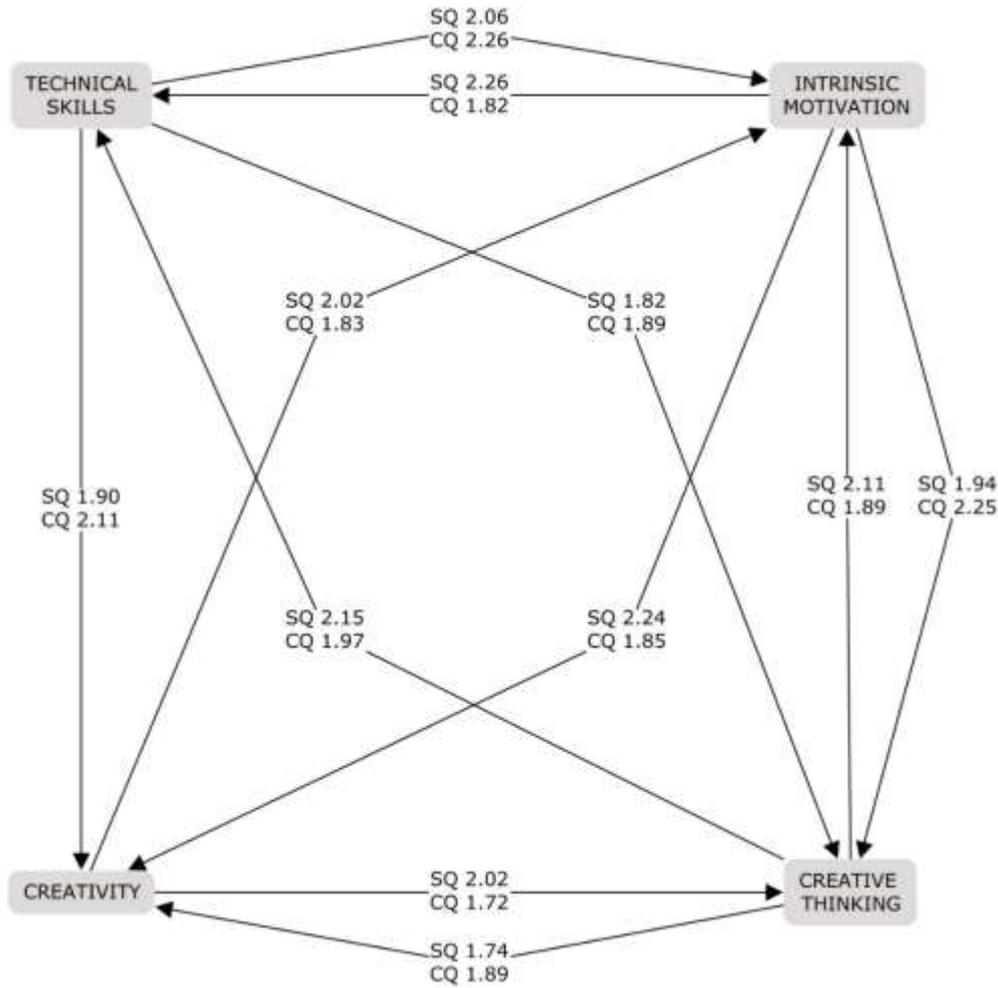


Table 3. Tests Summary

Test	Type	Significance	Result
T-test	Parametric	0.05	Means of both samples are equally above 1.5.
Paired t-test	Parametric	0.05	The mean difference between both samples is zero.
F (ANOVA)	Parametric	0.05	Variances of both samples are equivalent.
Wald-Wolfowitz	Nonparametric	0.01	There is no distribution difference between both samples.
Medians	Nonparametric	0.01	Medians of both samples are equivalent.
Wilcoxon	Nonparametric	0.01	The difference median of both samples is zero.

*Track 09 Creative Economy*

**ID #573**

## **Comparing distribution channel options for small entrepreneurs**

**Carlos Eduardo Margarido de Souza** (ESPM, Brazil)

### **Abstract**

*This paper compares distribution channels options for small entrepreneurs in São Paulo. The scope excludes on-line retail services, privately owned stores, and resellers; focusing on alternatives which operate as a service for this public, and are common throughout the city, such as open markets and collaborative shops. It is suggested a comparative framework between the two options, via the service marketing mix, adapted to the realities of the industry. With the goal of discovering and evaluating which attributes compose the small entrepreneurs comparison, and how they view each option. Those objectives are met through a qualitative research, conducted with 21 owners and partners of small-scaled companies engaged in both distribution channels. Respondents are prompted to enlist criteria used to differentiate and rank both propositions, spontaneously and conducted. It corroborates its propositions, concluding small entrepreneurs classify collaborative shops more favorably, are able to tell open markets apart from collaborative shops, and adopt a wide qualification approach, not concerning only with bottom line results. The research posts contributions for the academy and the market. It centers around a group of entrepreneurs frequently exposed to analytical myopias, because of their limited scale and scope. And contributes insights about the decision process of choice appreciation in distribution channels, made in such a small conjecture.*

**Keywords:** Open Markets; Collaborative Shops; Small Entrepreneurs; Consumer Behavior.

### **Acknowledgments**

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*Track 09 Creative Economy*

**ID #593**

## **Student-centered education and the educational experience**

**Luiz Eduardo Bordim** (ESPM Rio, Brazil)

**Eduardo Ariel Souza Teixeira** (ESPM Rio, Brazil)

### **Abstract**

*The education is being challenged its current role since formal education is outdated and needs urgently to be rethought to support the new demand of students. Digital Natives are natural speakers of computers, vídeo games, cell phones, and the internet's digital language and born and grew up surrounded by these technologies. This article approaches how these characteristics are not being considered in teaching methodologies and how the application of user experience can help in this process.*

**Keywords:** Education; Digital Natives; User Experience; Technology..

### **Acknowledgments**

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## INTRODUCTION

The labor market and the economic scenario are no longer the same and have undergone changes motivated mainly by the emergence of digital technologies. Araya (2010) refers to theories that there is a transition from the 20th century skilled labor domain to knowledge workers in the 21st century, in addition to the growing importance of innovation, creativity and the Creative Economy, a new and worthy concept. According to the UNCTAD (2008) report, this transition is the interface between creativity, culture, economics and technology as an expression of the capacity to create and circulate intellectual capital, with the potential to generate income, jobs and export and, at the same time, to promote social inclusion, cultural diversity and human development.

In order to understand this Creative Economy's contemporary notion, Araya (2010) argues that the most important aspect is the recent shift driven by industry technology to services. Innovation and the exploitation of information has been an important factor in this process, gaining more and more focus and leaving behind the thought of efficiency gain in the production of goods and services. According to Tomaél, Alcará and Di Chiara (2005 *apud* TEIXEIRA, 2014), information and knowledge are in all spheres or areas and are regarded as essential when transformed by the actions of individuals, thereby becoming valued skills that will generate social and economic benefits that will in turn foster development.

Robinson (2005) points out that many of the old skills and attitudes will be redundant and that many countries in the world, including Brazil, are facing a creativity crisis and a talent war, essential factors for the development of the Creative Economy. The labor market, according to Oliveira (2010, p. 2), “demands people capable of facing the many challenges that are posed daily, people who know how to innovate, act quickly, creatively and competently”. Innovation, as confirmed by Mirable (2016), is the most effective way to mitigate future negative impacts and also to offer solutions to the impasses already existing in the current society. To create and to innovate are verbs conjugated by those companies that wish to remain in the market (OLIVEIRA, 2010).

Education, which is a determining factor in the development of both the citizen and a nation, is the main tool to build qualified human capital, which is increasingly needed in the current era, and one of the foundations of innovation. Only education can reverse the unpleasant moral, social and economic situation in which many societies live. Unfortunately, education is neither universal nor accessible to all and it has been questioned in its current role, since conventional education is lagging behind and needs to be urgently rethought, mainly because of the forementioned growing demand for creative and innovative professionals, skills that are mostly left out of the educational process. Ritchhart (2015) questions whether the traditional value of the school, which is measured in terms of results, usually exams and projects, is what we really wish for the future of our society. He argues that educators need to stimulate a culture of thought, one that produces feelings, energies and even fun that will propel learning forward and motivate hard and challenging thinking.

Education must be restructured in order to promote the development of creativity in all areas of knowledge and to develop methodologies that can stimulate the creative potential of the student. For this to happen, this audience needs to be placed at the center of the discussions, in order to have a clear understanding of its characteristics, as they have undergone changes over the last few years. Today's students were born in a digital world, unlike their predecessors, and live in an era where experience is critical to the success of any product and service and needs to be considered in the new format intended for teaching.

This article, a bibliographic research, has been organized into three parts plus the final considerations. The first part covers a general picture of the current education situation and discussions on the necessary advances for the changes required in the new economic scenario. In the second part, characteristics of the new student, the Digital Natives, and the consequences they brought about. Finally, in the third part, the importance of the user-centered experience and the use of technology for the Natives.

## **EDUCATIONAL CONTEXT**

The market is undergoing a restructuring with new forms of production and consumption organization and has been characterized more by the logic of innovation than by reproduction, demanding an increase in the number of professionals with creative and innovative characteristics. Education, the main means to qualify and prepare human capital, becomes a central point in this transformation. However, the educational model we knew began in 1863 in Hungary during the Industrial Revolution, and the economic scenario of that time is accountable for the current model. With the industries then demanding large numbers of employees, where work was 80% manual and 20% administrative or specialized, teaching should be useful and pragmatic and intended to prepare students to be competent and productive industrial workers. As a result, classrooms were transformed into environments corresponding to factories, students would "be" machines, obeying commands, learning by repetition and acting efficiently and teachers would act similarly to the foremen, assigning standardized tasks that they asked predefined responses in a certain time interval (PERESTROIKA, 2015; RIFKIN, 2015). Although being another moment in history, with different context and other purposes, the model remained practically untouched and without major changes.

As a result, education is now undergoing a crisis. Part of this arises, according to Oliveira (2010) and Robinson (2005), from an imbalance in the academic curriculum, from the constant "content dumping," from the emphasis on certain disciplines to the detriment of others, from the adoption of non-stimulating procedures for autonomy thinking and acting, from the lack of stimulation of experiences capable of promoting the development of creativity in all areas of knowledge and from teaching methodologies that fail to encourage the creative potential of the student. Becker (2015) criticizes the hierarchical academic relations and compares them with those of master-slave or boss-worker. He argues that teachers and administrators believe in stimulating the student with awards, but that these serve only to teach the practice of getting good grades instead of having an interest in the subjects being studied. As a result, students try to figure out what they are expected to do to get good grades, they learn it, and only do it. Rifkin (2015) corroborates the thinking quoted so far by exemplifying that questioning the authority of a teacher is seen as prohibited and sharing information and ideas among students is labeled cheating. Ritchhart (2015) adds that there is no place for dialogue and conversation and that there is an incentive for the student to be fast, as this theoretically makes them smarter, as well as to do the job only once, as best as possible, without revising or rewriting, as Becker (2015) argues. All these points will influence the students' experience and shape how they see the learning, that is, in a distorted way.

The points referred to above will result in some other themes that recur when discussing education: schools are boring, the process encourages the memorization and repetition of facts, not requiring the student to exercise their thinking, as well as strongly stimulating competition. In relation to the former, Prensky (2001c) argues that it need not be so, as many believe. He argues that if it is boring, it is entirely the fault of the educators and there is no blaming another

person, especially the students, as it would be like a doctor blaming a patient for getting sick. While agreeing that students do actions that will contribute to the situation, such as playing video games, he reiterates that they are only living in the world in which they were born and having attitudes consistent with their time. To his mind, the main point is that educators have not been able to gain the interest of their students, even under duress, and need to change their habits, preferences and needs to interact with learners, since they grew up in a different era. Henklain & Carmo (2013) agree and argue that "motivation is not intrinsic to the student; it depends on environmental variables such as the type of task proposed by the teacher, the consequences that the student produces with the accomplishment of the task, the clarity of the task or the instructions for its accomplishment, etc. "

That point is extremely important because teachers are responsible for the success of schools and for teaching to be a creative profession and not a delivery system. They are not only there to pass on the information received, but also to guide, stimulate, provoke and engage (Robinson, 2013). They should be encouraged, according to Lévy (1999, p. 158), "to become an animator of the collective intelligence of their student groups rather than a direct provider of knowledge." Education is about learning and if this does not happen, there is no education (ROBINSON, 2013).

Robinson (2006) exemplifies another issue that needs to be reviewed in the current model. He explains that the entire educational system on the planet has the same hierarchy of disciplines: at the top are mathematics and languages, then the humanities and finally the arts. The explanation for this is that the system is based on the idea of academic ability, since it is designed to meet the demand of industrialization. Therefore, the hierarchy is propped by two ideas: the most useful subjects for the work come on top and the academic aptitude related to the process of entering the university. As a result, many highly talented, bright and creative people think they don't fit, because what they were good at school was not valued or even stigmatized. One of the reasons why this continues to happen is that some people resist new forms of education because they think they are concerned about helping others get a job, arguing that more creative forms of education and human development are luxuries that are not in line with reality to find a job these days. However, they are wrong, since the market is increasingly demanding the opposite of what they think. In a survey that included four hundred companies in the United States, employees were asked to rank the skills they most sought in terms of potential candidates on a list that included both academic and soft skills. Soft skills, such as professionalism, work ethic, collaboration, communication, ethics, social responsibility, critical thinking and problem solving were more to the top than traditional academic skills (RITCHHART, 2015).

In Brazil, the topic education needs special attention and the data prove this. The Index of Basic Education. Development (Ideb - Índice de Desenvolvimento da Educação Básica) is the main performance index in the Brazilian basic education. It evaluates the quality of schools and education networks by combining school pass rate with student performance and uses the results of two official exams, Saeb and Prova Brasil. Such exams are applied every two years in the 5th and 9th grade of basic education and in the 3rd grade high school in order to evaluate student's proficiency in Portuguese and mathematics in all public schools with at least 20 students enrolled and by sampling in high school, both public and private (INEP, 2016). Monitored by the Todos Pela Educação (All for Education) movement, the index published in 2015 pointed to a stagnation and regression in the learning of Mathematics and Portuguese in the 3rd grade high school. The percentage of students with adequate learning in Portuguese was 27.5%, virtually the equivalent to that of 2013 (27.2%). As for mathematics, only 7.3% of

students reach satisfactory learning levels. If we consider only public schools, the rate drops to 3.6% (TODOS PELA EDUCAÇÃO, 2017).

Based on data from Ideb 2015, the Ayrton Senna Institute foresees that, at the current pace, Brazil can take decades to achieve the education goals set for 2021 by the PNE. Despite the increase above that predicted in the stage from 1st to 5th grade (initial stage of the elementary school), the 6th to 9th grade (final years of the elementary) the progress is slow and will probably only reach the goal in 2027. In high school, the issue is even more serious as the index has been stagnated for four years at the level of 3.7, whilst the level set for 2021 is 5.2. If the current trend is maintained, the country will score only 3.9, far from what it should, and may take decades to reach that goal (IDOETA, 2016).

International research and reports have also detected the precarious situation of Brazilian education. The latest Brazil's results in the International Student Assessment Program (Pisa), published in December 2016, show a decrease in scores in the three areas evaluated - science, reading and mathematics -, reflecting a drop in the world ranking, 63rd place in science, 59th in reading and 66th in mathematics (OECD, 2015).

This need for change has already been realized by a number of people involved in the academic process, but it is still not enough. According to Frenchman Edgar Morin, in a lecture delivered during the international meeting Education 360 in 2014, teachers are getting stuck in their own disciplines, without exchanging with teachers from other areas, which causes an exacerbated individualism. He advocates encouraging solidarity and the integration of knowledge, thereby facilitating the understanding of the new and the dissemination of experiences (VIEIRA, 2014). Dixon (2000 *apud* TEIXEIRA, 2014) agrees, and adds that if people begin to share ideas and realize the importance of this process, sharing itself will create the culture of learning. In addition, the then Secretary of Education of Santa Catarina, Eduardo Deschamps, said that teachers need to see who the student is today so that expectations of teaching can be adjusted. He argues that teachers should ask questions in a different way in order to stimulate new thinking and innovative responses and to place the student as the main character in the teaching and learning process (KALENA, 2014). When teachers listen to their students, they give a message that students' thoughts and ideas are valuable and relevant, that they are part of a conversation and that they can really trust to be heard (RITCHHART, 2015).

Education must be the driving force for development, assuming responsibility and contributing to the formation of new citizens in the contemporary world, using creativity to stimulate classes and encourage solutions. Robinson (2005) points out that traditional education must be changed to become a creative teaching, awakening and nurturing the potential inherent in all people and not only in artists and scientists, as it is mistakenly thought by a large part of the population. There is also a need to re-evaluate the relationship of such areas in the educational experience that are segregated today, building new learning structures aimed at a different future so as not to receive the challenges of the 21st century with the educational ideologies of the 19th century. Promoting creativity among all occupations, economic classes and ethnic origins is essential for the common good, since creativity is critical to the economy in general and is fundamental to the global technology-based economy in particular (ARAYA, 2010). You have to be free to learn, to create, to take risks, to fail or ask questions, to strive, to grow; and the ideal scenario for this to occur is a creative environment. Demo (2002, p. 359) reinforces by saying that "correct learning is the political reconstructive, which puts the student as the focus of attention, making them research and create, not just listen to classes, take notes and write tests." Oliveira (2010, p. 8) states that:

*[...] traditional teaching needs to be changed to become creative teaching, that teachers will use strategies that enable them to develop their creative potential in their classes, leading students to know how to deal with challenges and unforeseen events in today's world. But it is not enough that the teacher will encourage creativity, it is necessary that all the school context adopt creative attitudes and incentive (OLIVEIRA, 2010, p.8).*

Students have to be understood through their habits, customs, interests, so that they can be involved in a correct, creative and stimulating manner within the classrooms, that they have the greatest interest during the long educational journey and are ready for the new scenario of the world economy. For this reason, Araya (2010) argues that students should become agents of their own learning paths and schools and universities should support this path with new modes of knowledge and learning capable of facilitating creativity in the context of collective intelligence. Lévy (1999, p.

158) believes "in a new style of pedagogy, which will at the same time favor personalized learning and collective network learning", as individuals today condescend less and less with courses that fail to meet their real needs, the specificity of their path in life and that follow uniform or rigid paths . Just as they expect that the technologies will adapt to their needs and will not force them to change, the expectation regarding education is the same (ROBERTS, 2005).

The demand for change and the renewal of education, despite having already been perceived by a portion of the people, still needs the commitment of all to generate significant results and this has to be done urgently, since the economy has been undergoing constant changes and demanding a non-specific professional profile that is stimulated in the current classrooms. Therefore, new methodologies capable of stimulating creativity, innovation, thinking and doing of the new students, besides placing them at the center of the process, is fundamental.

## **NATIVE AND DIGITAL IMMIGRANTS**

Students, who are central to the discussion of a new education, have changed their characteristics in recent years, no longer being the same as when the current educational system was created. Today's students are called by American researcher Marc Prensky (2001) Digital Natives and are natural speakers of the digital language of computers, video games, mobile phones and the Internet. They were born and raised surrounded by these new technologies and so they think, process information and communicate fundamentally different from their predecessors (PRENSKY, 2001; GARDNER & DAVIS, 2013). For Lemos (2009, p. 39), "they are part of the first generation almost totally immersed in technology, in the most effective McLuhanian thesis that the media are extensions of man." They prefer visual information to textual, short to long stretches, complete multiple tasks simultaneously, have the ability to shift their attention from one theme to another easily, prefer games to "serious" work, and need quick rewards, to mention just a few of the various features that differentiate the current generation from the formers (OBLINGER & OBLINGER, 2005; PRENSKY, 2001).

Eight characteristics, or standards, describe a typical individual of the Digital Generation and differentiate them from their parents, the boomers. They cherish freedom and freedom of choice. They wish to personalize things by taking ownership. They are natural contributors who enjoy a conversation, not a lecture. They will thoroughly analyze you and your company. They

insist on integrity. They want to have fun, even at work or at school. Speed is something normal. Innovation is part of life (TAPSCOTT, 2009, p. 6).

In that scenario, one of the favorite activities of this public, and which are growing every day, is the use of new technologies, such as social networks, blogs and Youtube, to express themselves creatively, allowing their voices to be heard, their stories are told as never before in history and that new friendships are made around common interests (GARDNER & DAVIS, 2013; RITCHHART, 2015; LEMOS, 2009). Lévy (1999) believes that cyberspace has provided new possibilities for distributed collective creation, cooperative learning, and network collaboration. He argues that such collective intelligence processes will develop the appropriation by individuals and groups of technical changes and will reduce the exclusion effects resulting from the acceleration of the techno-social movement.

Contrary to this scenario, according to Prensky (2001), there is another part of the public referred to as Digital Immigrants. These are people who were not born in the digital world, but became fascinated by the subject or were forced to do so by the massive presence of new technologies in their day to day life, adopting much of them for their life. Like any immigrant, they learn to adapt to the new environment in which they are inserted, but always maintaining a certain "accent", connecting with their past, which can have serious consequences.

Through a literature review it is possible to conclude that "digital immigrants" should be understood as all individuals who were born in an environment without access to and without the mass use of the media, the computer and the internet (and all derivative applications), and for that reason they had to adapt to an environment, instruments, techniques and processes different from those that were the basis of their education and development. Thus, it seems that the expressions "digital native and digital immigrants" serve only to distinguish educational context (s) with natural consequences in the way each relates to the environment. In essence, man is and remains the same, responds only to his own brain biology, that is, adapts to the medium to optimize behaviors and survive as easily as possible. In this sense, the so-called "digital immigrants" include all those who, having grown up in an analogical culture, have adapted to the digital culture thanks to the neuronal plasticity that allows the adaptive and evolutionary behavior that human beings present throughout their lives (SILVEIRA, 2014, p.19).

According to Prensky (2001, p. 2), the major problem of education today is that "Digital Immigrant teachers, those who speak an outdated language (from the pre-digital era), are struggling to teach a population that speaks one completely new language, "with characteristics and skills that are often not well received by them. However, since those who choose the teaching methodology are the Immigrants, there is a gap that needs to be filled.

Martins & Giraffa (2008, p. 3632), argue that "the form of work of the Immigrant teacher differs greatly from the way in which his students perceive knowledge and the production thereof." In this context, they need an adaptation to be able to connect with their digital students, since, according to Lemos (2009), teachers working with this generation usually comment on how difficult it is to teach and students report dissatisfaction and boredom with the sameness of the everyday of the classroom, creating a communication problem that hinders teaching and learning. The fact that teachers are unable to learn while listening to music, watching TV or playing a game does not mean that their students will not be able to either. They also cannot assume that the methods employed in their school days will still work just because they worked with them (PRENSKY, 2001).

*[...] we can think of the need for the teacher to turn reflexively to his / her school practices and to problematize them. Dubet (1997) suggests that the school should recreate a normative framework in a democratic way, which will define the rights and duties involving the whole school community. The adult generation that make up the school community, however, still insists on the traditional model, seeking to standardize the bodies, to hierarchize knowledge, to homogenize the subjects, thus losing the opportunity to establish, through the school practices, interaction relations between the generations. However, there is clear evidence that teacher authority is changing through the strategies imposed by the youth themselves, who continually challenge it (TOMAZETTI & SCHLICKMANN, 2016, p. 337).*

Do Digital Natives really exist and think differently? Prensky (2001b) states that there is neurobiological evidence that different forms of stimuli will alter the structure of the brain, affect how one thinks and they will endure throughout one's life. According to the social psychology, Prensky (2001b) goes on, there is strong evidence that a human being's thinking pattern will change depending on their life experience, and the culture in which they've been inserted will interfere not only with what they think, but in the form of thinking, which is different. In addition, studies on brain plasticity - a concept that states that the brain cell supply is replenished constantly throughout life - have concluded that the brain does not rearrange itself randomly, but requires a hard work of sensory stimulation and focused attention. According to the *Scientific Learning's Fast ForWord* program, for the desired changes to occur in a student, they will need to spend 100 minutes a day, 5 days a week, for 5 to 10 weeks with their attention focused on a goal. Ever since the inception of the Pong game in 1974, young people have been spending time with video games, changing the paradigm advocated by many (PRENSKY, 2001b).

They have been adapting or programming their brains for speed, interactivity and other factors found in games just like the boomers' brains were programmed to accommodate the television and the brains of literate men were reprogrammed to deal with the invention of written language and reading. (PRENSKY, 2001b, p.3).

For Prensky (2001c), this is the important and interesting point in the issue, since when humans discovered how to re-train their brains for reading, they had to re-train again, but for television. And now, everything is changing again, with young people today having to re-train their brains into new ways of thinking, many of which are totally contrary to the old ways of thinking, causing one of the main tensions in education.

These characteristics eventually lead to another common co-related discussion, the lack of attention of the Digital Natives. However, the discussion is inadequate from the outset with the statement that they cannot pay attention to a particular subject or situation for a long time. With games, music and the Internet, for example, the focus is great and distraction is poor. The truth is that the Natives need interactive experiences and constant feedback, which does not occur in the current educational model, causing them to choose not to pay attention and not to be an inherent characteristic of that audience (PRENSKY, 2001b).

For Peter Moore (1997 *apud* Prensky, 2001b), this issue must be considered as a matter of urgency since, he said, the linear thinking that is dominant in classrooms can be detrimental and slow down the learning of people who have brains developed from games and from surfing the internet. Demo (2002, p. 357) also believes in non-linear learning and gives as an example child who "quickly learn a foreign language when they play with others on an everyday basis, without having any sense of logic, grammar, systematic study, etc."

From this perspective, it seems to be correct to say that Digital Immigrants must adapt to the current context of the Natives. Prensky (2001) believes that however much they wish, it is highly unlikely that students will go back and begin to think in the "old fashion," perhaps even impossible, considering that their brains may already be different from their predecessors' brains. A smart immigrant teacher will accept the current situation, that they do not fully know this new world and takes advantage of children and young people to refresh themselves, learn and integrate, gaining students' confidence and changing the passive-dependent pattern of student and teacher interaction and stimulating student-student interaction for the benefit of learning (PRENSKY, 2001; RITCHHART, 2015).

Just as in today's world, where everything changes steadily and very quickly, teachers need to grasp the essence of teaching and their methodologies and adapt them to a language and style that will captivate and catch the attention of the young. For this to happen effectively, it is important to understand the habits, desires and needs of your students and, especially, their relationship with technology, which only increases. If they are not the center and focus of education, then the current scenario will hardly change.

## **THE STUDENT'S EXPERIENCE**

The word experience has gained significant momentum over the last 20/25 years. Beginning with the integration of the term user experience in the software industry and later extended to the work of marketers, the idea of an area of business focused on experience is alive and growing every day.

Pine II & Gilmore (1998) explain this phenomenon. As services, as well as goods before them, increasingly become commodities, experiences emerged as the next step in the so-called progression of economic value. In addition, new technologies have particularly encouraged new forms of experience, such as interactive games, online chats, virtual simulators and virtual reality.

But what user experience is? Garrett (2011, p.17) states that it consists of considering the user at every step of the development of a product or service, splitting it into its elements and looking at it from various perspectives so as to ensure that all the ramifications of user's decisions are known, think how it works on the outside, where a person comes in contact with it, and then improve efficiency. "The practice of creating engaging, friendly user experiences is called user-centered design. The concept of user-centered design is very simple: take the user into account at every step of the way as you develop your product".

Experience must meet a person's needs and it can make a difference between something successful and failure. If it is bad, the user may never return, or, as in the case of schools, they return, but are unmotivated, uninterested, and only as an obligation. However, if it is good, it becomes an excellent loyalty factor. For this reason, according to Eason (1995 *apud* TEIXEIRA, 2014), it is not enough to do for the user, it is necessary to do with the user, considering that they have purposes, ambitions, beliefs, emotions, values, satisfactions and dissatisfactions. Suri (2004 *apud* TEIXEIRA, 2014) complements and states that their habits should be better understood, which requires more knowledge about activities, mental work, their feelings, their aspirations and desires, and the values related to their goals in using products - where products, here, should be understood as education. This is because habits shape our lives and virtually everything, we do can be associated with routines that have been established, among them studying.

Garrett (2011) explains that when the user is browsing a website, for example, something funny happens at the very moment a problem occurs: people blame themselves for it. They feel that they have done something wrong, that they were not paying enough attention, they feel stupid. This is irrational, since it's not their fault that the website fails to work as expected. The problem is that, because of this feeling of frustration, the user will give up the product and will hardly ever use it again. Something similar happens to the student in relation to teaching and the classroom. They get frustrated by various situations over which they have no control, but they end up often blaming themselves. This moves them farther and farther from the school, creating barriers, harming their experience, as well as minimizing pleasure, enchantment and fun, fundamental points to stimulate interaction which are directly related to the user's emotional.

According to Teixeira (2014, p. 96), the emotional benefits are linked to such products that will affect the temperament of its users, i.e., "the use of a product can be exciting, interesting, fun, satisfying or stimulating, and can have as a possible result the increase of user's confidence". On the other hand, as Norman (2008, p. 100) explains, "negative emotions manifest when there is lack of understanding, when people feel frustrated and out of control - first restlessness, then irritation and, if lack of control and understanding persists, even anger".

Enchantment, pleasure, and the fun of interacting are key issues in bringing about that positive and satisfying experience. Moreover, it is still possible to state that the use experience is directly related to perceived benefits. And they can spur exploration and learning when the challenges presented in the product interface are compatible with users' abilities. However, if the setting is not correct, users tend not to interact with these products (TEIXEIRA, 2014, p. 100).

Drawing a parallel between Teixeira's earlier quotation (2014) and the classrooms, it seems that the Digital Natives have lost their enchantment and the pleasure of being in the classrooms. If the experience has not been good and the perceived benefits are few, they feel discouraged and do not want to interact any more. It is of utmost importance and urgency for teachers and educational centers to create devices and strategies to turn this game around, with student-teacher interaction being the primary factor of change.

And how can this be done? While there is no obvious similarity between Silicon Valley startups and a school, a closer look at some of the technology industry's tenets can bring benefits and be key to the future of education. The term user's experience is constantly used in this environment, being a benchmark to measure the success of a product or service and is a priority for companies that wish to be successful, considering that if the user has a bad experience, the user will hardly have a relationship with that experience. The value of experience has been so great that it has extrapolated the technology sector, and many companies in other industries are creating teams that constantly seek to understand the needs of their customers and redesign services when necessary. In this way, education can also benefit from this principle and focus on the user's experience, that is, the student, to transform a system that has not undergone significant changes for decades.

A Porvir ([201-?]) believes in this vision of listening and understanding the student and says that even the most difficult problems need to be discussed by the school community both as much as necessary to be solved, and in such a way that they will not become something bigger, compromising the relationships of trust between managers, teachers and students, in addition to increasing the level of dissatisfaction of the latter.

Listening to students means creating an opportunity for them to share opinions on different topics, from the most mundane, such as school infrastructure and classroom activities, to more complex ones, such as changes in curriculum and school organization. In order to engage

students, such consultations need to be carried out with the support of dynamics, instruments, and languages that are understandable and stimulating to them. They also have to be inclusive, in order to capture the multiple voices, even the quietest and most dissonant voices. In this case, the opinion of the most "behaved, extroverted and eloquent" students should not override the opinion of the most "rebellious, shy or difficult to express". All the possibilities have to be considered (PORVIR, [201-?]).

Marjo Kyllönen, Secretary of Basic Education, Helsinki, Finland (country that is a world reference in education), believes in the empowerment and engagement of all as the core values of education in the country and explains that the most recent curriculum review (beginning in 2012 and in the process of implementation) was initiated based on listening to various audiences: educators, parents, students and system administrators. Parents, for example, were asked what the objectives of education should be. The students, in turn, answered questions such as "How do you learn best?", "What are your dreams for the school of the future?" And "How do you see technology?". All information gathered was analyzed and considered in the construction of the new curriculum (KRAUSE, 2017).

Prensky (1999) agrees with the concepts discussed so far and argues that it is necessary to create teaching methodologies that are aligned with the characteristics of the Digital Natives - the current audience in the classrooms - and for that, it is necessary that they help guide this process, especially for, as argued by Tomazetti & Schlickmann (2016, p. 334), they "bring to school their own languages and cultures, becoming actors, active subjects in the construction of the way of being in the school space and not just content receivers for memorization purposes." However, although there is some openness, "the school still persists in the ignorance of the youth world and its cultures, which are fundamental factors in the process of incorporating young students into the school environment" (TOMAZETTI & SCHLICKMANN, 2016, p. 337). It is vital that education will provide opportunities for young people to convey their own ideas, values and feelings (NACCCE, 1999).

This is relevant because, for learning to take place, Henklain & Carmo (2013) state that it is necessary to know as much as possible about students, such as their academic repertoire and social interaction, what they like and that can be used as a reinforcer, the social context in which they are inserted and which problem situations are expected to be solved, among others. They also believe that it is not enough to know them only at the beginning of the school term, but rather to record and monitor their development throughout the teaching process. This is relevant because this information will assist in planning the material and the reinforcement contingencies. In addition, the focus of the teacher should be directed by the needs of each student and not by the average of the majority, considering that "one person will interpret an experience on many levels, but what pleases one may not please another" (NORMAN, 2008, p.56).

The practice of putting the student in the center and designing engaging, stimulating, interactive and challenging experiences that take into account their habits, characteristics, desires and needs is what the author of this article believes will transform education. For this, the role of educators is to have prior knowledge of who the end-user is, to bring them closer to the process, and to adapt teaching on the basis of this information.

## **FINAL CONSIDERATIONS**

As the Creative Economy advances, the job market demands more and more people capable of facing the many challenges that are posed daily, who know how to innovate, act quickly, creatively and competently. Accordingly, creativity is more than ever necessary, and it is essential to awaken the creative potential of man, to focus on the student's experience, to stimulate the generation of new, creative and benevolent ideas for mankind. For this to take place effectively, education needs to be modified to give freedom to learn, to create, to take risks, to fail or ask questions, to strive, to grow; and the ideal scenario for this to occur is a creative environment. Besides, there is a need to find ways to stimulate and capture the attention of Digital Natives, a growing public who is increasingly disinterested in the classroom, and greater integration with existing technologies is a good strategy, since they are decoys for these students.

As much as the new technologies play a crucial role for the Natives, teachers continue to play their relevant role, but there are changes to be made. Robinson (2013) says that teachers are the blood that brings life to the success of schools and teaching is a creative profession and not a delivery system. They are not only there to pass on the information received, but also to guide, stimulate, provoke and engage. Education is about learning and if it does not happen, there is no education. The main point in education is to make people learn.

With the speed of the emergence and renewal of knowledge, information and technologies and the need to integrate these elements with the academic environment, families, policy makers, school heads and, in particular, teachers should be able to understand how technology can be used more effectively to improve the learning of Digital Natives and to take advantage of the opportunities that society and the knowledge economy offer them. And we come to the conclusion that this can only be done with a continuous transformation of teaching, always focused on the needs of the students.

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Track 09 Creative Economy

**ID #680**

## **Non-voluntary anti-consumption: A study on low income consumers in Rio de Janeiro**

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### **Abstract**

*This study analyzed the consumption decision-making processes amongst low income consumers by adopting practices that can be considered as non-voluntary anti-consumption. To that end, in-depth interviews were conducted with seven low income consumers from favelas in the state of Rio de Janeiro. Furthermore, direct (non-participant) observation was used in visits to the interviewees' homes. As a result, this study revealed that the processes involving the practice of non-voluntary anti-consumption amongst low income consumers are triggered by the lack of financial resources of their practitioners. For this studied group, resisting consumption is not the desired action. These practices were compared to those of low income consumers in Finland surveyed in a seminal work on non-voluntary anti-consumption of the population at the base of the pyramid. It was found that some talks found in the Finnish research are also present in the Brazilian consumers' talks. Nevertheless, the voluntary anti-consumption talk used by the Finnish is not adopted by low income Brazilians. Unlike the Finnish, environmental protection or resistance to the capitalist marketing system is not even mentioned as an excuse for not consuming any product or service. The significance of inclusion and social belonging that consumption conveys to this layer of the Brazilian population is very strong and, thus, calls for an altruistic reduction in consumption seem to find no support amongst the people studied. Despite the similarities in two of the groups' talks, it is clearly observed that there is a need to understand the non-voluntary anti-consumption within a specific context, like that of the base of the pyramid in Brazil - and quite different from the Finnish context.*

**Keywords:** Anti-consumption; Non-voluntary anti-consumption; Low income consumers; Consumer culture.

### **Acknowledgments**

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## **INTRODUCTION**

The number of conscious consumers who care about the environment, animal welfare, and a more efficient use of resources has increased in developed countries (Angus & Westbrook, 2019). Anti-consumption research generally focuses on middle class people who, at some point in their lives, have voluntarily decided to give up material goods to care about themselves or about social issues, such as more free time, better quality of life, environmental protection and social well-being as a whole (Iyer & Muncy, 2009). For these consumers, consumption is not synonymous with prosperity, nor is it an efficient method for people to regain self-esteem (Nepomuceno & Laroche, 2015).

According to Leipämaa-Leskinen, Syrjälä and Laaksonen (2014), consumers who practice non-voluntary anti-consumption are forced to give up products they desire for they do not have the financial means. Despite the similarities in some moments, the non-voluntary anti-consumption practice differs from the voluntary one because it is circumstantial, not optional, and it is not a source of pride amongst its practitioners. These authors were the first to study non-voluntary anti-consumption amongst low income consumers in Finland, and their research was used as the basis for comparison in the present study since it refers to non-voluntary anti-consumption in a conceptual way. Furthermore, their work was chosen because the classification they created could be useful to analyze the Brazilian consumers who underwent loss of earnings and, thus, adopted anti-consumption. Blocker (2012) had already suggested that poverty and resistance to consumption were intertwined.

This study presents the results on consumption decision-making processes amongst low-income Brazilian consumers living in the favelas located in different regions of the state of Rio de Janeiro. It aims to discuss the relevancy of the idea of voluntary and non-voluntary anti-consumption within this sociocultural context based on analyses of practices and motivations for consumption.

## **VOLUNTARY AND NON-VOLUNTARY ANTI-CONSUMPTION**

The concepts of resistance to consumption and anti-consumption are so closely related that several works approach them in an overlapping way, evidencing the difficulty of separating them (Kraemer, Silveira, & Rossi, 2012). Nonetheless, some studies seek to present a separation between anti-consumption and resistance to consumption. When analyzing the studies of Galvano (2011), Lee et al. (2011) and Kraemer, Silveira and Rossi (2012), we chose not to deal with anti-consumption and resistance to consumption separately; therefore, the term anti-consumption will be used from now on.

Zavestoski (2002) highlights voluntary simplicity as a system of consumer beliefs based on the reduction of consumption of material goods, the practice of self-confidence, the development of the intellect and other forms of personal fulfillment that do not involve the increase of consumption. These consumers are not merely materialistic that reduce consumption solely for financial reasons, one of their motivations is the quest of a simpler lifestyle (Lee; Ahn, 2016); they believe they can live well using fewer resources (Lastovica et al., 1999).

Etzioni (1998) describes voluntary simplicity as a consumer decision to reduce consumption expenditures, seeking fulfillment, not accumulation of goods. This is a voluntary choice with no correlation with poverty, government austerity, or any other type of coercion. The author points to voluntary simplicity as one of the alternatives to avoid consumerism.

According to Leipämaa-Leskinen et al. (2014), anti-consumption research has traditionally involved individuals who have voluntarily decided to adopt a culture of resistance to consumption. Lee et al. (2011) goes even further by stating that voluntary anti-consumption is ideological, even though not all acts are and thus have no specific target of confrontation.

Daily voluntary anti-consumption practices are classified into three main groups: rejection, reduction and reuse. Rejecting voluntarily implicates excluding private goods for functional, symbolic, or ethical reasons (Black, & Cherrier, 2010). When rejecting what is not necessary, anti-consumers are seeking to regain a more sustainable lifestyle (Lee, Ahn, 2016); they are those people who choose to reject consumption in order to seek other sources of fulfillment (Zavestoski, 2002). Craig-Lees and Hill (2002) found that reusing objects is part of the daily routine of voluntary simplifiers. Kraemer et al. (2012) found that apart from reusing, they also share objects in order to avoid buying unnecessary products.

Even those consumers who voluntarily reject consumption objects often face the pressure between voluntary simplicity practices and market engagement (Leipämaa-Leskinen et al., 2014). Moreover, voluntary simplicity is shaped not only by the individual, but also by society and the interactions with the market. Voluntary simplicity practices are both adopted and constrained by market conditions; thus, simplifiers are not as out of the market as they claim. (Shaw, Moraes, 2009).

The adoption of anti-consumption endows its followers with an individual self-expression (Black, & Cherrier, 2010) and a sense of authenticity (Zavestoski, 2002). In addition to fighting consumerism, they desire to fight market practices.

Voluntary resistance to consumption is practiced mostly by people with financial means above the average (Etzioni, 1998), different from the poor consumers who often have no alternative but to adopt non-voluntary anti-consumption practices (Leipämaa-Leskinen et al., 2014).

Leipämaa-Leskinen et al. (2014) sustain they were the first to deal with the non-voluntary anti-consumption issue although they point out that previous studies suggested that poverty and resistance to consumption are intertwined (Blocker et al., 2012). Yet, according to Leipämaa-Leskinen et al. (2014), Craig-Lees and Hill (2002) were the only to empirically compare voluntary and non-voluntary simplifiers and their possessions, incomes, lifestyles, and consumption habits.

Although voluntary and non-voluntary anti-consumption practices may seem similar, the difference between procedures and engagement is striking (Leipämaa-Leskinen et al., 2014). In order to exemplify, these authors show that voluntary simplifiers and poor people present the same habits in some situations, such as the reuse of objects or the purchase of clothes from secondhand stores; nonetheless, their social and cultural structures as well as their motivations are different.

Hamilton and Catterall (2005) show that the poor use goods and services resourcefully in an attempt to save money and exercise some control over their lives as well. Although these practices reveal a new form of resistance to consumption, they are different from the voluntary simplifier. According to Hamilton (2012), while the voluntary simplifier struggles to achieve sustainable consumption, the poor are led to consume cheaper items and may end up developing resistance to expensive products and market forces in order to alleviate the emotional suffering of being poor.

For Leipämaa-Leskinen et al. (2014), non-voluntary anti-consumption activities are circumstantial and can be regarded as social exclusion and resistance to the traditional market.

According to them, non-voluntary anti-consumption manifestation can be classified into three forms: hidden, repressed and innovative. The hidden form occurs because unlike the voluntary that is active and self-expressive, resistance to consumption and to the market is made wordlessly. In fact, there is neither collective communication nor active opposition to consumption, as voluntary anti-consumers do. The repressed form occurs because for the poor the non-consumer identity is undesirable. However, for the voluntary, having several anti-consumption practices is a way of being distinguished from consumers who do not have desirable social norms. On the other hand, the authors argue that the poor hold agency for they choose which anti-consumption activities and practices to manifest. The innovative form strengthens the position that the poor are not passively accepting their situation. The poor perform inventive consumption activities in order to save money, as not using certain consumption objects, finding alternative objects, or using objects for purposes other than those created.

Low-income consumers are forced to decrease the number of goods they own, as well as to see the gradual decline in their quality of life. The consumption amongst the poorest people and non-voluntary anti-consumption are conceptually intertwined for poverty can lead to different activities of resistance to consumption. Thus, distinguishing voluntary simplicity from non-voluntary simplicity and poverty is important (Leipämaa-Leskinen et al., 2014, Craig-Leesand Hill, 2002, Etzioni, 1998).

Although some studies suggest that poverty and anti-consumption are intertwined (Blocker et al., 2012), Leipämaa-Leskinen et al. (2014) adopted a different viewpoint and studied the consumption practices of poor consumers and how they are connected to societal and cultural structures by the lenses of anti-consumption. In addition, the authors point out that Finland is a welfare state.

With regard to Brazilian consumers at the base of the pyramid, consumption is a way of inclusion and social distinction as well as a symbol of prosperity (Barros and Rocha e Rocha, 2009). Bellini and Alvares (2018) analyzed Brazilian consumers who, as a result of the economic crisis, suffered symbolically significant losses that affected part of their self. The authors pinpointed affective responses to non-voluntary losses that were closely related to the phases identified by Kübler-Ross (2000): denial, anger, bargaining, depression and acceptance. Unintentional loss of symbolic possessions resembles the death of identity and affects the self and its extension. These consumers who had undergone social ascension when they returned to poor status, they got into a cycle of suffering and pain generated by the inconsistency of their newly acquired identity. Therefore, for consumers at the base of the pyramid in Brazil, the non-voluntary loss of consumption power is negatively identified.

## **METHOD**

A qualitative approach was used in order to thoroughly understand the context, the history, the form, and the whys and wherefores. In-depth interviews were conducted with seven low-income consumers, belonging to families with monthly income from R \$ 639.78 to R \$ 1.446,24. They all live in favelas in the state of Rio de Janeiro and were selected due to a decrease of at least half of their earnings two years earlier. No gender distinction was made, yet the age limit was between the minimum of 25 years and the maximum of 60 years, as can be seen in Table 1.

Moreover, only one interviewee per favela was chosen so they would not know each other. It is worth mentioning that one of the researchers is familiar with residents of favelas in Rio de Janeiro and, thus, has easy access to them for he was raised in a favela in the western part of the city. Currently, this researcher works in a company located in Complexo Maré, and maintains both professional and personal ties with several people who live in favelas, with regular visits to their houses for leisure or celebrations. As the researcher grew up at the same environment, data collection was detailed, for it enabled the communication channel, the language, the interpretation of slang and signs used by the interviewees, who felt at ease once they realized they were talking to someone who went through the same hardships they are currently experiencing. What is more, they speak the same "language", and there is no feeling of being interviewed by someone unfamiliar with their daily life.

## **RESULTS AND ANALYSES**

The content of the interviews was analyzed by an interpretative perspective, and organized in four aspects, leading to the understanding of the significance, the motivations and the consumption practices of low-income consumers.

### ***Motivations associated with non-voluntary anti-consumption practice***

The main motivation for anti-consumption is the lack of resources. There is a moral statement that people - the others – overspend. However, based on the interviews and observations, it is actually a projection, that is, by criticizing the other, the neighbor, they are criticizing themselves as well.

*I guess there are too many people with no control, spending too much on unnecessary things. Sometimes the guy is married, but he spends his money at a bar, almost all his salary, paying beer for everybody just to show off. It is unbridled consumption (Interviewee 4)*

It is also interesting to observe that there is expenditure that is aimed at demonstrating / showing off a certain status, such as paying for friends' drinks to impress. In the end, what everyone would like is to be spending as they used to before the loss of earnings. Interviewee 3 shows regret and nostalgia, as can be seen in the report below.

*What I really like doing is going to the mall, but we can't always afford that. The situation is very difficult, so we can't go, but I really enjoyed going to the mall. [...] sometimes I do not have much money to spend, but I go there (to the mall), I stay half an hour. I feel happy. I have an ice cream, and that's it. At least I went out, it was a way of getting entertained. (Interviewee 3)*

Leipämaa-Leskinen et al. (2014) also show that the real factor that motivates non-voluntary anti-consumption practice is the scarcity of resources. Consumers are deprived of choosing freely, and cannot consume according to their desires. Regarding the present study, this was evident.

There is a clear pursuit for status and social acceptance, such as the use of designer clothing, for example, to show a false pattern of consumption. Furthermore, criticism to traditional clothing stores, as well as large shopping centers and malls is simply due to their high-priced clothes. The interviewees claim that those clothes have the same quality standard as that of clothes sold by street vendors. Thinking that the quality of clothes from official stores is similar to that from informal stores is a clear way to belittle the unattainable.

Interviewee 1, for instance, was wearing a shirt by Lacoste, a French brand, at the time of the interview. To him, like to the other interviewees, it does not really matter whether the shirt is

second-hand or even counterfeit, what really matters there is the brand symbol, what it represents to his friends, and how he is seen when wearing the shirt. This consumer seeks to be regarded as a successful person:

*I wear a lot of clothes from second-hand stores. This branded shirt here, I bought at a second-hand store, others I get as a gift, a friend who got fatter, I don't know, the shirt doesn't fit him anymore. As long as it is branded, even if it is second-hand or a little bit shabby, I keep it. Obviously, nobody knows. The guys down the street just say I'm showing off. What they don't know is that it's second-hand. (Interviewee 1)*

In Finland, the voluntary anti-consumption narrative is widely used to justify the lack of money. In that country there is a strong attitude of what it is to be a conscious consumer, although they may not be aware of that, such attitude is often used as an excuse to disguise poverty. The Brazilian interviewees, on the other hand, do not even mention the struggle against consumerism or the market system. This motivation does not even exist in their narratives.

### **Forms of anti-consumption manifestation**

Leipämaa-Leskinen et al. (2014) suggest that anti-consumption manifestations can be classified into three forms: hidden, innovative and repressed. By using this classification in the analysis of the Brazilian interviewees, we can attest both the cultural and contextual distance to the Finnish universe due to an uneven reality.

#### ***Hiding***

The Finnish authors explain how they define Hiding. While voluntary anti-consumption is associated with active and self-expressive forms of consumer resistance, non-voluntary consumption practiced by the poor shows how resistance to consumption is "silent." Thus, non-voluntary anti-consumption can be characterized as hidden. Non-voluntary anti-consumption practices may seem to be similar to actions of voluntary consumption, yet they are done privately, without demonstrating opposition to collective, self-expressive, or active consumption.

Practices like wearing clothes made locally or second-hand ones are welcomed and exalted by voluntary anti-consumption adopters. Nevertheless, for the interviewed consumers these practices are shameful as they are only adopted due to lack of money, there is no activism and, therefore, they are hidden from other members of the community and society. They claim they buy at fairs or at second-hand stores because traditional places such as large shopping centers and shopping malls just have high priced clothes, and often with the same quality standard as that from those places or even from street vendors. However, because it is a hidden form of anti-consumption, the interviewee does not reveal that her clothes are counterfeit, or that she bought them at a fair, belittling the mall:

*I never buy clothes at the mall, they're very expensive. I go to the fair, I mean you get there and buy the same clothes, sometimes for half the price just because of a label, there are clothes we know they're counterfeit, but they're just like the real ones. Besides, in the favela everyone likes to wear designer clothing, but do you think the people there can afford designer clothing? They can't, but who cares whether they are the real thing or from a street vendor? (Interviewee 6)*

#### ***Innovating and reusing***

As far as innovation is concerned, low-income people should not be treated as individuals that passively accept their situation. Although they face many types of lack of choice, they exert some control over their lives and, consequently, create new forms of consumption (Hamilton and Catterall, 2005, 2008). Anti-consumption practices can also be innovative even in

precarious circumstances. These consumers seek new consumer activities so as to save money, like not using certain consumption objects, finding alternative consumption objects, and using objects with different ends from those created (Cova and Dalli, 2009).

What can be noticed regarding this population in Brazil is that poverty besides being much more precarious is a lasting condition. Although the Brazilian population at the bottom of the pyramid experienced an increase in income, which was temporary, innovations and creativity to cope with scarce resources are constantly observed. One creative way for leisure at the base of the pyramid is to hold events with collective participation, for instance, a party is organized, usually a barbecue party; thus, avoiding spending money at a steakhouse. This innovative way consists in first setting the place and then making a list of the items needed such as: meat, charcoal, disposable cups and plates, beer, soda, amongst others. Each guest chooses to take one or more items from the list, and then as agreed they meet at the party. According to Interviewee 6, they can have a party with a wide range of food at an affordable cost, something unimaginable at an individual level:

*As most of the time, we have no money, so all neighbors join in front of my house. One brings meat, another one sausage, another one charcoal, and so on. We share the beer and soda and then we party. We have fun and we can even say that we ate out. My sidewalk is known as the Walk of Fame. (Interviewee 6)*

As for reused objects, the innovations to be highlighted are: a barbecue pit built out of an old washing machine drum that had no further repair, a watering can made out of a plastic bottle of mineral water, a clothesline made out of a broken fishing reel, an ashtray made out of a can of beer that had been properly cut and adapted. In addition, some containers used to store food in the refrigerator are actually margarine or ice cream containers being reused.

For the interviewees, innovating or reusing is not a matter of social or environmental issue, or simply to save money, but to continue consuming.

### ***Repressing***

Non-voluntary anti-consumption practices are also regarded as repressed. For low-income consumers, the identity of a "non-consumer" is not ideal and is even undesired (Hill, 2002a). In contrast, voluntary simplifiers want to assert their "non-consumer" identity by differentiating themselves from those who practice undesirable social norms (Cherrier and Murray, 2002). As non-voluntary anti-consumption is circumstantial due to the lack of financial resources, consumers have no choice but to restrict consumption, objects, quantities and quality. Nevertheless, these consumers hold agency by choosing the practices and how anti-consumption should be practiced.

Furthermore, a new finding with respect to the previous research by Leipamaa-Leskinen, Syrjala and Laaksonen (2014) is that many times these consumers wish to be perceived as consumerist, for they believe that consumption is connected to social position (Barros and Rocha, 2009).

As they cannot consume what they really want, the interviewees use strategies due to the lack of resources in an attempt to seek status by wearing designer clothes, for example. They seek social acceptance and show a false standard of consumption. The desire to consume again is present, as stated by Interviewee 3, who goes to the mall, buys only an ice cream and then goes back home.

## **Non-voluntary anti-consumption practices**

### ***Engaging in a simple lifestyle***

Living a "simple life" is regarded as positive by the interviewees, as they say they are pleased with their current financial status, and do not need to consume or have more than they already have to feel happy. However, such statements contrast with their feelings regarding housing. Basically, all the interviewees yearned for better homes and a better place to live, which they do not regard as superfluous consumption, but rather a basic need. Thus, insecurity is a preponderant factor that makes them wish to move. Although some of the favelas visited are shaped by violence, others, on the other hand, do not have the dangers due to drug dealing. Yet the narrative of living in a safer place was adopted to justify the desire to live outside the favela.

Some of the interviewees have already had a higher standard of living provided by higher income, what makes them miss some privileges of those days, usually related to hedonic consumption such as travels and dinners. Yet, even without these privileges, interviewees say they prefer to live a simpler routine doing ordinary tasks of daily life, such as taking care of the house, the plants, the birds, playing with children, talking and fraternizing with neighbors.

However, it was revealing to realize that despite the narrative of being pleased with a simple life, there are practices that do not match with what is advocated. For instance, there is the appreciation of designer clothes, the nostalgia of restaurants and shopping at malls. It is clear that the narrative adopted is a form of consolation; they try to appreciate a simple life, but it is in fact only a temporary style while they cannot consume.

It is important to stress that the engagement with a "simple life" is similar to the habits of practitioners of voluntary simplicity; however, regarding the interviewees of the present research, they do not seem to be seeking a better quality of life and well-being. In voluntary anti-consumption, this engagement is associated with ideological decisions (Hoffmann, Lee, 2016).

### ***Mastering Consumerism***

In non-voluntary anti-consumption practices, resistance to consumerism and markets is accomplished through a multiplicity of actions, which impel consumers to exert the most of their creativity in its multiple forms in order to develop new original forms of consumption (Leipamaa-Leskinen; Syrjala; Laaksonen, 2014).

The interviewees adopt a narrative of resistance to mass consumerism and to every commercial market that profits from the consumption of the poor. Some avoid typical shopping places such as shopping malls, others no longer go to restaurants, and all of them at some point seek to avoid mass consumption. Yet, resistance to consumption herein is not ideological, but it is exercised only like those who are on a diet and avoid restaurants.

Furthermore, the practices to avoid consumption are to save money rather than to search for alternative ways off the mainstream. One way to save money mentioned by all the interviewees is to pay special attention at the supermarket for they use gambits to conceal abusive prices and, thus, create impulse buying.

Price comparison has proved to be the most widely used strategy to make better use of money, since in addition to making consumers choose to purchase from shops with the lowest price, when making the shopping list consumers agree to buy only the items from the list; thus, avoiding impulse buying:

*I prepare the list first, I ask if there's something he (the husband) wants to include, it's usually beer, we agree on a day and we buy everything from the list. (Interviewee 5)*

Renouncing branded products proves to be the second most common strategy adopted by low-income anti-consumers in order to resist superfluous spending. As they cannot consume as much as they want, either in terms of quantity or quality, the poorest consumers who adopt non-voluntary anti-consumption practices choose a specific item as preferred, and its brand should be prioritized in an attempt to minimize the suffering of not being able to consume all the desired brands. Buying a branded product leads to a sense of consumer choice, who seeks to associate the brand with rational factors such as durability and quality to justify consumption.

The practice of resisting consumption is associated with daily consumption actions, mainly those performed in the family group. The practical approach shown by Leipamaa-Leskinen, Syrjala and Laaksonen (2014) revealed new practice contents amongst family members with the children being taught to resist consumption. Regarding the Brazilian case, we identify some examples like that of Interviewee 5, whose three-year-old daughter has been brought up to avoid consumerism. Some rules like not buying a toy similar to one she already has or not buying candies impulsively have already been established by the mother, showing the concern to shape a conscious consumer regarding the use of money, and that does not practice impulse buying, or acquire something unnecessarily. This consciousness is motivated by saving money and not by the ideology of conscious consumption, and, thus, simply occurs by financial restriction.

### ***Exploiting systems***

The practice of exploiting systems is carried out through activities that involve understanding how systems work and how citizens can exploit them, showing resistance by opposing the system, the forces of the commercial market, conventions, and the role assigned to low-income people (Leipamaa-Leskinen, Syrjala and Laaksonen, 2014). All the interviewees demonstrated some resentment towards the country's social inequality, the established political corruption, and the high profits of large corporations. According to them, low-income people, on the other hand, suffer from irregular housing, high taxes, low job offers, low wages, high prices of products, and constant exploitation. There is no doubt that all the interviewees practice or have practiced the exploitation of the system. For some of the interviewees, limitless consumption serves only to generate more taxes; thus, penalizing the poorest with the increase of the price of products, without any compensation and return from these taxes for the population:

*People don't really care about the others. What's the point of going there just to spend money? You are just paying taxes, sometimes taxes are more than half the price of the good. That only makes government earn more every day, you are just paying more taxes and they don't invest in anything in our country. (Interviewee 3)*

Exploiting the system amongst the Brazilian interviewees is considerably more present than it is in Finland. It is such a widespread practice amongst the poorest people that the interviewees describe not only their own activities but also those of their friends, relatives or acquaintances. Interviewee 4 said that his wife's niece lied about her parents' real income so that she could fit the required profile for undergraduate scholarships offered by the government. Similarly, Interviewee 1 stated that his current wife did not want to hold a marriage certificate in order to be entitled to her deceased father's pension as a military's unmarried daughter. Actually, the account of the facts related to the exploitation of the system or debts does not cause any embarrassment. In general, low-income people talk about their liabilities, and often use the fact that they are poor as an excuse for not paying what they owe someone or a company with greater resources (Mattoso; Rocha, 2008).

The most commonly found way of exploiting systems mentioned by the interviewees is clandestine connections of water, energy and cable television, popularly referred to as "gato". Some of the interviewees said they hired specialized professionals to break the meter seal to tamper consumption; others are even bolder and get energy directly from the electrical grid. These practices are considered crimes. Breaking the meter seal is larceny, while getting energy directly from the grid is considered theft. Consumers who exploit the system through clandestine connections are completely aware of acting illegally, and although they were not proud of that, they showed no regrets or intention to stop such activity, for they consider their practice a small offense, compared to the profits of large corporations.

## **FINAL CONSIDERATIONS**

This research with low-income consumers living in favelas in the state of Rio de Janeiro has shown that the loss of earnings has a direct impact on non-voluntary anti-consumption practice. The interviewees start to resist consumption in a non-voluntary way because they do not have the financial means to consume what they really desire. The accounts of those days when purchasing power was higher show that although they claim to be happier with fewer resources and living a simpler life, all the research participants at some point were displeased and uncomfortable because they could not buy something they wished for and, thus, were forced not to consume. According to Hamiltonn and Catteral (2005), such discomfort and dissatisfaction is reflection of living in a welfare-oriented society, where being poor may be even more exclusive, once it is surrounded by the influence of a consumer-oriented culture.

Some motivations and manifestations of consumption present in the narratives in the research carried out in Finland are also present in the narratives of the studied Brazilian consumers. Nevertheless, the narrative of voluntary anti-consumption adopted by the Finns, even if it is not shown in practice, is not adopted by low-income Brazilians. Unlike the Finns, environmental protection or opposition to the capitalist marketing system is not mentioned as an excuse for not consuming any product or service.

The significance of inclusion and social belonging that consumption conveys to this layer of the Brazilian population is very strong and; therefore, calls for reduction of consumption of altruistic form seem to find no support amongst the studied group. Although the narratives of both groups show similarities, there is a need to understand the non-voluntary anti-consumption within a specific context, like that of the base of the pyramid in Brazil - and quite different from the Finnish context.

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**TABLE 1**

Interviewees' profile: name, sex, age, occupation, favela and hometown. (Page 6)

NAME	SEX	AGE	MARITAL STATUS	OCCUPATION	FAVELA	HOMETOWN
Interviewee 1	Male	55	Married	Retired	Cinco Bocas	Rio de Janeiro
Interviewee 2	Male	46	Divorced	Supermarket shelf replenisher	Arará	Rio de Janeiro
Interviewee 3	Female	28	Married	Salesperson	Nova Holanda	Rio de Janeiro
Interviewee 4	Male	54	Married	Security guard	Morro Do Fubá	Rio de Janeiro
Interviewee 5	Female	28	Married	Telemarketing operator	Roquete Pinto	Rio de Janeiro
Interviewee 6	Female	34	Married	Sales assistant	Vila Tiradentes	São João de Meriti
Interviewee 7	Male	33	Married	Checker	Inferninho	Nova Iguaçu

Source = Own elaboration

*Track 09 Creative Economy*

**ID #685**

## **The influence of child advertising on the construction of stereotypes of Gender**

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### **Abstract**

*Part of the day-to-day life of children, children's advertising is a powerful cultural instrument that produces and reproduces knowledge and values. By transmitting symbols on gender, it acts as a constituent of the identities of the little ones and produces representations of masculinity and femininity that will be desired and imposed. Thus, there is much to reflect on how children interpret and assume for themselves the gender stereotypes conveyed by the advertising message, stipulating limiting and rigid modes of being that fall on the way childhood is experienced.*

**Keywords:** Gender; Childhood; Advertising..

### **Acknowledgments**

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## INTRODUCTION

The following research is part of the graduation thesis for the major in Social Communication, specializing in Advertising at ESPM (*Escola Superior de Propaganda e Marketing*) Rio. The theme of this thesis is “The influence of children aimed advertising in the making of gender stereotypes”.

Television makes for one of the several cultural investments for socializing and education, having as it's means of survival the financial support of brands that wish to communicate their products and services to viewers. Thus, it becomes necessary to reflect upon the place advertising, especially children focused, occupies in contemporary society. The understanding of the mechanisms that aim for an adult life inside binary, heterosexual and sexist normalcy, trying to establish the standard and define how infancy must be experienced, creating inequality from a tender age. The goal of this research is to understand if ideas exposed by ads focused on young publics influence kids towards developing stiff, contrived stereotypes on how gender assigned bodies should express themselves

This thesis is divided in 3 parts, the first section being devoted to childhood and understanding how culture and social interactions contribute to the cognitive development of children. In here, culture is seen as the ability of individual to assign meaning the world that surrounds them (Rohden, 2009). How these so repeated references taught to the younglings will guide them in understanding their role in society and the world around them.

On the forefront of this analysis, there is a brief recollection of the history of the child, done by Ariès (1960), to explore the origin and the conditions that viabilize the existence of childhood. The safeguarding of infants is much desired in society and, with that, a lot of questions concerning kids arise, the most relevant to this research being the supposed erasure of childhood brought by uncensored access to knowledge given by the means of communication. (Postman, 1999);

In agreement mainly with the ideas of psychology authors such as Piaget (1992) in his theory of learning and Lev Vygotsky (1992), who discourses about human development as a result of a socio-historical process, with concepts about psychological behavior. The goal is to establish the thought that the knowledge built during infancy about the world and about oneself is acquired through elements of culture, through which one fosters their notions of normality, rights and wrongs, of what is accepted and what is shunned. The comprehension of childhood portrayed so far leads us into inferring that, according to Araújo (2010), it has a socio-cultural basis, opposed to the idea of it being purely natural and biological.

The second portion of this research addresses gender and has as an end goal to explore definitions from contemporary feminist thinkers about the term ‘gender’ conceived inside the movement, which will be outline, from its emergence in the USA and France, to its developments in national soil, from female suffrage to the sanctioning of laws towards an egalitarian society that protects females. Through developing critical thinking towards such, the social mechanisms that produce and reproduce the dichotomized, stigmatizing, “be a man” and “be feminine” thoughts are shown, which consolidates difference, generating inequalities and violence mainly turned against women, dampening the potential to portray human individuality, anchored in an outdated view that holds biological determinism as the absolute truth to guide gender performance.

The third and last portion will approach the discussion regarding the controversial relationship between media and infancy, the point of view approaches the subject in a positive manner,

favourable to educational measures to make children able to rationally analyze the messages received by them.

One of the research objects used in this project will be the pedagogical character of the media and the educational methods made possible through communication sources and advertising. In the last section, an analysis of how the media, mainly television, supported by the culture of consumism, idea explored by Bauman (2008) and through children's toys ads, widely contributes to the maintenance of the gender-sex system present in today's society and how it reflects in children's gender association will be portrayed.

Grounded in ideas spread by McLuhan (1964), important communication theorist, about the symbolic universe disseminated by advertising, not only as a way to sell products, but also values and behaviour ideals and also on the concept of symbolic power from Pierre Bourdieu (1989), French philosopher, which grasps at it as tools to keep the dominant-dominee dynamic in a society, the analysis is started to measure how much power advertising has on the minds of the youth,

As a final product, a discussion about how communication professionals understand and tackle the stereotypes shown in children-targeted advertising, which directly correlates to the adoption of binary narratives that legitimize primitive portrayals about being a man or a woman, erasing any possible diversity or flexibility in the representation of the semantic universe of such terms.

## **CHILDHOOD**

### ***What is childhood***

Through examining the position occupied by children throughout the Middle Ages, Ariès (1960) said that the child was for a lot of time thought of as a pure instrument of adult's ideological manipulation and to assure their usefulness to society they were rapidly inserted in the adult universe, as soon as they reached some level of physical independence.

The infant population started to have a bigger role in society only after the seventeenth century, when they started to have a separation from coexistence with adults in schools, in a dynamic named by Ariès (1960) as a "call to reason", in a movement towards the moralization of the man, held by the Church and the State.

This new perception about infancy was born in modern times, together with the idea of behaviour in a social environment and comprehension about the particularities of kids as a result of the continuous distinction between the worlds of children and adults.

Following the displacement of children inside society, in the nineteenth and twentieth century family starts to organize itself around the child, who acquires the role of protagonist in the domestic environment.

Postman (1999), an important communication theorist from the USA, affirms in his book "The Disappearance of Childhood", that infancy is a phase of human development that, while prior governed by biological imperatives, it has its boundaries set by the culture of its society and the times. Age is evidently the defining element of infancy that, together with other identifying categories, like gender, race and social status dictates ways to act, think and experience this chronological step in life and "(...) push all to a set of cultural investments that will try to set and subjectivity child identities" (RAMOS, 2013, p.12)

As stated by Heywood, infancy “is a social construct that transforms with the passing of time and it varies between social and ethnic groups inside any given society. Exactly because of that it isn’t feasible to think of a universal, natural child, determined by biological making (...)”. (HEYWOOD, 2004 apud NOGUEIRA, 2017, p.2027 and 202)

Still, according to the widely spread notion by common sense, the inherent characteristic to childhood is its incompleteness, the child is seen as a possessor of ingenuity, innocence and purity and as such is constantly subjugated and deemed as incapable and inferior to an adult.

According to Cohn (2013) by subjugating childish behaviour to the conditions of adult life, the nuances and singularities presented by children are disconsidered. Therefore, the comprehension of this stage of the human life cycle, with its vast array of meanings is inviabilized, given that the boundaries set to childhood strive for a normality, a referential of what it is to be a kid inserted in a society. Such referential is safekept by school, family, media and even by medicine.

Furthermore, Marchi (2017) attests that the normativity of childhood, that bases a concept created by him, the “process of infancy institutionalization”, can be interpreted as a fundamental question to discuss the boundaries societies impose such prerogatives in this stage of life, when disconsidered the specificities of infancy expression. Given that, the comprehension of the concept of normativity is as follows:

*By normativity, we understand the set of rules and symbolic and juridical dispositions (explicit and implicit) that regulate the position of children in society and guide the relation between them and adults, in the contexts of face-to-face interactions, in institutions and in the policies of childhood. (MARCHI, 2017, p. 953)*

Schindhelm (2013) reaffirms that, under the prerogative of not being equipped with the tools necessary to understand the world of adults and not having enough maturity to handle certain life situations, even in contemporary society there still is the intent to place the child as a being of lack and incompleteness. This affirmation is strongly contested in the twenty-first century, in a society defined by the quick and intense exchange of information, made possible through communication technology such as the TV and the Internet, through which kids are exposed to any kind of content. A study by *Nickelodeon Kids & Family GPS 's Connected Kid* which researched kids between 4 and 11 years in 10 countries around globe, 72% percent of kids consider watching audio-visual content as their preferred entertainment activity and 78% of these choose platforms such as YouTube to access that content, being that so that the means of communication are not only a way of acquiring knowledge but also popular entertainment platforms to the youth. They are slowly reclaiming their space as active agents in their formation and as beings capable of understanding what was previously denied to them given their apparent lack of capacity (Avancini, 2014).

There are people who state that the quick and intense access to information and the way contemporary adults live might be transforming infancy into something obsolete, an old-fashioned culture, because the boundary between child and adult is ever growing thin. (Nascimento, et al. 2008)

For the concept of children in modern times it’s necessary to, other than the mere stage of life every individual must experience, understand it in all its idiosyncrasies, having its actual arrangement and ways of operating, not it’s supposed one, seen.

Avancini (2014) exposes that in a generalized way, the tendency, today, is that the child will become more and more active towards their development and engaged in diverse spheres of

society, taking part in production and diffusion of knowledge, widely aided by the intent to establish the means of communication, specially the internet, as democratic means to an entire society. With that, family and school stop being the only sources of knowledge and information because the medium becomes a determining element in the formation of the young ones.

### ***Childhood in Brazil***

To introduce the situation of the child in Brazil it is necessary to establish the context that Brazilian society throughout its history was defined by its stratification, inherited from the times of colonization and slavery. With the large influences of Europe and the Church.

The scars that remain from the asymmetry between slaves and lords contributed to the large discrepancy in the distribution of resources and access to education that persists to today, segmenting the population between those who have nothing and the ones who does, which is aggravated in the case of children. Supported by Ariès' (1960) idea about the correlation between feeling of infancy and feeling of social strata, an analysis can be made more complete about the institutionalization of the child in Brazil, a country that presents different pedagogical models that exist because of the differences in social status.

As a consequence of the chasm between kids of diverse social strata, different roles are attributed to them. The predominant understanding is, without a doubt, the bourgeois concept of childhood could not be more distant to Brazilian reality and the State, instead of finding integrating mechanisms for the unfortunate, created an even larger rift to the point of excluding these individuals for long decades.

An extremely relevant aspect brought to light by Menezes, Castro (2013) refer to the clear gap in the interpreting given to child personalities in Brazil, classified as "children" and "minors". To these "minors" a different set of rules was in place where work was allowed and the protection of patriarchal power or the public one was from form supporting them. On the contrary to the ones on the category of "children", who were educated from a young age to become productive adults to society and their right to an education and a good life are guaranteed by the State and their favourable social status. The media has a fundamental role on building this gap between these two different infancies.

The comprehension of infancy in the country goes directly up to the arrival of the Estatuto da Criança e do Adolescente (ECA) in 1990, that contributed in revealing to Brazilian society the need to not only differentiate the adult stage from the child one, but also to safeguard kids as an individual with rights going through a stage of cognitive development and vulnerability. The state starts to have a fundamental role in preserving the fundamental conditions necessary for their development and children become a focal point to society's eyes (LOPES, 2007)

Thus, through examining the reality of Brazilian children it is possible to notice their silencing through institutions like the school, the State and even their own family. Conditions are imposed upon them to sometimes guarantee survival and discipline sometimes, or prosperity and cility in others. But even silenced the kids have a lot to say about the world, even without the usage of words, and it is through the younglings that the problems of such an unfair and unequal society as the Brazilian one become evident.

### ***The development of knowledge in childhood.***

Both authors' views shown in this analysis are constantly referenced to in contemporary studies about infancy, education and pedagogy, because they present children as active, thinking beings in their process of assimilation and production of knowledge and that, based on their coexistence in relation to adults, they idealize several concepts and theories about the physical and social worlds. These are Piaget and Vygotsky. Silva (2011) suggests reflection that the goal is to build an updated interpretation about children and childhood, not looking through them but from within, considering them as individuals who have their own histories, personalities, thoughts and that they assimilate and reproduce constantly different knowledge and values, freeing them from the natural purity imbued to them not in a so distant past. To understand that the young ones are the protagonists of their own stories, "therefore, product and producer of culture" (Silva, 2011, p. 50)

A child absorbs the knowledge and values from past generation through social relations. Vygotsky (apud Coelho, 2012) classifies teaching as a social process and highlights that during infancy they slowly appropriate the means of psychological functioning, behaviour and culture.

According to Dantas, Oliveira and La Taille, (1992), Piaget was the first to set more concrete boundaries to the notion of "social being" and also to investigate social factors that contribute to shining a light in human development. Reason and intelligence, and also the creation of concepts, are developed with social determinations with an environment to solidify themselves, while also factoring some biological factors.

The focal point of this analysis is to comprehend, such as Vygotsky (apud Koll, 2010) defines in their socio-historic-cultural theory that the transformations human beings experience during their development process are subjugated to the culture within which a subject and their interactions with society and also their opportunities and situations of learning.

## **GENDER**

### ***The concept of gender***

*"Gender, s, just a grammatical term. It is used to talk about people or creatures of the male and female gender, with the meaning of being of the male or female sex, creating a joke (whether appropriate or not, depending on the context) or a misconception" (Fowler, Dictionary of Modern English Usage, Oxford 1940)*

The term "gender", from the English language, was utilized only to signify male or female and was appropriated to Portuguese also to designate the divide between the sexes - designating the natural and unchangeable- and gender - socially constructed notions.

Within the meanings presented by Guedes (1995) in the article "*Gênero, o que é isso?*" for the word gender, one can find: "any grouping of individuals, objects and ideas with shared characteristics" and also "category that denotes, through desinences, a division of names based in criteria like sex and psychological associations" (Guedes, 1995 p.5). In this last meaning the male, female and neutral genders are acknowledged. Still within the realm of meanings, the authoress discourses about the meanings attributed to men, always relative to virility, power and strength, with no derogatory terms, and to women, relative to reproduction or to promiscuity, with the social space of the term "women" inexistent outside these boxes, making evident the power relation between individuals pertaining to these groupings.

The making of the term gender within social movements happened mainly through the feminist movements, mainly since the 70's, a movement that reclaims respect for women's rights and

equity between genders. According to Consolim (2017), the first wave of the movement rose in the USA and the UK at the turn of the twentieth century, guided by liberals based in ideals of individual freedom and equality. The movement was composed only by middle-class white women that demanded “juridical equality, right to vote and to the access to learning and liberal professions and also to oppose arranged marriage and the ownership of married women by their husbands.” (Consolim, 2017). In the 60’s and the 70’s the ideals that composed the second wave of the movement arose, especially in France and the USA. With the banner of gender prejudice “It searched for a policy of respect towards the differences and for equality of rights, based on the acknowledgement of the equivalence between the genders instead of superiority.” (Consolim, 2017). It is at this moment in the history of the movement that women realized that sexism is structural, being able to recognize it in aspects of their personal lives that reflect the reaches of this chasm in the power struggle. It is during the 80’s that sex also came to be understood as a concept also built socially through culture and history (Carvalho, 2011). The positive outcome of the second wave of the feminist movement is that the old role model of women began to be questioned and that new ways to perform the female gender began to rise. The third wave started at that time and is ongoing even today, and has as its main line of questioning the change in the stereotypes in the representation of women through media and the terms used in reference to them.

Utilizing the post-structuralist perspective, that highlights language as a set of symbols central in communication, interpreting and representation of gender that abandons the boundaries imposed by biological predeterminism, the concept of gender lays on a relational realm including elements that go beyond bodily functions inherent to sex and that encompass cultural meanings claimed by these bodies. (Scott *apud* Sabat, 2001)

Therefore, gender is the medium through which we give meaning to the ways to express the identity of sexed bodies and it is through gender that we normalize behaviours associated with the male and female sexes and notice the biological differences between bodies. They are archetypes built socially to frame the differences between the sexes.

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*“ (...) the term “gender” becomes a form to point “social constructs” - the creation entirely social of ideas about the roles adequate to men and women. It deals with a way to reference the origins exclusively social of the subjective identities of women and men. “Gender” is, according to this definition, a social category imposed on a sexed body”. (Scott, 1995, p. 75)*

In this context, the sexed body is placed as a passive medium over which culture’s devices act, assuming determined meanings and giving life to representations relative to both sexes. The body is a fabric subject to the brandings of gender that emphasize the biological differences. The being shaped from the juxtaposition of meanings is an amalgam of specific cultural relations e historical convergences. Thus, it becomes apparent that people can only be comprehended after the acquisition of a gender conforming to the standards known, otherwise, even their acknowledgement as people ends up being denied.

To discuss gender, it is impossible to ignore issues relative to sex and the distinctions that authors like Beauvoir (1949) make between sex and gender. The first would be an element bound to the biological factor, to nature, referring to the constitution of the human body, while

the second one, a social construct with standards of gender behaviour, that being, being a man or a woman isn't a natural act, it is something social and performatic. (Beauvoir, 1949)

By placing sex as an element bound to nature and therefore immutable and static, we assume and "perpetuate the idea that there's a nature that can be apprehended a part from the knowledge we produce about it" (Scott *apud*, Senkevics, 2013). Rubin (1993) discusses in her research about the gender-sex relation associated to economic struggles. There, what she denominates "Gender-sex system", means through which society places meaning in the biology of sexed bodies for human activity, shaping and satisfying sexual necessities.

An analysis about the definition from Scott (1995) implies that there are 4 elements related to each other:

*"Culturally available symbols that evoke symbolic representations (which are frequently contradictory); normative concepts that express the interpretation of meaning through symbols, that try to limit contain their metaphorical extrapolations (...) Take the typical form of a fixed binary opposition (...)" (Scott, 1995 p 10).*

Here the authoress refers to elements that contain being a man and being a woman and reflects about the accepted ways of expressing masculinity and femininity. She critiques the lack of politically charged approach by social Institutions and Organizations, that that comprehends gender and its law regulamentation, through which women were subjected to thanks to their historical invisibility and, lastly, the notion of subjective identity that includes symbolic elements that enprison individuals to normative structures to perform the subjectivity

### ***Imposed stereotypes towards sexed bodies***

According to Rohden (2009), stereotypes are a mechanism that mediates relations between individuals and has the function of defining and generalizing, at first, who they are and people should behave in certain groups, in this case men and women, giving them values and judgement. Usually stereotypes are placed through biology, giving anatomy the predominating reason to establish patterns for certain groups. It is through stereotypes that prejudices are reproduced, because they justify natural differences, resulting in behaviours that deny humanity to those who don't fit in pre-established standards and denominate as anomalies people who fail to meet the normality standard.

The main discussion taking place at the moment are the constructs of femininity and masculinity thought since childhood that, as stated before, stigmatize and limit "being womanlike, as well as "being manlike", consolidating differences, generating inequality and restricting the manifestation of human individualities.

Revisiting the definition of infancy from the previous caper, Postman (1999) describes it as a stage of human development tht, before being ruled by biological imperatives, is demarcated by the culture of the society by the time it is produced. Within the main identity categories that places titles upon people are age and gender, followed by race and social standing that delimits the conduct expected from children.

In this stage, children are educated from a rigid set of rules of styles to be followed either in a private or public setting, always aiming towards the normality expected by society in the adult stage, "the child isn't, but they will become" (Araújo, 2010, p.5). And, because of that, places barriers over the "way children live and experience childhood" (Ramos, 2013), distancing them from the protagonism of their own experience and taking their voice in the development of this stage so fundamental to the building of the bases of their adult lives. Based on this concept of infancy so full of barriers and imposings, we ca see

Through the medium of toys, games and mainly garments, kids from both sexes distinguish themselves and it is through this divide between masculine and feminine that we take choices since we're young. In such fashion, it is commonplace for girls to be gifted in celebratory days miniatures of houseware and dolls, binding them to the private space, to domestic tasks and childcare as their domestic responsibility, with the alternative being the lifestyle romanticized by Barbie and other similar dolls - wearing trendy clothes that fit perfectly their unreal bodies, always in luxury cars and surrounded by friends, binding them this time to the universe of futility and consumerism and setting early a beauty standard to be reached. Opposite to that, boys have as toys cars, electronic games, war and fighting miniatures, which reaffirms the idea that the usage of their bodies as a way to express strength and aggressiveness for the male gender is something natural, almost inherit to them and that to them the public and work life are safeguarded.

*“These models of sexual and social behaviours can truly become prisons or sources of acute suffering when boys and girls don't fit within the previously defined gender stereotypes. any struggle adapting or misconduct is at risk of being harshly critiqued and or discriminated against socially” (Rohden, 2009, p. 52)*

By being completely apart from human experiences, the ideals of men and women establish barriers to human life and take the reins of the actions of each individual. Inserted in this analysis is the opposition thought of as universal and atemporal between the male and female universes, as well as the relation both establish where one can't exist without the other. Rubin alerts that, by confronting men and women we disregard the differences existent in both categories and the result of that is that in the aspects where there's no difference, there should be no gender.

## **MEDIA**

### ***Debating media and infancy***

It was previously shown that writing about advertising/media without linking these two agentes to the negative opinions around child consume becomes a challenge, because a large part of the literature concerning the theme has a goal to discuss the legalities around child targeted advertising, taking as a point of origin the influence on a consumerist culture and, therefore, consumerist children. David Buckingham (2007) discusses that such critiques are based on a dubious vision of infancy, in which there's a growing concern to children since they're under a larger number of dangers and threats, in contemporaneity we no longer know where to place them and they're seen more and more as threat to the other components of society, being perceived as violent and unruly, resulting in a large number of deficiencies in society.

Opposed to this outdated view concerning the placement of children and their relation to the media, Buckingham (2007) shines a light in a new, strikingly more positive perspective about the subject. Kids stop being seen as passive victims of media and, by always being submerged in the technological and mediatic realm, are seen as gifted with the powerful “mediatic literacy”, “the newer mediatic technologies, especially, are considered capable of offering to kids new opportunities for creativity, community and self realization.” (Buckingham, 2007, p. 30). This view suggests a relation between adults and children that sidelines the classic hierarchy in which the older hold power towards the younger and pushes them towards obedience, with the arisal of a relation of mutual help and equality.

While analyzing the more positive currents about the subject, Buckingham (2007) mentions Jon Katz (1997), who condemns moralist authoritarianism in the discussion concerning the youth. For him, the contents Postman refers to as a focal point of extreme concern are not necessarily negative in connotation when it comes to children and he understands the guilt placed on the media as an enabler of violent crimes is only a device to shift the focus from the real causes that result in such societal dysfunction. By reaffirming the rights of children to the access to knowledge and information, as to mediatic culture, is to understand them as the protagonist of their story. “our goal, he claims, shouldn’t be stopping children to access such content, but equipping them with the means to handle them.” (Buckingham, 2007, p. 36)

### ***Children focused advertisement as a standard setting medium***

Now this analysis turns its attention to the social function of advertisement, McLuhan (1969 *apud* Ruivo, 2007) states that, when used beyond commercial reasons, this powerful tool makes use of symbolisms inside a culture that masks their deployment as an important diffuser of standards, values and aesthetics. For the theorist, the goal of the advertising message is to mold a social homogenization through the usage of stereotypical characters so viewers identify or aim to, with references displayed in attractive texts and visuals. This way, advertising creates new ways of being and reinforces existing ones.

The presentation of the functional attributes of the product gets sidelined in favor of a symbolic value that expresses subconscious desires and a way to promote public identifying with the lifestyle it represents, with the goal of connecting the interlocutor and the brand’s desires. The big question to be asked then is if advertisement is a reflection of society or if society is a reflection of advertising. He isn’t able to reach a conclusion in his thesis.

In agreement with McLuhan’s (1969 *apud* Ruivo, 2007), about the symbolisms that publicity carries, the’s the concept of symbolic power named by Bourdieu (1989 *apud* Breunig; Souza, 2018). The french social scientist talks about the mechanisms in society that through symbols produce inequality and establishes symbolic power as “the way through which a group that exerts economic power imposes its culture over the dominated ones” (Bourdieu, 1989 *apud* Breunig; Souza, 2018, p. 137). Bittencourt; Barros (2016) craify that it is through this symbolic power present in the communication mediums, culture, religion and education that the social body, anchored in the standardizing of symbols, is formed. The main symbolic system to a society, culture is therefore an ideological instrument working on behalf of the dominant classes.

This conjecture gives place to what he calls “symbolic violence”, which imposes to the dominated class several meaning. The media, specially TV, is an important agent to impose references of behaviour that create a uniform mass culture and keeps the symbolic status quo, since a lot of people still see television as the only source of information.

By transposing these concepts to the reality of their research, Bittencourt and Barros (2016) relate the gender stereotypes presented by the message in advertising aimed at children as a way to promote the symbolic violence that imposes submission and power structures that are nothing other than mechanisms that seek bodily control. Submerged in a patriarchal adult centric culture, kids suffer from the disagreement between generations and sexes, with the female one being particularly unfavored and a growing segregation of boys and girls.

Grounded on Foucault's theories, who approaches the discursive construction of social subjects and the role of discourse in social change, Fischer (2001) departs from the starting point that the mediatic products act directly in the construction of social subjects and comes up with the

idea of “the pedagogical character of media” She speaks about the way how, apart from providing leisure and information, the means of communication also produce knowledge by sharing representations already present in society of masculinity and femininity.

Lastly, Moraes and Schmidt (2010) have a dialogue about the stereotypes in infant aimed toy ads places on children, setting the values of “right” and “wrong, aiming for the distinction of boys and girls and portraying within standards concepts. To girls the pursuit of built is always a central element, even driving them towards competition. Consumerism, attunement towards fashion and the color pink are widely associated to the female realm and are painted as the only pictures that represent the identity of girls, since they are geared towards beauty. The signs of masculinity are ones of strength, courage and virility that, if not present, could compromise their heterosexuality. In this universe, the “opposite sexes” can’t but coexist because they theoretically complement each other, the strong and the weak, the brave and the vulnerable, the delicate and the viril, showing a clear relationship of submission from women towards men.

We can thus point the important educational role children aimed advertising has, using symbolic power as a way to pass on social roles imposed to the bodies of boys and girls during their learning process.

*“ (...) it’s a free pedagogy that narrates the subject as independent and free to choose, while at the same time operating with mechanisms of (self) control and (self) regulation, normalizing social relations and materializing them through images”. (Sabat, 2001 p. 14)*

In the insider parts of the discourse conveyed by children aimed advertising the symbolic violence is internalized by delivering massively the classic representations of femininity and masculinity as the only forms of expression. And to the kids in the process of building their identities who wish for a feeling of belonging the only possible path is obeying to such rules and references on how to act, dress and feel when facing the world.

### ***Children aimed advertising in television***

The focus of this research will be in the ads towards kids shown on television and the question that rises from this choice is, with so many communication mediums, like cellphones, tablets, computers, which are able to take a hold of the attention span of Millennials and are parts of their daily lives, why television? According the the research Connected Kids made by the TV channel Nickelodeon in 2015, television is one of the main sources of entertainment for brazilian kids between the ages of 4 and 11. This same study stresses that the television consumption in Brazil is above the world average, with 71% of the interviewed claiming to watch more than 2 hours of TV per day, while compared to the 51% of other interviewed countries. According to data from IBOPE, the average time kids of this age dedicate to television had a rise of 2,9% in 2016. Cable television had 18.9 million subscribers in 2017 (*ABTA - Associação Brasileira de Televisão por Assinatura*)

Of the fifty most watched shows in 2017, 35 were shown in Cartoon Network or Discovery kids, as shown by the statistics from *PNT - Painel Nacional de Televisão*. It becomes evident, thus, the protagonism television still has in children’s realms, exerting an indispensable role in the industries of culture through mediatic products destined for children. It is important to point out how open television had a decrease in the investment in children focused shows because of the rigid laws placed upon infant targeted advertising.

A study made by *CONAR - Conselho Nacional de Autorregulamentação Publicitária* and *ABA - Associação Brasileira de Anunciantes* (2013) highlights that, when compared to the USA,

China, France, Germany, England, Portugal and other 12 markets relevant to advertising, Brazil is one of the countries with the most restrictive and rigid rules concerning children targeted advertising and that not only there are laws in place but also self regulation rules and sectorial codes of conduct. This is due to the efforts of organizations like the NGO *Instituto Alana* that seeks to guarantee conditions to fully experience childhood, in a partnership with *CONANDA - Conselho Nacional da Criança e do Adolescente* to promote the safeguarding of children and teens rights, an organization that in 2014 released a resolution that prohibited advertising aimed at children, “the practice of directing advertising and marketing communication towards children to persuade them towards consume of any product or service is abusive and therefore illegal” (Santos, 2016).

In general, the rules regulating advertising towards children define that their targeted audience be the adult; the product or service shall not be announced aiming for it’s consume by children; the language, images, sounds and other tools present be void of the goal of raising children’s curiosity or attention, there’s also the disapproval from *CONAR* in relation to the merchandising of products and services aimed at children, the usage of imperative verbs, the shaming of non-consume, discriminatory appeal, within many others rules that severely restrict the communication of products and services to the young ones. It becomes evident that these restrictions are an effort so that children are impacted by advertising in a different way.

## **DISCUSSION**

All the material presented so far made possible an analysis on how the message passed on by children targeted advertising can influence children in their assimilation of gender stereotypes. Beyond that, the bibliographical references and the deep interviews allowed a deeper understanding, from the perspective of professionals in the advertising business and pedagogy about gender and the power struggles imbued in the semantics of words, about childhood and the identifying categories that define it and advertising as a standard setting medium.

According to Ramos (2013), infancy is defined by varying identity categories, mainly age but also race, gender and social strata acting as a way to classify and segregate children in distinct groups. As a way to reassert such categories, children are constantly exposed to “adultified” narratives, always aiming to steer their behaviour towards the expected one in adulthood.

Advertising is one of the cultural investments to which children are exposed to in a daily basis, Louro (2003) also claims that it is through these that it is possible to establish in the lives of children the ideal of heterosexual, binary, sexist normality. To such end, they’re exposed to the symbolic violence of the standards of femininity and masculinity reproduced by society. It is through this repetition from diverse realms of life that children start to take such standards and incontestable truths that determine their behaviour.

The people interviewed also seem to point out a pedagogical quality to advertising, by understanding that it also works as a producer and reproducer of knowledge, even without it being its end goal, as shown in the speech by the interviewed person named A., that once again states, “So advertising does have a role in education, it’s not it’s essence but it cannot flee from that”. B. Also says “When you frame the context in such way, you are naturalizing it and teaching people that it’s the correct one (...). I think that advertising either impacts or at least interferes in the gender construction education, because it literally reinforces stereotypes (...)”

From these answers by professionals of pedagogy and communications, it was possible to notice that a few of them connect children aimed advertising to gender issues, the consumerism in

childhood is pinpointed as something much more relevant to be discussed. This research allowed proving that discussing advertising/media and childhood without linking these two agents to the critique towards children consume and approaching the topic without bumping into the classic discussion about its legality was a great challenge throughout the entire research process.

The shallow understanding about gender is another challenge yet to be surpassed through the research, being frequently seen as a synonym to sexual orientation, one of the interviewees called A. expresses in their speech: “Yeah, not concerning gender in the sense of sexual attraction, but it seems to me that there’s been a raise in the number of female characters with the role of protagonists”. In just a few moments the term becomes related to the meanings that sexed bodies assume in a society. Even without a deep understanding of the term “gender”, the interviewees were able to see the stereotypes present in child aimed advertising. The interviewee called C. represents such: “It stereotypes in a way that a girl takes care of the baby, a girl cooks, (...) we’re going to pay more attention to certain values that are screwing somebody’s life”. Although, a limiting factor is that, despite being able to comprehend and see the issues in such stereotypes, a lot of them weren’t able to take them off child aimed advertising when asked to plan a campaign for their favourite childhood toy, once again the interviewee titled C. states that the ad about Autorama, his favourite infancy toy, “would be more masculine than feminine, a lot more. Because its car caring. Then we go back to the issue of the stereotype that the girl won’t want to play with the miniature car, the girl will prefer playing with dolls”. Such statements build a contradictory discourse, because at first the interviewee points the issues these propagated stereotypes produce and then he reinforces the same ones, even after claiming how damaging they are to the lives of people.

Discussing gender is important, because it is through gender that a meaning can be attributed to bodies and the way to perform identities. It is through gender that the expression of male and female bodies are normalized and encased. Still, it was possible to notice how the interviewees ignore the fact that these stereotype impact how childhood will be experienced and differences and diversity will be experienced by children until they get to adult life.

The discourse of the interviewees is always followed by justifying that it’s not up to advertising to question such roles, even if it is a problem, the interviewee named A. said “(...) you have to remind yourself that advertising is conservative because it will make use of elements that already exist and that its main goal is not to provoke social transformation, it only has to reach, at least at first, the goals of the briefing”.

With that being put, interviewees struggled to see advertising as a driving force to any kind of transformation in social paradigms, even though it has been performing that role and being a parameter to a lot of changes in society. Brands like Avon, L’oréal, O Boticário and many others have started rethinking their role in society and understanding they can be active agents in change. This context is aggravated when noticing these are the professionals that are in the workforce, thinking about the products to be consumed within a society, showing such passivity when confronting gender issues and even more when asked to suggest solutions to a problem they could identify by themselves. It is possible to see they are a mirror image of the market they are inserted at, where few brands take risks to provoke change and these communication professionals hide behind masks given to them by brands, exonerating them from any kind of responsibility, because it is known that, at the end of the day, the client pays the bill, so their needs are the ones that should be met.

The focus of the research is children aimed ads of toys shown in cable tv and an important claim about the narrative of advertising message of toys on tv pointed by the interviewee named B. is that a lot of ads are imported from countries with low diversity and this impacts the ideal built during childhood and aimed for from the youngest age. Throughout the interview's television ads were overshadowed by the protagonism of digital platforms like Youtube and Netflix, where children have total control over the content. Television has thus been relegated to another screen in their context, and the interviewee named C. makes it evident by stating, "The child does not care about traditional media".

Only one interviewee is able to grasp a realist analysis about the new generation consuming advertising, the Millennials and through such express the real need of approaching the issue of gender in advertising. The interviewee named D. states, "They're a people who search for diversity and representativity at all moments, including in advertising. Because they don't see themselves represented, and not only in ad campaigns, (...) there's more of a critical thinking in this generation when compared to the previous ones". What she points out is that there's a clash of generations between the old and reputed professionals in this market and the new ones that are also part of the new generation of consumers. Between the interviewees that are from the old guard of communication professionals, it was possible to notice a larger resistance to connect the issue of gender with advertising and it becomes evident the paradigm shift from generation to generation.

Having in mind the thought that children will be in contact not only with advertising geared towards them but any other mechanisms pertaining to the field, the prohibition of children aimed advertising shows itself as insufficient. Therefore, the main question faced by this research is how can child aimed advertising exist in such a way that it is enriching to children and so it is able to help their shaping into adults that celebrate diversity and that are conscious about what they consume.

It was possible to understand that, in the view of communication professionals that advertising can be one of the mechanisms utilized to shape the mindset of children. And also the role of the Communications field faced with elements that places ideas upon male and female bodies through the research with such professionals.

With a clear view of the reality of advertising today, the obstacles yet to be faced with the goals of inducing the production of a more diverse advertising are: promote the understanding concerning gender and move on from the outdated view of professionals who are currently in the market that advertising has little or naught to do with provoking social and gender paradigm shifts.

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*Track 09 Creative Economy*

**ID #690**

## **Interaction design for the development of an approach between product brands and digital influencers**

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### **Abstract**

*The aim of this research is to gather information and inputs for the planning and development of a digital product (interface) that will be able to improve the relationships between digital influencers and brands. To achieve that goal, we used key concepts such as social networks, digital influencers, brands, interaction design and interface usability. We also studied a focus group composed by users of social networks who did not feel influenced by them. At the same time, we did semi-structured interviews with people that are influenced by social networks, in order to understand the behavior of these profiles. Finally, we took into account the behavior of digital influencers and their recruiters in order to understand the process of how the profile is chosen, as well as the recruitment, selection, follow-up and metrics, in order to identify their needs. Then, the collected data served as input for the creation of personas and scenarios that made it possible to draw a complete picture about the main user, which allowed us to design the tool. The materiality occurred through the product sitemap design, as well as the main streams and wireframes of the most important screens. The objective was improving the relationships between digital influencers and brands.*

**Keywords:** Digital Influencer; Social Networks; Interaction Design..

### **Acknowledgments**

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## INTRODUCTION

The development of society and communication technology is mutual, one changing the other simultaneously. Hardware technology evolves rapidly, users increasingly become demanding and "dependent" on it. Just as it happened in the past with writing and electricity, new technologies evolve to become invisible in the environment and ubiquitous, interacting with users in their cars, appliances and even clothes (PINHEIRO, 2007).

According to the annual report released by Facebook (State of Connectivity 2015), the number of Internet users worldwide grew 200 million in 2015, totaling 3.2 billion people connected. This growth has been consistent and can be justified with increased use of portable devices such as notebooks, tablets and smartphones.

Brazil ranks fourth among the most connected populations in the world, falling behind only China, India and the United States. It is worth mentioning that the device most used by Brazilians for access is the smartphone, accounting for 45% of the national index (GfK Connected Consumer Index 5th edition).

These portable devices effectively represent the extension of the human body to the virtual, as evidenced by systems, technological applications of high persuasive potential, with social networks as the main product in prominence, which enabled not only worldwide communication but have also allowed any user to become a content generator.

In this context, where there is the possibility for each individual achieve great exposure somewhat easily, whoever is able to produce any content regarded as having greater relevance, will end up attracting interest from a larger number of people, and therefore, will gain a certain "power" of influence over the followers, and such "power" is highly coveted and seen as a good opportunity for those brands wishing to be closer to their respective target audiences; such people having such "powers" will then become the so-called: Digital Influencers.

According to a study carried out by YOUPIX, there are some classifications that will divide such Digital Influencer in 3 categories:

- Alphas: those who are able to create trends, who have the potential to launch trends and gather a large volume of followers;
- Betas: those who are trends disseminators in a more spontaneous way;
- *Mainstream*: those who consume and replicate the trends.

In this way, brands are now designed to reach out to these Digital Influencers and tighten their ties with them, but to do so, they need to find out who they are, and who are the ones that best fit the values and thoughts that your brand conveys. In this context, this article questions how brands interact with digital influencers, the value perceived by brands in "using" these individuals as channels for brand exposure, campaign launching and product. To understand how a tool designed to facilitate their rapprochement would be.

This research starts with the key concepts of the project: Internet, brand communication in digital environments, social networks and digital influencers, besides interaction design and interface usability to explain why they are relevant and essential applied to a product. In the sequence, such methods and techniques that account for the mapping of functionalities for a future interface creation are discussed. These techniques include: focus group and interviews. They were employed as fundamental steps to help the public to understand, as well as their routine, goals, frustrations and how they would be using the interface.

## **THEMATIC DESIGN**

### ***Theme***

A theme of interdisciplinary nature was chosen, starting from a greater exposure of the user to the world of digital products and social networks. In this way, ordinary people started to generate content for other people who, in turn, would disseminate to others.

As a result of this, the interest of the brands in being present in the daily life of these influential users comes up, where they increasingly seek to appear in such "channels" and to be closer to their respective target audience.

The "Digital Influencer" provides the link where technology, brand strategy, and target audiences overlap. How brands would be able to find the ideal Digital Influencers in line with their strategy and image would be today the real deficiency.

Based on the study of related areas, such as experience, strategy and communication design, the research will focus attention on the development of a digital product capable to meet this need, as well as on helping narrow the conversation between brands and influencers.

According to Lakatos & Marconi (2003), the theme in a research is that which one wishes to prove or develop. This is a difficulty, still unresolved, that needs to be accurately identified for later critical evaluation.

Based on this definition, the theme of this research can be defined as: "Use experience for product of approximation between Brands and Digital Influencers".

### ***Starting question***

How would it be the interaction design of functionalities of a tool capable of facilitating the approach between brands and Digital Influencers?

### ***Justification***

A survey by *PricewaterhouseCoopers* (PwC), found that 77% of Brazilians had their recent purchasing decisions directly influenced by social networks.

This data alone calls attention, but when compared to the world average, it becomes impressive. The survey, which interviewed nearly 20,000 consumers in 19 countries - the United States, Canada, Chile, Brazil, United Kingdom, Switzerland, France, Germany, Denmark, Russia, Belgium, Italy, the Middle East, Turkey, South Africa, Japan, China, Australia and India - between August and September 2014, found that the global average impact of social networks on consumer's buying decisions is 62% versus 77% of Brazilians.

As a result, brands' interest in such channels increases more and more. Advertising, which has always sought ways to persuade and delight its public, has seen social media and blogs as a way to get close to potential consumers. According to a survey by BR Media Group, it is expected that in 2016 companies will invest 30% more in communication strategies using Digital Influencers. Therefore, the socioeconomic moment in which we live, the consolidation of the market, the transformation of the digital media and the ways to relate to them, together with great the real time access to information in a global scale, will contribute to the feasibility of the studies needed for my research.

Accordingly, understanding how people relate to digital influencers and how brands can take advantage of this is an essential

step in understanding how a tool can narrow the relationship between them.

By understanding people as agents capable of generating content and impacting a mass, digital influencers become potential channels for brands. The study of this interrelationship has the potential to foster an evolution that permeates the technological and behavioral aspects of our society, as well as contributing to a new era of communication.

### ***Objectives***

The Objective of the research is to gather information and elements for the planning and development of a tool capable of narrowing the relations between Digital Influencers and Brands.

## **THEORY FRAMEWORK**

### ***Social networks***

The emergence and improvement of the Internet's social network, where relationships between individuals have become more diversified, which makes access and search for information more precise and easier, just as mobile-based (communicational technologies), becoming extensions of man and allowing access to people and information everywhere, have caused several impacts on society, changing it and altering it.

According to the Social Media Update 2016 survey, Facebook is the world's largest social network, with 79% of Internet users registered (75% of male Internet users and 83% of female Internet users). The vast majority are in the age group of 18 to 29 years. Then, the second most used social network is Instagram, with 32% of Internet users (26% of the men who use the Internet and 38% of women who use the Internet), covering the more active 18-29 years age group (with 59% of users).

Contrary to the information sent to traditional media, news in digital format provides more opportunities for wired people to interact with journalists and the authors of stories and contents, making it possible to share their views and experiences in general.

In this context, we can apply the comparison Manuel Castells (2003) made between electricity in the Industrial Age and Information Technology today, stating that the Internet can be equated with both the electric grid and the electric motor, due to its ability to disseminate information through every domain of human activity. Also, according to the author, "the Internet is a means of communication that allows, for the first time, the communication of many with many, at a chosen time, on a global scale". A social network is defined as a set of two elements: actors (people, institutions or groups, network nodes) and their connections (interactions or social ties) (Wasserman e Faust, 1994; Degenne e Forse, 1999). Raquel Recuero (2009) states that a network is thus a metaphor for observing connection patterns of a social group from the connections established between the various actors. The network approach thus has its focus on social structure, where it is not possible to isolate social actors or their connections. So, with all that potential, social networks and blogs have become sources of search among those people who are looking for more information about a product before purchasing it.

The consumer's interest in researching information in an "informal" source such as a blog, for example, is often due to the fact that the consumer is approaching and identifying the "normal" person on the other side of the content.

This ends up generating a bond, an approximation, and a greater sense of trust: "he is like me, he would not lie to me". Today we are bombarded by information whose credibility we often suspect, it will be very easy

### ***Digital Influencers***

The possibility of greater user exposure in the world of digital products and social networks, along with the ease of content creation, change "ordinary people" into "product" agents for others who in turn disseminate to others. The logic of this "one to many" and "many to many" message can be compared to word-of-mouth marketing.

According to Shirky (2010), we are currently experiencing a "revolution" centered on the shock of including amateurs as producers, a scenario in which we no longer need to ask for help, nor even permission to professionals to say things in public, and for this reason, it is necessary to rethink the basic concept of media. It is no longer something we only consume apathetically, but rather, something we actually use, interact and transform. And this results precisely in the breakdown of pre-established concepts about the media, since the old (consumption-only) model begins to have less meaning.

Digital networks are causing the fluidity of all media to increase, where the old choice used to be between one-way public media (books and movies, for example), or two-way privately owned media (such as telephone), now undergoing expansion and including a third option, the two-way media that works on a scale of both the private and the public. All production, information and content can now slide from one to the other. One single book can stimulate one single public discussion in a thousand simultaneous places, an e-mail conversation can be published by any of its participants, and anywhere if through a mobile.

In this context, a new concept related to behavior also emerges, namely "connected individualism". According to Rainie & Wellman (2014), this connected individualism has extended its reach throughout the Internet, by obtaining new tools that enabled the creation of content, search for information, formation of groups that meet their needs and ease in making themselves heard in various networks, to whom it may concern. Thus, it is now possible for anyone to become an author within the universe of Cyberculture through the free process of creation and sharing in a network.

As defined by Lévy (2000), the communication is now horizontal and public, we can refer to the fruits of Web 2.0, such as social networks, photoblogs and blogs, which have gained worldwide support in the last decade because they provide spaces that would allow proliferation of own content or the execution of a collective material. That is, a talent that in the past could easily be misused, or even never discovered; today, it is easily projected onto the net to reach a large mass. As a result of that, the interest of the brands in being present in the daily life of these influential users comes up, where they increasingly seek to appear in such "channels" so as to be closer to their respective target audience find positive information about a product on the product's page and the official brand's page, it is clear that this is an environment where negative points will never appear, but in a context which has the approval of a real person that the follower admires, the story changes sides.

Such digital influencers are liked by the followers, and have seen references within the subjects they follow (fashion, health, beauty ...), so the credibility associated with their image is very high and they have the multiple social channels that exist today ( YouTube, Instagram, Snapchat), the followers practically "live" the life of the influencers because of all the record involved. Thus, by understanding people as agents that generate content and impact a mass,

digital influencers become very interesting and potential channels for brands. Thus, it seems that the "Digital Influencer" provides the link where technology, brand strategy, and target audiences overlap. Technological devices allow for greater dialogue, especially with public characters that were previously impossible to achieve.

### ***The interest of brands***

According to Lévy (1999), the three principles that guided the initial growth of cyberspace were: interconnection, creation of virtual communities and collective intelligence. Where it still considered that interconnection would be, one of the ideas, or even the strongest points in the origin of the cyberspace. For cyberculture, connection is always preferable to isolation. Connection itself is an asset.

Because of all this ease of exposure on the internet, and after the arrival of the mobile (also easy to stay connected at all times), the main content creators end up having a high power of influence on their follower mass. They are "normal" people, dear ones, and they possess a great "seal" of credibility and trust, thus becoming a channel that the brands increasingly wishing to be present.

Indirect Marketing, which is based on the insertion of advertising in the midst of the content of programs or even films, for example, has been used for decades, and advertiser-financed media (MFA) is a natural evolution to this concept.

Marketers love Indirect Marketing because in a media environment, where it is increasingly difficult to get people to pay attention to anything (especially to advertising), this method works as a loophole within the presented scenario. According to a study developed by Microsoft and released in 2015, the average people's attention time fell from 12 seconds in 2000 to 8 in 2013. This drop in concentration level puts humans simply below even a goldfish (which is able to stay alert for up to 9 seconds). According to the survey, this decrease is a result of the mobile revolution. The arrival of smartphones and tablets has spread the connection to the digital environment steadily.

In this scenario, we cannot simply skip Indirect Marketing because we cannot help but watch it without losing part of the original content, and that's where the big insight of the model lies: the brands take ownership of the context of the digital influencer's content as a means to have their brand exposed, the follower wishes to consume the influencer's content, so it ends up also consuming the exposed content of the brand. In addition, Castells (2003) states that Internet culture is the culture of its creators, formed by a set of values and beliefs that formed the behavior, as well as the behavior patterns that generated the habits that are replicated, both by institutions and by individuals. Culture is the collective construction that transcends individual preferences and influences the practice of the individuals in its environment and divides the culture of the Internet into a structure divided into four layers that, together, will contribute to the ideology of freedom disseminated across the network.

The idea that users do not have a "second life" or even a "second personality" is advocated by Raiei & Wellman (2014), who assert that real and online interactions are always intertwined, proving ways of communicating through message, email, Facebook dialogues and posts or direct posts on Twitter are present in the daily lives of many users who want to stay connected.

Thus, the "online image" of the influencer ends up simply being an extension of its "offline image," and this ends up becoming that which is most valuable for the brands, it is precisely the context of the Digital Influencer, the values that it exhales, and the people it inspires, which brands want to take advantage of, thereby becoming also an extension of the influencer's world.

## ***Interaction Design***

Interaction design, according to Rogers, Sharp and Preece (2005), is the design of such interactive products that will support the daily activities of the individuals, whether at home or at work. That is, the interaction design concerns such options involved in the overall accomplishment and completion of tasks.

For Saffer (2007), in turn, interaction design is more related to human behavior than to the appearance of the actual screen or the hidden functions of an interface, which is partly true, since in fact the interaction design is directly related to human behavior, but the appearance of screens, for example, also influences this behavior because they meddle with the user's cognitive part and their emotions, which Norman explains: "emotions are inseparable from cognition and are part of a judgment system on what is good or bad "(Emotional Design, NORMAN Donald A. 2004, p.13); to his mind, in fact, an emotion makes you smart, and also based on his own research he states that attractive objects will work best.

## **RESULTS**

### ***Focus Group***

The focus group was chosen to be the first study method because it allows users' information to be obtained more quickly and informally than by using other data collection techniques. Direct interaction between participants stimulates discussion and enables responses to the initial questionnaire to be more enriching for the project.

According to Krug (2006), focus group is a technique employed in research dynamics with a group of people in order to obtain certain pieces of information generally used to test new concepts, to evaluate advertising and promotion campaigns, to develop questionnaires, to help in the creation of new ideas, to assist brainstorming, to position product or service and to estimate the usability of a product. But what one should remember is that this technique should not be employed to actually make final decisions, to explore very particular and personal topics, to answer precise "how many" or "how much", to set up the final price of a product, or to research for a group that is unable to understand the purpose of a qualitative research, as a way of achieving a certain saving (of money and time) from a quantitative research.

The purpose of applying the focus group in this project was to obtain information about the behavior of those individuals who use social networks and who are not regarded as "influential" by them. Precisely to understand their speeches and their reasons for giving or not credibility to someone in the digital world to the extent of feeling influenced or not by said someone.

The questions included in the discussion script follow:

- 1) Do you use social networks?
- 2) Which ones do you like and use most?
- 3) Where do you access social networks? (Mobile? Computer? Tablet?)
- 4) At what time of the day do you access? (At home? At work? On commuting?)
- 5) What about other content platforms? Do you consume? YouTube? Blog?
- 6) What kind of people do you follow in social networks?
- 7) What kinds of celebrities do you follow on social networks?
- 8) Why? What do you like to follow in the lives of celebrities?
- 9) Do you follow people who are "celebrities" only in the digital world? Why?
- 10) What attracts you in these people?

- 11) What do you think when these celebrities post some product on social networks?
- 12) Do you trust what they post? Do they influence you in any way?

A Mini Focus Group was then carried out, the group included 3 individuals to be interviewed, (this evaluation with fewer people per group has the same orientation as their research planning with larger groups), all individuals who participated would use social networks, and were aged between 25 and 30 years. The focus group lasted 58 minutes, with moderation performed with the aid of an audio recorder for future analysis of responses.

The opening question "Do you use social networks?" started the discussion. The response was unanimous, all participants used social networks, the social networks,

when asked which they liked and used most, the favorite ones varied a lot among the respondees, but all were big users.

The social networks surveyed included: Facebook, Instagram, as the main ones, and Twitter and LinkedIn as secondary. Everyone had used Orkut in the past, and Spotify was cited as a potential new social network. Following the session, when asked about where they would access social networks and, at what time of day, the immediate answer was "all the time" on the part of the respondees, also stating that when they are not on the computer, they would access social networks through smartphones.

When asked whether they consumed other content platforms, the most cited was YouTube, but not as something very popular or part of the day-to-day of the group, and mostly when redirected by another social network, such as Facebook.

Then, when asked the question about the type of people and celebrities they would follow in social networks, the answer in a general way was "people known", "friends", one or another "profile" with a specific content of their interest, such as food, entertainment and sports, and few celebrities actually had their names mentioned.

When asked about following people who are (or started to be celebrities) in the digital world, and what these people have of interesting, in general, none of the respondees admitted to following someone. But in the continuation of the interview, some curious comments came about. Respondees would even consume content from a few digital influencers, but did not "assume" to actually be following them. They would proactively go after the profiles to get the content without committing themselves to the "following". Respondees said they did not see credibility in the content posted by these celebrities.

Finally, when asked what they would think when such celebrities posted a product on social networks, whether they would somehow trust what they were posting or whether it would influence them in any way, they generally answered that they would not feel influenced. That they knew that those people had been paid something to give that opinion, they no longer had so much credibility after this became more "professional".

### ***Interviews***

As second applied technique, the semi-structured interview was chosen with the objective of proceeding with the data collection, besides providing insights to the functionalities required by the tool so as to meet the needs of both the recruiting profile and the digital influencer.

Markoni & Lakatos (1996) state that the interview is the meeting of two people so that one of them will obtain information about a given subject through a conversation of a professional nature, a procedure used in social survey for data collection.

In semi-structured interviews, the interviewer asks pre-established questions that he/she considers to be key, but is free to go further, and then develop new questions throughout the process seeking to make the responses to be more complete and get the most out of each interviewee.

In relation to the interviewees, as pointed out by Nicolaci da Costa (2007), a type of recruitment was favored that allows the framing of the participants in what is referred to as "high definition profile". Accordingly, three types of samples from three individuals were selected. The secondary data used to choose the age group of the first profile was that of the survey carried out by Social Media Update 2016 (which pointed out that the majority of social networks users would be in the age group from 18 to 29 years old). The ideal profile, therefore, would be composed of individuals aged between 18 and 29, who frequently used social network and followed digital influencers. The second sample was made with three individuals who work on the recruitment of digital influencers for the brands. The third sample was made with three individuals who are considered to be digital influencers.

For the sample of the first profile, the script is very similar to the one used for the focus group, only adding more specific questions to the profile of the interviewees selected for the interview. This was done because the objective was precisely to survey the behavior regarding the use of social networks and the perception of influence that the individuals would claim to have or not of the content presented, comparing it with the profile of the focused group.

### **Script:**

- 1) Do you use social networks?
- 2) Which ones do you like and use most?
- 3) Where do you access social networks? (Mobile? Computer? Tablet?)
- 4) At what time of the day do you access? (At home? At work? On commuting?)
- 5) What about other content platforms? Do you consume? YouTube? Blog?
- 6) What kind of people do you follow in social networks?
- 7) What kinds of celebrities do you follow on social networks?
- 8) Why? What do you like to follow in the lives of celebrities?
- 9) Do you follow people who are "celebrities" only in the digital world?
- 10) Why? What attracts you to these people?
- 11) What do you think when these celebrities post some product on social networks?
- 12) Do you trust what they post? Do they influence you in any way?
- 13) Have you ever bought/consumed something you got to know from influencers? Why?
- 14) What kind of things do you consider most likely to acquire after you have seen an influencer talking about?

For the sample of the second profile, the objective of the script was to investigate the motivations and the search process of the digital influencer for the brand.

### **Script:**

- 1) Do you often select Digital Influencer for campaigns / actions / promotions?
- 2) Why do you choose influencers for this?
- 3) How do you set the influencer's profile and preconditions for campaigning?
- 4) Once you have set the type of profile of the influencer, how do you perform the search to find them?
- 5) How do you get in touch with the influencer and how do you negotiate the contract terms?
- 6) How do you deliver the posting guidelines to the digital influencer?

- 7) Do you focus on a specific social network?
- 8) How do you assess today the success of a campaign / action with a digital influencer?
- 9) Have you ever faced a problem hiring influencers?
- 10) Which part do you find most difficult in this whole process? From the stage of selecting the influencer profile until you find the ideal influencer, get in touch, secure the post and measure the result? Why?
- 11) Do you have any concerns when hiring digital campaign influencers?
- 12) Do you know any tools that could facilitate the search for digital influencers?
- 13) YES > What did you feel on using it? What do you like about it? What do you dislike about it?
- 14) Not > If there were any tool that could facilitate your search would you use it? What do you wish there were?

For the sample of the third profile, the objective was to survey the existing approaches by the brands when contacting the influencers.

### **Script:**

- 1) What are the social networks you use? Why?
- 2) Do you see yourself as a digital influencer? Why?
- 3) Have you ever been approached by any brand / agency to do some advertising post?
- 4) How was the process of approaching and negotiating the post?
- 5) Did you receive instructions on how the post should be done?
- 6) Is there any special care that you take when doing a posting?
- 7) How did you get paid?
- 8) Have you ever had any problem with any brand in this process?
- 9) Have you actively contacted a brand to offer a publicity post?
- 10) NOT > Why?
- 11) YES > How was the process?
- 12) What makes you accept to make a publicity post?
- 13) Have you ever used any tools to look for brands wishing to do campaign with influencers?
- 14) YES > What did you feel on using it? What do you like about it? What do you dislike about it?
- 15) Not > If there were any tool that would facilitate your search would you use it? What do you wish there were?

The interviews lasted, on average, 30 minutes each. All conversations were performed remotely by either the *Skype* or *WhatsApp*, with video and sound, assisted by an audio recorder for future analysis of answers. Before beginning each interview, all interviewees authorized the audio recording for study use only. Thus, no negative response was provided.

### ***Data from Interviews - Group 01***

In the interviews where the sample consisted of people who normally consumed content from digital influencers, there were three women within the chosen age group: the first was enrolled in an undergraduate course; the second had completed higher education; the third was in graduate school. Some interesting behavior data was surveyed.

For the initial questions about whether social networks were used and which ones they liked the most, the winners were, once again, Facebook and Instagram, where the most common behavior was "passive" (more observer and content consumer) than "active".

*"I use social network a lot! Very much indeed, I think my whole life is defined in relation to that."*  
(POF)

*"I like to use the Facebook to see events and things of interest, I usually use Facebook to see events that are happening close to me, or that my friends go, things like that. And to watch some fun video, cool stuff like that. My behavior is more of being observant, more passive than active in both social networks, Instagram and Facebook." (RAF)*

*"The ones I use the most are Facebook and Instagram and what I like the most is Instagram Because Facebook is already very polluted with information like this, a lot démodé right?" (ACF)*

Then, regarding the questions related to the form of access (cell phone, tablet, computer), smart phones were the highlight. When asked where (physical space) they accessed, the answer was very closely associated with a specific place (since the cell phone is always around), but at a moment, idleness times are always filled by a "sneak peek" at the cell phones.

When asked whether they consumed other content platforms, the most cited was YouTube, but not as something very popular or part of the day-to-day of the interviewees, and mostly when redirected by another social network, such as the Facebook, for example, or even following there because they already follow individuals on other social networks.

*"On YouTube, what I'm following now is more travels, they do all international travels, I like because I can stay tuned in what I can do in the future, because they show what they do 24 hours a day, so that's okay. Even Snapchat is interesting in that sense because, so, they (the vloggers) do nothing. They travel and do not enjoy because they are showing all the time, for them that sucks, but for me who is not traveling and I want to travel is great!" (POF)*

According to the interview, when asked about the profiles and types of people they would follow on social networks, and whether they followed a celebrity, the answers were related to people they regarded as interesting. Very commented profiles also referred to small clothing stores (brands) which began to increase their popularity through social networks

Then, when asked why they regarded these people interesting and worthy of attention, the answers were very much around the content they published. They would follow them because they would publish some content with a subject of personal interest for the interviewees (fashion, makeup, decoration), because they identified with the person or because they found the person's life interesting enough, or even because they generated a certain curiosity enough to pay attention.

An interesting point that emerged in the course of this topic was in relation to the behavioral changes over time of certain celebrities in the digital world, where they initially stood out and became famous for a reason, but after having achieved popularity, began to venture into other segments, and this is not always well seen by the people who followed them from the beginning.

Continuing with the interview, when asked about the relationship between digital influencers and advertisements in general, the answer was that it did not bother and that it might even be positive to advertise new products but that there needed to be consistency; in other words, they needed make advertisements for products and services that fit the profile and content they posted. Another point raised was that, when the disclosures made by these influencers clearly reveal that these are paid posts, the public feels less impacted by the content, but believes that these influencers should make it clear when they are being paid to show something, and that they need to take responsibility for what they get out there, because, in fact, they influence a follower mass.

Then, when asked about the influence of these advertisements on the interviewees, they generally stated that when the disclosure was made more naturally, that is, it seemed that the influencer actually recommended and liked it, they felt more influenced. Another point has to do with the content being released. It is very important to be consistent with the image that the influencer has in the social network (the background of the influencer counts). Otherwise, because there will even be a negative impact.

When asked if they had bought or consumed anything they had known through influencers, everyone answered positively.

### ***Data from Interviews - Group 02***

In those interviews where the sample consisted of individuals recruiting digital influencers, two women and one man would be interviewed, namely two recruiters from agencies hired by brands to find this profile, and one individual from the inner area of a brand, who was in charge of recruiting and contacting with influencers.

It was possible to better understand the recruitment process adopted by them today, to validate the interest for a tool that facilitates this work, as well as to raise ideas about functionalities considered relevant for the development of this tool.

The initial questions about why they would recruit digital campaign influencers and how they would define the preconditions for selecting the profile.

When asked about the influencer's search process, three ways were surveyed. It was done either manually, by searching the social networks, or by analyzing the proposals coming from those influencers who would come in contact offering their services, or they would hire specific digital influencers agencies sending a briefing of the profile they needed for the agency to recruit. When negotiations are made directly with the influencer, they usually get in touch through the social network / e-mail for the agreements. Otherwise, the agency that takes care of the influencer will mediate.

Then, when asked how they would pass the posting guidelines to the influencer, everyone answered that the goal was for the influencer to use his own language, with his audience. They would at most pass some guidance on some specific points that would need to be in the post, but the influencer.

With regard to the social networks that they are most looking for today, the highlight was for Instagram and YouTube, and what dictates is the strategy that will be adopted, as well as the size of the influencer that was chosen (with many or less followers. ). In turn, the measuring of results, such as today can measure whether or not it was efficient to use a certain type of influencer, said that it would depend heavily on what the campaign was. More followers on the brand page, increased sales and product demand, or even coupon result when an influencer wins discount to give to followers are the main indications raised by them.

When asked about the problems of hiring influencers, the main ones are: finding people who really pass on credibility, delivering on contracts without delays, and follow-up to ensure that influencers do nothing that harms brand image.

With regard to the whole process of selection, recruitment, negotiation and follow-up, when asked which would be the part where they have the greatest difficulties and problems, everyone said that at all stages there were some points that could improve, but the worst parts are the selection and measurement of results.

Regarding concerns on recruiting digital campaign influencers, the biggest highlights ranged from no engagement in the campaign to the influencer in question not showing veracity / credibility in the information and finally generating a negative buzz.

When asked whether they had knowledge of any tool that would facilitate the digital influencers recruiting process, only one interviewee stated to be aware of, but was unable to state the name when required to, said that, at the time they were impacted by it, they already had their own pool of influencers and that because it was a paid tool (monthly payments according to the amount of use), there was no interest, but said that, if a tool with better payment conditions were available, he would use it again. The other interviewees were very excited and showed great interest in having such a tool available that would help their work.

Finally, a list of the main features they would like to have on the platform would include:

- that the platform would present individuals with a better relationship with the brand in terms of lifestyle / target audience / etc.;
- conditions to evaluate the metrics in terms of engagement, institutional interaction, sales, etc.;
- to see in which other campaigns a particular influencer had worked, and what results had been achieved;
- a good search tool to find the profiles according to the criteria selected by them for the campaigns;
- the platform would help ensure compliance with contracts and deadlines;
- have access to all kinds of information related to that influencer, such as, reach, regions to which that individual has the most access, the times in which that person has the greatest message reach.

### ***Data from Interviews - Group 03***

In those interviews where the sample was composed of digital influencers, two women and one man were interviewed. The segments of influence in which they worked varied between lifestyle, health, and personal relationships.

In the course of these interviews, it was possible to validate the interest in a tool capable of facilitating the contact between them and the brands, besides raising ideas of functionalities considered relevant by this profile to be included in the development.

For the initial questions about which social networks they used, the highlight was Instagram (both by the posting functionality in the feed and by the "histories", which eventually "killed" Snapchat). As for the question if they would consider themselves as digital influencers, they all answered positively to some extent.

When asked if they had already been approached by brands to make advertising posts, they all stated positively, and the contact process was by the social network itself (directly on Instagram for example, or by e-mail (all of them had an e-mail in the description of Instagram's biography), and can evolve to phone negotiations.

As for the next question, about the post itself, if they received instructions from the brands, everyone replied that yes, there were some guidelines to follow, but they would do with their language, which was precisely what gave credibility to the post.

In the question that included the content, if they would take any care in accepting and doing some publicity post, interesting answers arose:

*“If it’s to talk about product, I need to test the product before to see what I really think of the product ... I even had a campaign that I asked to test the product ... I did not like it and I did not do ...” (IDDB)*

*“I do not like to post anything ... nothing forced ... I do not think anyone will like forced things ... I’m not careful to spend hours and hours thinking about the subtitles... I try to put the shortest things possible so it does not get too tiring... I think a long post... when it is for recommendation, people will not even read it... but... you have to focus on the product ... I only partner by product not for money ... when people make a partnership ... in fact they use the products ... I’m going to use something that really does my will ... which has a very good quality.” (IDME)*

*“When it’s advertising, you have to talk to me... it has to be in my universe... if it’s not in my universe, it’s no use doing... kind, for example... I use basic makeup... but I will not do makeup advertisement because I do not talk about it... it will not make the slightest sense... There is a lot at stake that will impact your coming campaigns... that will impact your results... that will make you lose follower... that will impact the way people see you ... so it’s too much to treat as a brand, you know.” (IDDB)*

With regard to payments and types of contracts, the influencers said that each case was dealt with individually, with the possibility of a value negotiation per post, including a cash deposit, or by barter, so that the post would be made under a barter deal. Another interesting point to note is that there are also types of contracts that are exclusive, that is, if they commit to a brand in a segment, they need to stay for the agreed period without consuming any other competing brand.

When asked about the types of problems they usually have with these transactions, the following may be highlighted: bad quality products from companies that want to partner, brands not meeting the agreed payment or shipping agreement as agreed delays in payment, brands sending random gifts hoping to to win a publicity post.

With regard to influencers contacting brands proactively to propose partnerships, all of them answered positively. In general, these are brands that they like very much; they contact via email or even through their own social network (direct from Instagram, for example).

As for the question about the motivations for the influencer to accept to make a publicity post, they all pointed out that this needs to make sense within the reality of their content, and that they would need to like the brand and the product.

In the final part of the interview, when asked if they already knew of any tool that would help them get in touch with brands, only one responded positively, but most of them were foreign brands and could not find good campaigns for him, and mentioned Celebrys and Squid and criticized the proposal they have today:

*“Today, what exists in the market is very much based on quantitative analysis ... I think there is a lack of a more in-depth qualitative analysis... as if it were a great history of what has already been done with that influencer and everything else ... to have this foundation, you know ...” (IDDB).*

The remaining interviewees who had never had contact with something of the kind, found it interesting to have a tool that would help them to approach the brands and that, yes, they would use it. The influencer who criticized the tools that exist today commented that he considers them interesting, but that they need to have a different position from the one they have today in the market.

In summary, the following can be highlighted as features that they would like to have available in the tool:

- select the type of payment they would like to have (barter or money);
- select the frequency (a single post or a series of posts);
- manage exclusive contracts (be available only for segments that do not hinder existing contracts);
- have search categories to find only brands that make sense within the universe of the influencer (fashion, beauty, health...);
- have a simple way to get in touch with the brand;
- have good options to make the payment;
- that the platform, in some way, helps the brand to comply with what has been agreed;
- to be able to see the return that the influencers are giving to the brand with the active disclosures;
- have a portfolio part to show the actions that have already been taken and the return that has been achieved with them;
- to be able to talk to the brands selected by the influencer, who would be willing to do an action with it;
- offer a "profile" area showing the segment in which he has done some work, what kind of engagement he has in his posts, which audience he talks to, which are the areas of interest of the influencer.

## **FINAL CONSIDERATIONS**

After all that has been exposed it is possible to state the growth of the demand of the brands to be present in these alternative channels of disclosure. This behavior can be highlighted not only in Brazil, but also throughout the world, since the global average of the impact of social networks on consumer's buying decisions is 62%, against 77% in Brazil (PwC 2015).

Currently, the process of searching, recruiting, negotiating and monitoring the results of actions taken with digital influencers is very costly, manual and often unprofessional. The few tools available today to facilitate this process fail to match what is expected in relation to the real needs of both recruiters and the digital influencers themselves.

Accordingly, this research sought, by using qualitative techniques, to study the real needs and desires of the users (both the recruiter and the influencer) and aimed to design an interface centered on it. The applied methodology proved correct when dealing directly with the end user, evaluating more assertively their desires and needs.

The theoretical reference was of great importance for the research, for it brought very important contributions to the final result. Based on such bibliographic sources, it was possible to check the behavior of brands over time, its evolution with social networks, as well as the concepts of interaction design and interface usability.

The interviews gave an account of the interface with the research field, since they confirmed several theories and assumptions around this relationship between brands and influencers. Thus, it was surveyed how the recruitment, negotiation and follow-up process is carried out today, the problems and difficulties that both profiles usually have in these relations.

Finally, based on the survey and interviews conducted with digital influencers and recruiters, it was possible to identify the functionalities and preconditions of a potential tool. Thus, such detailing emphasizes some of the needs listed by recruiters, among which we can highlight:

- that the platform should introduce people who are more closely related to the brand in terms of lifestyle, target audience, etc .;
- that the application should offer conditions to evaluate the metrics in terms of engagement, institutional interaction, sales, etc .;
- ability to see which other campaigns a particular influencer had worked, and what results had been achieved;
- a good search tool to find the profiles according to the criteria selected by them for the campaigns;
- that the platform would help ensure compliance with contracts and deadlines;
- have access to all kinds of information related to that influencer, such as, reach, regions to which that individual has the most access, the times in which that person has the greatest message reach.

The needs raised by the Influencers mainly include:

- select the type of payment they would like to have (barter or money);
- select the frequency (a single post or a series of posts);
- manage exclusive contracts. Be available only for segments that do not hinder existing contracts);
- have search categories to find only brands that make sense within the universe of the influencer (fashion, beauty, health);
- have a simple way to get in touch with the brand;
- have good options to make the payment;
- that the platform, in some way, helps the brands to comply with what has been agreed;
- to be able to see the return that the influencers are giving to the brand with the active disclosures;
- have a portfolio part to show the actions that have already been taken and the return that has been achieved with them;
- to be able to talk to the brands selected by the influencer, who would be willing to do an action with it;
- offer a "profile" area showing the segment in which he has done some work, what kind of engagement he has in his posts, which audience he talks to, which are the areas of interest of the influencer.

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*Track 09 Creative Economy*

**ID #691**

**Fashion design as a propeller of and reflection on social and political engagement: A look at a segment of the creative sector that strongly impacts economic growth**

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**Abstract**

*This paper approaches the relation involving fashion and purpose or activism based on the connection perceived between three apparently very different researches simultaneously advised by the same professor. The first is an ongoing scientific initiation paper on women empowerment in punk-rock fanzines aesthetics; the second is a finished MSc paper on trends in the decision making process for the consumption of fashion in Rio de Janeiro; the third research is an ongoing MSc paper that treats fashion as a possible means for discussing high mortality rates of young Afro-Brazilian boys in Rio de Janeiro. Somehow, these researches span the possibility for fashion to accomplish a communicational role both as an engagement vector for users and as an engagement response from consumers. The first paper is partly bibliographical and partly documental (counting on the graphic analysis of a selection of pages from the fanzines); the second is eminently qualitative (interviews and focus groups), while the third deals with studies of several cases, such as collections, catwalks, documentaries and political demonstrations. Thus, this paper starts from the results arising from the look performed into these researches, but brings other contributions, such as the unique case study investigation carried out by the English professors Jean Clark and Robin Holt (2016) on the stylist Vivienne Westwood and her contradictions regarding the consumption of fashion, as well as a research carried out by the global Euromonitor, prescribing consumer profiles for the year of 2018. The later interweaves with a work conducted by the WGSN that contains forecasts on the consumption in the 2020's – used in the MSc paper firstly mentioned herein.*

**Keywords:** Fashion; Purpose and Activism; Consumption Trends for the Near Future.

## INTRODUCTION

A chronicle written by the journalist, song writer and music producer Nelson Motta in January 2019, recalls the year 1967. Brazil was then living the times of the military dictatorship, a regime that would censor theater plays, movies, books, newspaper articles and ideas in general. Nelson went to New York for the first time. In Manhattan, he came across a store that would sell goods for just a dollar: black & white posters of ideological personalities, such as Trotsky, Marx, Engels and Luther King, as well as others from the pop world, like Elvis Presley and Marlon Brando. Images that, besides decorating, would set an identity to your house, say who you were” (MOTTA, 2019). However, the greatest surprise in the capital of capitalism would be the T-shirts bearing the photo of the Argentinian revolutionary leader and Cuban hero Che Guevara, who was then a great success among youngsters.

Che’s T-shirt – perhaps one of the most iconic in the world, which can still be found in specific stores – triggered a trend that never succumbed. This piece of clothing became a moving billboard, which, more than any other role – be it practical or aesthetical – began to play as a means of expression and an advertising platform showing what the person wearing it thinks.

The white T-shirt was conceived to be merely a male undergarment “associated to the notions of personal hygiene and comfort”, either warming the body or preventing social shirts from any contact with sweat, only being “unabashedly shown” when worn on “men’s bodies while they performed their manual work” (CALZA, s/d, p.2).

In the 1950’s, wearing the T-shirt as a piece of sportswear, matching it with denim jeans and especially a leather jacket, became a symbol of rebelliousness, which was perpetrated by the Hollywoodian actor James Dean. In the 1960’s, already seen as a unisex piece of clothing, it was directly linked to the hippie look, both in what regards the exhibition of symbols (such as nuclear disarmament<sup>1</sup>) and expressions (such as “peace and love”) printed on it and psychedelic drawings and paintings with artisanal techniques, such as silkscreen<sup>2</sup>, o batik<sup>3</sup> e tie-dye<sup>4</sup>, as well as embroideries.

Youngsters have always been seen as rebels by older generations, but from the 1950’s on the fashion industry – while a creative sector having enormous commercial potential – turned their eyes to the generational categories that it helped to forge. The concept of youth fashion was then born, and it was also usually developed by young designers: “one year is enough for a youngster to acquire experienced attitudes, to become a star, the collective dream” (RODRIGUES, 1994, p.7).

Much more recently, researchers began to map consumers behavior, including emerging forces that have been marking the changes from one generation to the next. According to what will be shown by this paper, nowadays, in diverse areas – whether academic or not, the international classification has been used to define generations. Such classification can be seen below:

Baby Boomers are those people born worldwide in the massive growth of population that occurred after World War II, especially between 1945 and 1964; Millennials (or Y Generation) are those born between the end of the 20<sup>th</sup> Century and the beginning of the 21<sup>st</sup>, who grew up at times of economic prosperity and saw one of the greatest revolutions in the history of the humanity: the internet; X Generation members are the individuals born between 1965 and 1979; Generation Y was born between 1980 and 1994; and Generation Z from 1995 on.

The characteristics of each of these generational classifications are related to the moment of the economy and global politics, as well as to a whole context that influences people's values, their relation with their families, employment, work, society and obviously consumption, lifestyle and way to dress. However, many argue that access to technology is what mainly defines generations. Nowadays, it is fully tied to the form of consumption.

*The analysis of the generations is made in accordance with the use of technology by their individuals and by the relations between technology and consumers. Behavioral aspects are naturally not left behind and are also essential. However, the behavioral profile of people born within the same period is still what defines a generation (LULIO, s/d, s/p).*

Considering the question regarding technology, the Brazilian Y Generation would mainly be far behind its American peer. Therefore, local research institutes usually employ a different metrics in order to define generations: X, from 1965 to 1984; Y, from 1985 to 1999 and Z from 1995 to the present.

### ***From hippie to punk***

While a rebel look surged in the 1950's to label a new youth, the 1960's was strongly connected to the hippie movement, for which an aesthetics of vigorous visual appeal was a way to draw attention to their values, which opposed tradition. For youngsters, besides being a hippie, they had to look like a hippie: faded and torn jeans, large clothes, flowered patterns ("flower power" was one of their mottos), and several craft leather pieces, crochet or embroidery, since the movement challenged capitalism, defending DIY (Do It Yourself).

Nevertheless, some youngsters just wanted to look like a hippie. The mere allusion to their aesthetics made them feel as belonging to their generation, although they had to have a minimum empathy with the mottos of the movement so as to adhere to that look, which was extreme to the time. However, other streams of "youth fashion" – a term that came up based on specific stores and brands – characterized the aesthetics of the 1960's. Several times it was in total antagonism against craft, flowered pattern and peace-and-love – as in the case of the futurist stream or non-hippie psychedelics itself, yet being high-tech.

*The reason for several styles may come from the fact that those who set fashion trends were not the ones who used to do it before. The power of Parisian designer clothes declines because (...) money begins to come to the hands of a frantic youth who have clear ideas on what to wear and what not to wear. Some of those young designers (...) prepare to launch pieces based on sci-fi and start to design dresses inspired by flying saucers, metal bathing suits, golden and silver leather boots and jumpers (GONTIJO, 1987, p.93).*

Miniskirts may have been one of the main fashion icons at that time, intrinsically connected to women's sexual lib and the new role of women in the society. One of the most important contributors for its success was stylist Mary Quant, who was where the Beatles and other bands that inspired the young were: in London. However, while "Mary Quant was changing the girls' look, in Paris they were launching a new style: the unisex fashion. (...) A shirt and lighter jeans than Lee's, the most famous then" (GONTIJO, 1987, p.94). The model Twiggy was also in London. In spite of being one of the most important ambassadors of the mini skirt, she came up with an almost androgynous aesthetics: extremely short hair and a rowdy boy's manners.

In the 1970's England went into a deep economic crisis and was immersed into enormous popular dissatisfaction, which will lead to the advent of a new music movement that mobilized

politicized youngsters who were aware of the problems that struck the country. They claimed for a Revolution and for a rupture from the previous generation. That was when the punk-rock music movement was born. By means of polemical acts and an aggressive look, its musicians clashed against attitudes of hope and optimism from the hippies (peace, love, flowers, nature...). Punks behaved violently, succumbing to the despair caused by the structural flaws of the capitalist system. Moviemaker Julien Temple says in his documentary *The Filth and Fury*: “punk didn’t try to make people happy, it was an attack” (TEMPLE, 2000).

The creation of such style can be credited to the English band Sex Pistols, formed in 1975. Although their life was quite short (their dissolution was in 1978), they may have influenced several musicians and other bands. Their fiery single *God Save the Queen*<sup>5</sup>, released in 1977 – just at the time when the silver jubilee of Queen Elizabeth was taking place – challenged conformism and British traditions, being, due to this reason, worshipped and accursed at the same time. It was so true that workers at a records factory refused to print it, radio stations refused to play it and editorials refused to recognize its position at the top of the hit parades (O’Hagan, 2004).

The contract with the American label A&M Records for the release of *God Save the Queen* was terminated six days after it had been signed, because the company did not stand the punk behavior of the artists “in real life” (for instance the destruction of a toilet bowl in their office). This led them to discard thousands of already printed records (Gordon, 2017). A T-shirt ordered by the American recording company for the release which had a photo of the Queen with her eyes and mouth covered by the wording showing the title of the single and the name of the band respectively, (in a font that resembled newspaper cutouts) – may also have been destroyed. The remaining pieces became object of desire and have been replicated and sold in large volumes till the present. However, in terms of garment, just like the hippie movement, punk did not fit in a T-shirt inscription. It was all aesthetics, consumed even by those who were not keen on that music style, but wanted to show that they belonged – once more – to a generation that broke paradigms and opposed to traditions.

Malcon MacLare, Sex Pistols’ mentor and agent, was an Arts student and since 1971 owned clothes store together with stylist Vivienne Westwood (also his love affair) on the iconic King’s Road in London, which had already become famous in the 1960’s due to Mary Quant, among other young modern stylists. The couple’s store started selling tight leather trousers, large T-shirts and rubber accessories. It was a “catalyzer of a fashion that little by little became more and more scandalous, continuously reinventing sadomasochist and fetishist ideas” (Drusco, 2010) It was an aesthetical translation of the punk and underground movements of the time.

Westwood mentioned his desire at that time of looking like a “princess from another planet” (V&A, Vivienne Westwood Chronology apud Clark e Holt), and MacLare, then persuaded her to channel that energy into fashion design. He was strongly influenced by the situationist movement – a social, cultural and political criticism European movement that gathered poets, architects, plastic artists and movie makers, rejecting the capitalist authority and having as its mission the subversion and challenge against the bourgeois status quo by means of interventions (Debord, 1967). Together, Vivienne and MacLare created a set of “situationist products” (Clark and Holt, 2016).

Firstly, known as *Let It Rock*, and later in 1975 as *Too Fast to Live, Too Young to Die*, “the turnaround point for the alternative London” – the store changed its name into *Sex* and its walls were coated by porn graffiti (Drusco, 2010). In 1976, the store had its name changed again,

then to Seditious, while influencing the style of other stores on the same street, such as Acme Attractions (which was later renamed as Boy London). It was from that region in the city that the punkers' and motorcyclists' outfit came out: from London to the world. Rubber trousers, tight black T-shirts with zippers on the chest, safety pins nailed onto clothes, chains, necklaces, studded shoes etc.

Between the late 1970's and the early 1980's, one of the most remarkable aesthetics elements in the punk culture was the hairstyle firstly presented by Wattie Buchan, the vocalist of the band The Exploited, inspired by American mohawk Indians (who would prefer death to being controlled by the white men that invaded their territories). The mohawk style was characterized by a strip of hair on the top of the head, which is shaved on both sides, representing the fight against the system. Within aesthetics, it presented some variations, such as the spiky mohawk, which, instead of a strip, presents "spikes".

Punk broke all possible rules and declared war against all existing music trends and against established social conventions. Doing this, though, the movement rapidly became "a tradition – a movement with extremely predictable stylistic values" (HENRY, 1989, p.115).

If punk aesthetics also became predictable, the unpredictability that may have remained to its founder was a pint of mainstream. In 1981, Westwood and McLaren were still working together when they had an aesthetical turnaround into the romantic side, with a slightly historical look – the Pirates collection was inspired by references to the 17<sup>th</sup> and 18<sup>th</sup> centuries, and the first was to parade on the official fashion catwalks (Drusco, 2010). In 1983, the relationship between McLaren and "Queen Viv" comes to an end. McLaren focused on his music, gaining an almost conservative look along the years. Westwood went on in the fashion world, being repeatedly accused of hypocrisy for being a ferocious critic of the society of consumption in which she herself and her enterprise were. Just like any other fashion brand, Vivienne Westwood is attached to consumption, incentivizing those who buy clothes and accessories to join a seasonal and ephemeral cycle of production, promotion and consumption.

For Clark and Holt (2016) there are powerful institutional forces that accelerate the consumption, image and identity cycles linked to fashion. The first of them is the fascination of the media with catwalks and fashion in general, making them tend to voluntarily join the movement to associate fashion with art, so that it deserves cultural remarks. The second force is the fascinating exploitation of digital technology by some brands, allowing consumers to buy online real time while watching micro seasonal special collections and unique contributions on the catwalk, breaking the traditional seasonal format of two collections a year. Last but not least the fast fashion phenomenon, which is a response to a growing demand for inexpensive fashion, leading stores to use just-in-time production so intensely that new collections can be ready within three weeks, resulting in one-way clothing, designed to be worn less than ten times before being discarded.

Vivienne Westwood is still in the fashion market and – just like all professionals linked to fashion brands – is immersed in this process, although she insists in propagating that we should consume less and on making herself available to work for causes defended by environmental groups. Her criticism to the society of consumption was shaped in her support to the movement called Occupy (OWS<sup>6</sup>). She also supported the work performed by the organization WikiLeaks (especially the transsexual military person Bradley/Elizabeth Manning), the preservation of the Arctic from mineral speculation and the campaign against climate change, among others. Her 2010 Spring/Summer collection was named Gaia Planet, as a reference to the idea of our planet

as being a self-regulatory system. For doing so, models were adorned with slogans such as “Act fast, slow down, stop climate change”.

## **VIVIENNE WESTWOOD: A CASE STUDY**

Instigated by this apparent contradiction (capitalism x activism), English professors Jean Clark and Robin Holt went into a research to approach a unique case study in order to look into the brand of the stylist and her consumers. In their study, the consumer was placed in the core of the question regarding ethical consumption, focusing on his/her relation with purchasing and wearing clothes – “an industry that has been increasingly criticized for humanitarian and environmental issues” (Clark and Holt, 2016, p.12).

The paper that discusses the research suggests that the capability of being ethical may pervade the purchase and wearing of fashion clothes. It tries to show how ethics in consumption is a critical engagement that can be seen in the manner how products are acquired and worn, just like in the understanding of the values of such products. Engaged consumers are personally involved, following the work of the brand and becoming in charge of reflecting on their own consumption decisions, instead of fulfilling their immediate desires, in an inexpensive way.

The paper also highlights that many are the fashion companies that have already reacted against the negative marketing to which they were linked, adopting social and environmental policies, promoting sustainability campaigns and employing cooperation groups, among other actions. Increasing the transparency of the supply chain, for instance, makes companies invest in better labor conditions, implementing environmental protection systems, considering less aggressive production methods, with a higher concern with the effect on others. An example that can be mentioned is the clothes retailer Gap – a historical target of activists. Now they try to match consumption and altruism using celebrities to promote items that drive 50% of their profits to the treatment of HIV. Another case is H&M, which has launched the Aware Collection of clothes manufactured from organic inputs and that cause lower social impact. They also invested in the preparation and promotion of their sustainability report. Researchers, however, draw attention to the fact that criticism continues, as fashion stimulates fast and ephemeral consumption and, consequently, waste, exposing the consumer to a trade of philanthropy.

Data collection in Clark and Holt’s research was made using three methods: 1) eleven partially structured in-depth individual interviews (at least one hour and a half long) using respondents who had a long-term relation with the designer, both as employees and as clients (the latter pointed out by the former); 2) reference to primary documents of the company and to ancillary literature; 3) participatory observation and informal interviews that totaled 20 hours together with production, interaction among employees and clients and the backstage of the events.

Researchers noticed that they had a complex story to be told, as the stylist herself had been an activist for DIY, a typical movement from the British punk – inherited from the hippies – in which consumers played a creative role. The research suggests that Vivienne Westwood makes the experience of ethical fashion feasible to her consumers. Like her, her clients are aware of the pleasure that clothes may bring, whereas they are cautious in relation to the corrupt and malign influence that fashion can make when produced in a fast and inexpensive way, at the cost of social exploration and little respect to the environment.

Clark and Holt’s research argues that Vivienne Westwood’s clients could be seen as ethical consumers. They are well-informed on the manner by which clothes are manufactured and feel like characters of the story, being also involved with crafting techniques and heritage. Long-

term consumers are in fact engaged with the brand. There is little evidence that they want either to do business with more expensive designers or obsessively buy more, discarding what they own. The research shows how active engagement of consumers is important not only for commercial feasibility but for involving them in committed, critical and collectively negotiated and sustained creation of an ethos that carries a sense of right and wrong in itself, wearing clothes that have an ethical resonance.

From Westwood, researchers showed how ethical consumers are active, rather than passive economic players. They reconsider their own consumption before fulfilling immediate desires. It was clear for Clark and Holt that Westwood is still coherent in what regards her principles. Yet, it is not so clear whether the Westwood brand will keep aligned with the ideas of ethical consumption or will move into standardized forms, without a face, those that Westwood, as an individual, most hates.

The research also found criticism not only towards the strategies of the company but also towards Westwood herself. For instance, an employee said that Vivienne does not have enough control on the people who are making the items of her collection. “She does not know what is going on with the collection as a whole”. The company receives large orders of shirts from Turkey, Malaysia and Indonesia, generating a great deal of paper and cardboard that is wasted. “It ends up being embarrassing” – said the employee.

Another statement, also made by the same employee, compares the previous small boutique, where people used to ring the doorbell and clients were received with a “hello, how are you?” to the large store of the present, whose doors remain open. “It is almost like someone coming in and going out and you have no chance to talk to them, you never find out what they like or not, in opposition to what used to happen before.”

However, in her biography, the designer does not seem to be unhappy:

*I am more interested in what I am doing nowadays, but what I must explain is the following: what I am doing now is still punk... it still has to do with shouting against injustice and making people think, even when it is uncomfortable. I will always be punk in this sense. Punk for me and for Malcolm, and at the store, has become a kind of bricklaying: putting ideas together. Putting people together... (KELLY, WESTWOOD, 2014, p.147)*

Her first T-shirts brought challenging slogans, such as "Destroy" superposed over a swastika and the image of the Queen or portrayed images that would shock the entire England of the 1970's, such as a couple of homosexual cowboys naked from the waist down. Still today her interest on worldly questions keep coming up in T-shirts. In one of them she inscribed: “I am not a terrorist, please do not arrest me”. It was a protest against antiterrorism laws passed by the British government after an attack at a subway station in 2005 (KELLY, WESTWOOD, 2014).

## **THE NEW CONSUMER: WHAT RESEARCHES SHOW**

Consumer attitudes and behavior are undergoing transformation, featuring mobile technology and internet, as well as accessibility and engagement in causes, with a fundamental role in modelling such changes. These, which shall keep in progress for the years to come, have been monitored by research institutes and trend building companies, which serve as a basis for strategic projects designed by famous brands.

Two studies will be presented herein. They forecast on global consumption behavior in the near future. The first is from Euromonitor International – a provider of market strategic intelligence that performed a global research in 2017 to set the 10 main trending profiles of the consumer in the year 2018. The second, developed by the international WGSN – leader in trending forecasts for fashion and design – establishes three profiles for the 2020's.

Euromonitor's research (Angus, 2018) had the expectation that in 2018 – the tenth anniversary of the global financial crisis – the world's rate of consumption would be the highest since 2011. The research shows how the internet has especially increased the awareness on global issues, inspiring consumers to have a higher commitment with social responsibility. The global repercussion of the emblematic movement called “#MeToo”, related to campaigns denouncing sexual harassment, triggered a more demanding culture, which would tend to increase in 2018, sprawling around several other issues. Younger consumers have been adopting more responsible attitude, choosing to live a simpler life, aiming at reducing the hazard to others, to the planet and to themselves. Consumers of all ages believe that they need less. Minimalist life has been gaining popularity, people have been sharing everything, stable jobs are being replaced by an entrepreneurial lifestyle and the lack of confidence towards businesses has grown. The desire for exclusivity and authenticity is moving towards sharper levels of customization, where consumers become increasingly more creative, contributing for the design of the products and getting involved in production processes. The search for the Truth and for transparency is also growing, contributing for an increase in movements of activism.

Euromonitor cites a research made by another global company: Edelman Studies and Researches – which indicated that in the year 2017, 57% of consumers bought or boycotted brands based on their corporate values. “As the confidence in public institutions decrease, 51% of interviewees said that they ‘believe that brands can do more to solve social problems than the government can’ (Angus, 2018, p.11). In response, marketing professionals are being forced to have a narrower interaction with clients in the market, no matter whether their claims are more or less important

The 10 profiles of consumers mapped by Euromonitor will be presented herein. The research does not indicate which categories are excluding. Therefore, it is understood that a consumer may present traits from different profiles.

- 1) **Clean lifers:** youngsters between 20 and 29 years-old who have strong beliefs and ideals, adopting simple and minimalist lifestyles, where moderation and integrity are essential. They grew up experiencing deep recession, terrorism and a troubled political scenario. They have a broader view of the world than the previous generations. They are less tolerating and more skeptical. They feel they can make a difference and this influences their choices when spending money. They say no to alcohol, to animal products, to uncontrolled expenditures or those made with no information, as well as to unhealthy habits as a whole. They want to impress less by what they look and more by what they have in terms of experience. They were protected by parents from the X Generation and Baby Boomers and follow their guidance. They tend to live with their parents for a longer time, especially in places like the UK and the US, where housing expenses are outrageous.
- 2) **The Borrowers:** also, a group concerned with the community. They have been promoting reforms in the economy and changing conspicuous consumption into a part of past habits. This group strives for access, rather than ownership – no matter whether it is by means of sharing, swapping, rental or assignment. The rejection against material goods in favor of experiences and of a freer lifestyle, which characterized Millennials' consumer behavior in the latest years is a trend that keeps evolving and spreading. Now, it starts to influence older generations: Baby Boomers, former materialists, are starting to make their lives simpler, sharing new pillars of the economy, such as Uber, Airbnb or Rent the Runway (this being a lesser known model, which involves outsourcing clothes), whereas

innovative start-ups increasingly pop up to meet “borrowers” needs. This model of on-demand economy provides consumers with additional flows of revenue, when they share what they own, might it be their skills or goods: home, service, little tasks, clothes, toys, tools, sports gear and even dogs (BorrowMyDoggy). As a result, several enterprises are being forced to rethink their business models in order to adapt to the new borrowers’ mindset. Some are embracing the idea of sharing, sponsoring or investing in start-ups. Citibank, for instance, is the main sponsor of bike sharing in New York and Toyota has invested in a shared taxi service in Southeastern Asia. Volkswagen did the same in Israel. Jaguar Land Rover have invested in Lyft, Uber’s main competitor.

- 3) **Call out Culture:** consumers who are empowered by social media, using their collective voice to draw attention to injustice and call brands to be transparent in relation to their practices. While in the past consumers felt powerless to face famous brands, now social media provided them with collective influence. #MeToo posed featured an unprecedented women’s solidarity, having its hashtag shared one million times within 48 hours by Twitter, in addition to the 12 million comments and reactions within 24 hours in Facebook. In 2017, Instagram, Tumblr, Facebook and other users generated 125 million hashtags to sign petitions and support causes.
- 4) **It’s in the DNA – I’m so Special:** people who are increasingly interested in their genetic heritage and its consequences in their customized demand for health and beauty services. A group that includes people who are “concerned with”, “curious about” and “addicted to” fitness and nutrition. Companies noticing such demand went deeply into genetic code mapping by means of blood or saliva samples. This market is still facing constraints in what regards specific regulatory affairs, in addition to some limitations related to knowledge on the subject. Therefore, companies will need to be clear and plain with their consumers about the limitations of the outcomes, otherwise they will be running the risk of losing their confidence.
- 5) **Adaptative Entrepreneurs:** one more group of consumers who increasingly strives for flexibility in their lifestyle. Those are mainly Millennials, who are ready to take up risks. They have a natural entrepreneurial spirit that keeps them away from traditional careers, making them move towards those that provide them with more freedom. However, the Global Consumer Trends Research shows that nearly 50% of interviewees from all generations aspire to be self-employed. When Baby Boomers are discarded – as they are the group where such desire is the weakest – such ambition rises to 56%, clearly showing an increasing and comprising trend for an “adaptable entrepreneur lifestyle”. The research shows several factors that are responsible for the rejection felt by adaptative entrepreneurs against traditional jobs and enterprises. For instance, stagnated salaries, having raised 1% or less between 2011 and 2016 in several western economies, such as the USA, Germany, UK and Japan. Another reason is the rate of unemployed youngsters, which has reached a record-breaking rise in several countries.
- 6) **View-in Roomers:** those who only buy using online stores, but virtually test everything before buying, making the bridge between sensorial perception and reality. They use cutting edge smartphones and augmented reality. They just buy something if they are able to have a “real” view of what they desire, trying to wipe out any uncertainty regarding the goods. Therefore, they may be prone to leave out their “shopping cart”, especially when it contains expensive items. It is already possible to view 3D models of a piece of furniture placed in the living room of the buyer and walls of a house painted in colors other than the current one. Amazon launched AR View in 2017. It is an application where real products can be viewed online. Considering that online products have a high return rate – expensive and frustrating to enterprises – augmented reality has featured the possibility to improve consumer experience, providing them with a more realistic view of the items to be chosen. This improves operational efficiency of companies, significantly reducing their return rates.
- 7) **Sleuth Shoppers:** group formed by investigation researchers. Skeptical towards serial production goods, towards the motivation for companies to create them and tired of the empty speech and inconsistent words of safety, they have been taking actions in order to find out more about what they

consume. They are basically representatives of X and Z generations – the survivals of the recession and “betrayers of materialism”. Seriously committed to their beliefs, they look for all available information regarding companies, These are then sentenced as friends of enemies of their ideals. In order to build confidence in such consumers, companies shall have detailed evidence – preferably using video support – of their supply chain and labor practices and, whenever possible, they shall add third party independent certification. If companies do not provide tangible evidence on their practices, these consumers will look for independent sources of information.

- 8) **I-Designers:** representatives of Millennials and X who have reassessed their shopping habits, considering topics that go beyond sharing and responsible consumption. Such consumers, seen as sophisticated and creative, are willing to participate of creation and production processes of the things they buy. They look forward to more authenticity and a true customization of their shopping, as they flaunt them in social media with the legend “made by me”. They are taking up the creators’ role not only in the choice of colors or customization of finishing details of mass production goods, but really shaping them according to their personal preference and needs. They see themselves as unique, so they want to create something with which they can personally bind. Thus, companies have increasingly been making tools available to their clients that enable them to develop objects, part by part. Some, like Lego, even allow for a client proposal to be approved by the public in general. If so, this product will start to be produced in series.
- 9) **Co-Living:** a group that comprises from Millennials to the generation above 65 years of age. They share their living space, as well as a set of interests and values, both to save Money and reach more comfortable and acceptable life conditions and to inspire collaborative ideas. Such trend is a characteristic of hyper-urban centers, such as Hong Kong and Singapore, where real estate prices are the highest in the world and is due to the choice of shared economy as a style of life. For elders, there is an increasing demand for complexes that offer a special structure and shared residence.
- 10) **The Survivors:** those who went through the great recession that happened ten years ago. Despite the improvement in the economy, they keep Fighting to deal with austerity. They are in the lower layer of the pyramid and depend on scarce state resources or on the aid coming from non-government organizations. They hold precarious jobs and buy second-hand items in physical stores chosen because of their cost and payment options. Their shopping is more connected to essential items and not so much to leisure. Due to their existence, there was the advent of “social supermarkets” in Europe, which sell food that is about to have its shelf-life expired, that bear inconsistency in the label or that have damaged packages, offering up to 50% discounts.

Next, the results shown by WGSN research will be analyzed. They were presented by Global in a matrix divided into Global Factors, Consumer Priorities and Consumer Profiles. Preponderant Global Factors are: the new voice of new ethnic, racial and religious majorities; the transforming power held by 5G technology, mainly in relation to the adoption of augmented reality and virtual experiences and the integration between shared economy and community and activist capitalism, where consumers fight for having their money invested in the region where they live. Consumer priorities are: analog activism, fight against anxiety and the use of technology in a responsible manner. Due to the latter three, the research established the following profiles: Local activists, imperfectionists and augmentalists.

1. **Local activists:** this group of consumers, according to WGSN, are a result of analog activist movements – those who do not believe in activism through social media, but on the streets, instead. They valorize local production and are extremely aware of social and environmental questions. It does not mean they are hippies – they are tuned, urban and want to keep money inside their communities. They destroy the motto that says that “what comes from outside is better” and the classic valorization of imported goods in emerging countries. For this group, preaching is not enough, but the context, the practice, local economy are.

They understand that human wealth goes beyond capitalism and are concerned, above all, with improving life in their community.

2. **Imperfectionists:** arising from movements that fight contemporary high rates of anxiety, many of them are related to the pressure advertising makes on consumption. They are global movements that valorize imperfection, relaxing and happy times, such as being at home wearing pajamas, being comfortable with the idea that people are not able to be everywhere and do everything at the same time. Consumers tuned with these priorities want to live in a world where they do not need to be the best or the most good-looking. They even make jokes at unreachable beauty patterns. For this kind of consumer, it is important to offer less mass solutions and more segmented products that do not follow previously established standards and identify with advertising campaigns that unbuild the status-quo, use humor and leave the comfort zone. The effect of their priorities has made the welfare market grow, including tourism, beauty, health and fitness.
3. **Augmentalist:** opposite to imperfectionists, these consumers valorize technology to its most, without being swollen by it, optimizing human life and evolution. They are the majority of the population, but they increasingly demand the use of technology in a responsible fashion. Besides the reactions of the average citizen, shareholders and governments are working for this case. Apple, for instance, has been suffering pressure to study the effects of the smartphone to children's health, while Twitter and Facebook have been facing lawsuits that demand them to deal with offensive content in their users' posts in a responsible manner. Another question in this agenda is how to discard electronic gadgets, which still need more recycling. Augmentalist, then, argue for technological advances, but they want life to be optimized and integrated by them, rather than consumed by them. This group of people is attracted by companies and products that are cutting-edge innovation. After voice technology, the next step will contemplate gestures: actions such as shake, spin, bend, a finger slide, a motion in the air will be part of users' interface, aiming at creating richer and simpler experiences, stimulating usability.

These three profiles of consumer trends designed by WGSN were the starting point for a MSc paper that tried to contribute for the construction of shopping trends that have been outlined in women's retail clothes market in the city of Rio de Janeiro, among A and B class individuals. It used the qualitative research method, aiming at identifying shopping motivations, as well as attitudes, behavior and the existence or not of concerns related to beliefs when young women consume fashion in Rio. The researcher performed six semi-structured in-depth interviews and gathered a mini focal group with three participants, totaling nine respondents, who had the following characteristics: females, aged between 24 and 34 years-old and resident in neighborhoods in the South zone of Rio de Janeiro. Three consumer profiles were identified and they were called Addicted to Consumption (4 respondents), On the Way (4 respondents), and Always Aware (1 respondent). In all profiles, local activism characteristics were identified (in the category established by WGSN), as well as the presence of developing environmental and social awareness, not only in relation to fashion but also to different aspects of life. However, Addicted to Consumption, in spite of being able to understand the negative effects of high consumption and of being aware of news about scandals involving famous brands and slave labor, are not influenced by these points at the moment of shopping. They admire the consumption of less famous or more sustainable brands, but what determines shopping for them is the pleasure they feel when acquiring a desired product. It is a practice to sell exceeding pieces of clothing that lie in their wardrobes, rather than giving them away. On the Way consumers are not used to selling them, as they do not have many pieces of clothing that have never been worn. They believe it is too laborious to do it and it does not pay. They are not used to buying second-hand pieces either (for instance, in thrift shops), although they manifest a

wish to do so. Their level of social and environmental awareness is from medium to high, but they know that – and even aspire – they can do more. Eventually, for the Always Aware respondent, going shopping is almost a martyrdom, and she avoids it as long as she can. When she buys something, she wears that piece till it gets too old. She has never had any affair with brands, although she likes to follow some as an inspiration for her style. However, due to price issues, she does not buy them. She practically does not buy in the so-called fast-fashion chains, with few exceptions for very specific pieces, and this shopping is usually done abroad.

## **ENGAGED FASHION FOR CONSUMERS THAT ARE COMMITTED TO THEIR BELIEFS**

If fashion can be seen as a reflection of social transformations experienced by the world nowadays – and some brands and stylists exploit these transformations in their collections - it can also be used as a platform of event-based communication (LIPOVETSKY, 2015), to draw attention to causes.

Starting from the empirical perception that fashion is one of the most attracting consumptions in markets as a whole, but more specifically in Rio de Janeiro, and that engagement in social and environmental causes has been growing around the globe, another MSc paper – placed in the Creative Economics field and in a *strictu-sensu* program of professional modality – proposes the development of pieces of clothing that draw attention and mainly sensitize the highest number of people they can to the rates of mortality among Afro-Brazilian youngsters in the city of Rio de Janeiro and its outskirts (The Great Rio).

The assertiveness and reliability of the quantitative sources taken into account in the research described above still need tuning, but it is already possible to say that every three weeks the number of general murders in Brazil surpasses the number of deaths caused by terrorist attacks all over the world – according to the numbers related to the first half of 2017 – which totaled 498 cases, with 3,314 casualties.

To kick off the discussion on clothes and causes the research used the analysis of two cases: the collection and catwalk called “Seedlings”, from the Brazilian stylist Ronaldo Fraga, and the video “How much does outfit cost? that became viral in social media, with more than 12 million views.

Ronaldo Fraga’s catwalk, held in April 2018, was also analyzed by the video posted on YouTube. The stylist – who has a very peculiar language and sometimes tries to go into plastic arts – is used to presenting awareness-raising catwalks, in which he approaches subjects like diversity, transphobia, sustainability and others. By Seedling catwalk and collection, that highlighted Earth tones and rustic textures, Fraga tried to sensitize people for the consequences of the environmental crime that occurred in the city of Mariana, in the Brazilian state of Minas Gerais in 2015.

In the video called How much does outfit cost? posted on the YouTube channel Hyped Content, Brazilian youngsters reveal the brands of each of the pieces of clothing they are wearing in the urban fashion event Sold Out, as well as their prices and the total cost of each look. For instance, there was a pair of running shoes that cost over US\$1,500, and a US\$3,000 purse. The video was the target of criticism and irony, among which several similar videos produced and posted by youngsters coming from lower social classes showing the (low) cost of the pieces they were wearing.

The analysis of this case may be discussed with Bauman, for whom the Industrial Revolution brought a continuous and accelerated transformation, settling a new order, driven exclusively to economic issues, in which the search for individual welfare and the pleasure featured by money are the main points to be highlighted. Such dependability from capital and the mass increase of individual thought in current days is changing all kinds of relations (Bauman, 2001).

The outcome of the analyses of these two cases have not been thoroughly systematized and they are still subject to being treated from new traits of observation. Anyway, it is already possible to conclude that the choice of fashion as a means and strategy of sensitizing people for the cause of the mortality of Afro-Brazilian youngsters is very pertinent.

The T-shirt used as a billboard containing ideological messages may go on. Westwood wore it in the 1970's in order to deride the Queen and in the 2000's she still wore it to criticize politics. Nowadays, though, technology (and social media) are the most powerful tool to spread causes. In addition to being an important instrument to understand labor processes that involve brands or stylists, as well as their relation with environmental issues, it is the means that experience the sharpest growth and seems to respond to environmental issues. Therefore, the warning campaign for the mortality of Afro-Brazilian youngster that uses performances, catwalks or other actions will have mainly the internet as a means of advertising and sale.

## **FINAL CONSIDERATIONS**

The old Che's T-shirt, which enchanted the young journalist in the 1960's still has some success and it is not rare to find it nowadays in informal sales that surround political demonstrations and alternative youngsters' entertainment events. However, in the year of 1967 what had drawn Nelson Motta's attention were the contradictions of capitalism, "which transformed their enemies in consumption goods" (MOTA, 2019). Vivianne Westwood is also seen as somehow contradictory, squeezed between capitalism and engagement, just like fashion in general terms. Consumers keep getting involved with economic environments that, far from being counter-cultural, are in the core of the late capitalist effort of fashion. Ephemeral and compulsive consumption of clothes is one of the most criticized and consumers keep being shaped by fashion.

However, fashion is also seen as a means of both individual and generational identity expansion. It can be understood as a form of cultural production, and even artistic, where creators and users transmit values and principles, enabling different discursive constructions.

While being a productive activity, fashion has a strong effect on economic growth, although it is known that it is not always the fairest. Especially design (creation) of fashion is regarded as being one of the most important segments of creative economy, as it adds value to a product of basic need (clothing). It is also very specifically in the city of Rio de Janeiro where two researches dealt with herein are set and where the lifestyle of the city is exploited, as well as its native population, the *cariocas*.

Consumer ethics increasingly invites consumers to regard themselves as active partners of companies, though. They see themselves as being committed to the value and the meaning of what is being consumed, interfering in exchange systems, making questions about production and critically assessing the supply chain of the goods.

Summing up bibliographical information on punk aesthetics, the research of the single case approaching stylist Vivienne Westwood, the researches on consumers profiles developed by

the global enterprises Euromonitor International and WGSN, the qualitative research that studies the decision making process of fashion of young girls from Rio de Janeiro and, finally, the analyses of a catwalk for a cause and of a demonstration against conspicuousness linked to fashion, it can be highlighted that: the technology available is one of the main parameters that determine the period of years within which a generation was born and there is always a considerable gap in terms of its use between one generation and the previous one. There is no way back regarding the use of technology, but a strong trend in search for its responsible use is ongoing. Youngsters have always been considered rebels, since, in general, they oppose standards built by the previous generation. Youngsters are those who most engage in causes and it is important to show their adherence to them through the way they dress. The T-shirt keeps being one of the main means for the user to say who he/she is. The causes embraced by those who wear those T-shirts go beyond the clothes, accessories, looks they have, but their design can also be thought as a means to co-opt people for causes.

## NOTES

1 - Wrongly taken as a symbol for the message “Peace and Love” –represented by the gesture with both the index and the middle finger stretched – the symbol of nuclear disarmament, created by British designer Gerald Holtom, in 1958, is made of a circle with the letter Y upside down and with the elongation of its vertical rod. This form stems from the graphic synthetization of the letters D and N in the code used to signal at airport aprons.

2 – A stencil process in which coloring matter is forced onto the material to be printed through the meshes of a silk or organdy screen so prepared as to have pervious printing areas and impervious nonprinting areas

3 - A technique of wax-resist dyeing applied to whole cloth, or cloth made using this technique, originated from Indonesia, made either by drawing dots and lines of the resist with a spouted tool called a tjanting, or by printing the resist with a copper stamp called a cap. The applied wax resists dyes and therefore allows the artisan to color selectively by soaking the cloth in one color, removing the wax with boiling water, and repeating if multiple colors are desired.

4 – A hand method of producing patterns in textiles by tying portions of the fabric or yarn so that they will not absorb the dye.

5 - Same title as the British anthem.

6 - Occupy Wall Street is a movement that started by a protest in September 2011 and is against economic and social inequality, greed, corruption and the influence of financial institutions in the US government decisions.

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## **Track 10**

# ***Innovation in Higher Education***

*Track 10 Innovation in Higher Education*

**ID #566**

**Marketing practice in social media: Netnographic study in higher education institutions**

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**Abstract**

*This study analyzed the social media marketing practices of Facebook from higher education institutions linked to the Santa Catarina Association of Educational Foundations (ACAFE), in order to obtain user engagement. It is a quantitative, descriptive study, in the form of netnography, with data collected through direct, non-participant and structured observation of selected HEI pages. The results indicate that there is a statistically significant difference in the engagement of the users according to the IES profile; that most of the HEIs surveyed post on weekday weekdays; 79% of posts are run from 10:00 a.m. to 8:59 p.m., and that most posts have characteristics of liveliness and interactivity at a moderate level. The study contributed to broaden the knowledge about IES social media marketing practices, in terms of posting, type of content and media type, and to point out new research propositions on the topic*

**Keywords:** Marketing; Social Media; Facebook; Engagement of Users; Higher Education Institutions.

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## INTRODUCTION

In the last decades, advances in digital technology have been changing consumers' daily lives through the proliferation of online social media (Duffett, 2017). These media have become a relevant sociocultural phenomenon, transforming the manner with which people and companies connect, communicate and relate to each other (Kaplan and Haenlein, 2010). In the wake of this phenomenon, from this century onwards, several companies started to use social media as a marketing channel, seeking to boost consumer interaction and increase brand awareness (Malhotra et al., 2013). However, it becomes important to understand how the user is attracted to the posted content, and how the posts influence consumer behavior (Fagerstrøm; Ghinea, 2013).

Among the organizations that use online social media are institutions of higher education (HEI). These institutions offer services that require frequent contacts with students, and develop medium- and long-term relationships with different stakeholders (Sarquis et al., 2017). In this context, Pereira and Borges (2011) postulate that these institutions use online social media to approach their students (current or prospective), as well as reach out to the local community.

In this line, other studies identify its adoption as a digital marketing strategy (Fagerstrøm; Ghinea, 2013; Mondini et al., 2012), placing an important emphasis on Facebook. At the same time, the literature points to relevant expectations regarding the impact of its use, in the perspective of the marketing performance (Fagerstrøm; Ghinea, 2013); for example, the study by Mondini et al. (2012) analyzed how educational institutions use social media in brand communication and in their relations with stakeholders (such as teachers, students, the community at large, and suppliers).

In the Brazilian context, it is considered that the public served by HEIs is predominantly composed of young people aged 17 to 21 years. Members of this group are heavy users of the internet, and they consider that online social media is an important channel for marketing practices - notably in the processes of communication, sales and relationship. However, there is a critical lack of theoretical knowledge about marketing practices through social media in these institutions, as well as their efficacy (Assimakopoulos et al., 2017; Constantinides, Stagno, 2011, Fagerstrøm and Ghinea, 2013; Soares et al., 2018).

According to Constantinides and Stagno (2011), the production of studies on the subject is still incipient, especially in in-depth studies and the context of higher education institutions. This understanding is corroborated by Chauhan and Pillai (2013), who posit that there are few studies focused on the question of the popularity of posted content, as well as the use of online social media in the higher education business. It is also believed that the social media marketing practices of the institutions surveyed may not be producing the desired results (Almeida et al., 2015), which is corroborated by Chauhan and Pillai (2013); for them, the process of managing and evaluating the performance of posts is marked by operational difficulties: different types of social media and published content do not generate the same level of interest, popularity and user engagement.

In view of this context, the following question is proposed as the research question: **What are the marketing practices in online social media and the status of users' engagement in the context of the higher education institution?** Thus, our general objective is to analyze the marketing practices in Facebook of higher education institutions that are members of the Santa Catarina Association of Educational Foundations (ACAFE), in terms of the users' engagement. More specifically, the question proposes to analyze the posting practices for each HEIs on Facebook and verify the level of engagement of users, as well as to examine possible statistical

differences in the performance of posts in terms of user engagement in relation to the HEI profile.

## **THEORETICAL FOUNDATION**

### ***Digital Marketing***

According to Ryan (2016), digital marketing is composed of communication activities that are developed through digital platforms and technologies, with the purpose of promoting the brand and the organization's products. Along the same lines, Gomes and Reis (2016) consider that it is comprised of the marketing actions developed in the electronic (online) environment in a fast, targeted and interactive way. For Suryawardani and Wiranatha (2017), digital marketing encompasses the actions of personal interaction in the digital environment with customers, employees and other stakeholders. In the literature, several other definitions that relate it to online marketing, internet marketing, web marketing and electronic marketing can be found. In the context of this article, the concept designates the set of marketing practices developed in the Internet environment (whether in smartphone, digital television, or other digital media).

Digital marketing practices encompass various tactics, activities and promotional activities used by the organization in the digital environment, such as the firm's website, electronic billboards, search engine optimization (SEO), search engine marketing (SEM), email marketing and mobile marketing (Isohella et al., 2017). It also includes the use of blog, content marketing, online services, online social media and online advertising (Varadarajan and Yadav, 2009). However, the choice of these practices requires an a priori knowledge of the marketing objectives, an understanding the characteristics of the organization and the marketing strategies established from the perspective of the product and the profile of the target audience. In other words, the company must develop a consistent relationship strategy with internal customers, potential buyers and other stakeholders in order to better perform.

The use of digital marketing brings numerous benefits to the organizations and consumers. On the organizational side, it drives positive perceptions, feelings, attitudes and consumer buying intentions, leading to a stronger brand awareness and image (Suryawardani, Wiranatha, 2017). At the same time, it allows us to develop constant, personalized and interactive relationships, both with current and potential clients (Ryan, 2016), and serves as a powerful communication channel, attractive and diversified, which facilitates various marketing tactics, actions and techniques (Malar, 2016). On the consumer side, digital marketing practices tend to facilitate the acquisition of information about the organization, products and competitors; enable greater interaction and involvement with the company, by visiting the firm's website or online social media platforms; allow to evaluate comparatively different products and brands, with relative speed and without necessity of displacement; and understand the content and experience with the consumer (Varadarajan and Yadav, 2009).

In a case study involving three Finnish micro-enterprises, the work of Isohella et al. (2017) reveals that the benefits of digital marketing for managers are: low cost, ease of measuring performance, and strengthening customer relationships. In addition, the authors point out that the companies surveyed mainly use corporate websites, email marketing, social media marketing and SEO (search engine optimization), and that digital marketing practices vary according to the characteristics of the company and the type of product commercialized. Along the same lines, the research of Suryawardani and Wiranatha (2017) studied the impact of digital marketing on the intention of the consumer to participate in an event, using a survey and the modeling technique of structural equation modelling. The results suggest that digital marketing

is effective in promoting events, since it has had a greater influence on the intention to visit in comparison with other traditional advertising actions.

Subsequent theoretical developments indicate a growing use of social media. For example, Malhotra et al. (2013) point to an increasing use of social media by organizations to interact directly with consumers, using visual communication channels, interactive and posting images and videos. Along the same lines, Chua and Banerjee (2015) indicate the interactivity opportunities that Facebook's features provide to the company, both with consumers and with other organizations. De Vries et al. (2012) also posit that companies increasingly generate branded posts (videos, images, user questions and product information) on their Facebook pages, giving customers the ability to follow the brand and engage in branded posts (enjoying, commenting or sharing content).

From another perspective, previous research indicates that the postings of different types of content (i.e. emotional, informational or entertainment content) and media (i.e., with liveliness or interactivity) obtain different results in terms of user engagement. For example, the study by Malhotra et al. (2013) reveals that user feedback is more frequent in picture posts, informational content, and when there is a high degree of entertainment or action calls (such as inviting the user to answer questions).

Chua and Banerjee (2015) corroborate this issue, pointing out that posts with a higher level of liveliness (by displaying images, photos or videos) have a greater correlation with the amount of comments and user sharing. For Cvijikj and Michahelles (2013), the results of empirical work indicate that postings with informational content tend to increase the amount of user likes and comments. Still on this same point, Luarn et al.(2015) found that posts with high interactivity (i.e., those that invite the user to take some action, such as visiting a website, participating in a contest or answering questions or quizzes) have a higher amount of likes; already the posts with some financial incentive have more likes, but a low amount of comments.

In the Brazilian context, the study by Boaria et al. (2014) addresses digital marketing practices in the context of hotel networks (more specifically, four international networks and eleven national networks) in a survey. The results suggest that international hotel chains invest the most in digital marketing (using mainly email marketing and social media postings); the authors found a statistically significant difference in frequency of use of mobile applications, which are most used in the relationship with international networks. However, the study concludes that hotel chains need to increase the use of online social media, especially in communication and customer relationships using SEO (search engine optimization), SEM (search engine marketing) and online chats. The work of Gomes and Reis (2016) emphasizes that the use of social media tends to give better results when generating posts with relevant information and using techniques to capture users' attention (i.e., with liveliness and message interactivity).

### ***Online social media in the context of HEI***

Within the higher education institutions sector, Brazilian HEIs needed to intensify their marketing practices in order to attract and keep students in business. In recent years, there has been a sharp increase in competition and new competitors, as well as a decrease in government spending and raising operational costs in the Higher Education industry (Antunes, 2011). In addition, from the increasing involvement and demand of an increasingly well-informed and Internet-connected consumer, institutions found it necessary to better disseminate their information and services, and more directly, economically and interactively (Suryawardani, Wiranatha, 2017). This effect becomes even more apparent when we consider that students of

higher education are accustomed to the use of the internet and social media on a daily basis (Duffett, 2017).

Previous studies in this industry show that social media are mainly used as a channel of communication with students, employees, parents of students, alumni and the local community (Peruta and Shields, 2016); per Malhotra et al. (2013), Facebook allows posts with visual, interactive content, with images and videos. The study by Araujo (2018) concluded that Facebook assists in the relational performance of scientific journals in the digital environment, and may promote increased exposure of publications in a more interactive and engaged manner. According to Fujita et al.(2017), some social media marketing practices recommended for HEIs include: the promotion of hashtags to create relevant content that inspires user participation; providing students and staff with opportunities to express their opinions and collectively build meanings for the institutional brand / image; aligning marketing communications with experiences lived by the students; delivering services through relevant and timely content; and making the relationship process more enjoyable, through social interaction.

It is also worth noting that previous studies have suggested that social media marketing contributes to improving performance in student achievement (Peruta; Shields, 2016); in the process of relationship and construction of contact networks (Antunes, 2011); in the development of personalized, frequent and interactive contacts (Assimakopoulos et al., 2017); and in the dissemination of services, helping create value for the customer (Fujita et al., 2017). This understanding is corroborated by Pereira and Borges (2011), who also point out that the use of social media by HEIs generates results as an approximation of the institution with the student body and the community at large, thus facilitating the dissemination of information to the different stakeholders. Lastly, the work of Antunes (2011) shows that the presence of HEI in social media contributes to leverage brand reputation, and that the most used metric of performance is the interaction with students.

Pereira and Borges (2011) analyzed the use of social media in the context of a public education institution, and its impact on the relationship with students and external community. In a case study and questionnaire application with 1,228 participants (students, employees and representatives of the community), results show that the HEI is present in Twitter, Facebook, Orkut, Youtube, Formspring and Blogs media, which are used as a channel of communication with students and members of the local community. The study also reveals that social media is considered an important source of information by students, generating benefits such as approximation and interactivity, ease of access to information and adaptation of the institution to technological advances.

In the case of institutions linked to ACAFE, the study by Mondini et al.(2012) points out that 81% of them use at least one social media (mostly, on Twitter and Facebook), and that their practices are aimed at developing communication and relationship with the target audience, as well as providing comments that circulate on the internet . The results also indicate that the use of social media reinforces the credibility of the institution, and foster a better understanding of students' needs and desires.

Still in the context of the same ACAFE members, it is worth mentioning the study by Sarquis et al. (2016) that investigated the ways of using social media in marketing, through a case study in three HEIs. In this study, the authors conducted in-depth interviews, documentary survey and web techniques. The results show that the most used social media are Facebook and Twitter, mainly used to improve communication and relationships with students and the community. The research also showed that HEIs publish different types of content and information

(however, with no defined frequency and with little interaction with the user); that the main performance metrics adopted are the number of followers, likes and visitors, as well as the sharing of publications and the number of contacts; and that some benefits obtained by HEIs through the use of social media are: obtaining information about students; feedback on services; better targeting of marketing campaigns; and better image and credibility of the institution.

## **METHOD**

The present study is classified as quantitative, descriptive and uses netnography analysis. The object of study is 16 HEIs located in the State of Santa Catarina that belong to ACADE. Of these, eleven are universities, and five are university centers. These HEIs together have 142,293 students, 8,968 teachers, 5,924 employees, 1,282 institutional research groups and 188 project incubators (ACAFE, 2017). The study's frame of reference is comprised of the messages posted by the institutions on Facebook pages, in the period that ranges from August to October 2017.

The data were collected through direct, non-participant and structured observation of selected HEI pages on Facebook. According to Kozinets (2015), the observation method is recommended for research in virtual environments, since it allows a better understanding of the behavior of managers and users. In direct observation, the data collection used a structured collection instrument (Observations Record Form), as recommended by Saunders et al. (2016). The collection of data was derived from monitoring the HEI pages between November and December 2017.

The collection instrument used the dimensions and research variables proposed by Brookes (2010), De Vries et al.(2012), Cvijikj and Michahelles (2013), Sabate et al.(2014), Luarn et al.(2015) and Chua and Banerjee (2015), which are: HEI name (Variable 1), Facebook page link (V2), page creation time (V3) and number of followers (V4). In relation to the content of the messages, the data collected are: observation date (V5), posted message link (V6), postdate (V7), posting time (weekday / V8 and time of day / V9 (V12, emotional / V13, entertainment / V14 and informational / V15), and engagement metrics (number of comments / V16, number of shares / V17 and amount of likes / V18). The instrument was previously tested on Facebook pages of three other educational institutions in order to verify its functionality, practicality of application and to allow adjustments that might be necessary. In addition, the pre-test was used to train the participating researchers.

The analyzed dimensions are: time of postage; type of media; content type; and engagement metrics. At the time of the posting, we collected the day of the week and time of the posting (Brookes, 2010; Cvijikj; Michahelles, 2013). As for the media type, the posts were analyzed in the questions of vivacity and interactivity. From the studies of De Vries et al. (2012), Chua and Banerjee (2015) and Luarn et al. (2015), we adopted levels of interactivity measurement. For the type of content, posting with information content, entertainment content, emotional nature and the offer of some incentive or financial compensation (Cvijikj; Michahelles, 2013; De Vries et al., 2012) were analyzed. Finally, user engagement was measured by the number of likes, comments, and share posts, as posited by Luarn et al. (2015) and Chua and Banerjee (2015).

The data collected were initially tabulated in Excel and subsequently submitted to analytical techniques using SPSS (Statistical Package for the Social Sciences), version 22. In that process, descriptive statistics were derived (relative frequency, minimum percentage, maximum percentage, standard deviation and arithmetic mean) and Student's t-test to examine possible

statistical differences in the performance of postings (such as user engagement), segmented by the HEI profile, time in market, size and location (mesoregion) of performance.

The variables related to the measurement of post popularity - that is, user engagement - are:  $y_1$  = number of likes,  $y_2$  = number of comments and  $y_3$  = number of shares. Each variable was calculated as follows: we considered the number of interactions (comments, likes or shares); this amount was divided by the number of fans of the HEI page.

## **ANALYSIS AND DISCUSSION OF RESULTS**

### ***Profile of participants***

This section presents the profile of study participants. The HEIs participating in the study are located in different mesoregions of the State of Santa Catarina. Most of them are from the Itajaí Valley (UNIFEBE, UNIDAVI, UNIVALI and FURB), followed by HEIs from the Northern Region (UnC, CSC and UNIVILLE), Western Region (UNOCHAPECÓ, UNIARP and UNOESC) and Southern Region (UNIBAVE, UNESC and UNISUL). Regarding the size (the baseline being the number of undergraduate students in 2013), there are six HEIs with more than 10,000 students, but most of them (nine) have up to 10,000 students. On average, the participating HEIs have 9,267 students, the USJ being the smallest (292 students) and UNISUL the largest (29,369 students). When the study was executed, most of them (10) were founded after 1965. The oldest one is UNIPLAC (founded in 1959) and the newest is the USJ (founded in 2005). **Table 1** depicts the pages and Facebook posts of higher education institutions that make up the sample of this study: HEI name, page link, number of followers, number of posts, date of first post and date of last post.

### ***Results of descriptive analysis of posts***

**Table 2** depicts the descriptive analysis of the variables measured: size, level of measurement, counts, percentage, minimum percentage and maximum percentage, from the perspective of the study's objectives (namely, to investigate the use of Facebook by HEIs). The results are organized by size, as follows: posting (variables: day of the week and time of day), type of media (liveliness or interactivity) and type of content (remuneration, emotional, entertainment or informational).

The post's timeliness was first categorized into business and weekend days. The results show that most of the posts (88.9%) were carried out on working days (Monday to Friday). The maximum percentage of posts on working days (100%) corresponds to UNIPLAC, and the minimum percentage (78.4%) to UNIFEBE. Regarding the time of day, 79% of the HEI postings were carried out from 10:00 a.m. to 8:59 p.m. - the peak time of the Brazilian internet use (Brazil, 2016). The maximum percentage of posts in this timeframe (98.7%) corresponds to UNIBAVE, and the minimum (69.2%) to UNOESC. A significant percentage of posts (21%) occurs in the period ranging from 21:00 to 9:59.

With respect to the media type, the posts were categorized in terms of liveliness as: none, low, medium and high. The results show that most posts (65.3%) present average vivacity; 18.4% of them have low liveliness; and only 16.2% of them show high-level vivacity - that is, with gifs (image format) and video. The highest percentage of liveliness (45.3%) belongs to UNIFEBE, and the lowest (0%) to the USJ. As for interactivity, most of the posts (59.4% of them) are considered to have an average interactivity level; 20.4% have low interactivity and only 16.9% of them are highly interactive (that is, with questions or requests for user

interaction). The largest interactivity rating (37.4%) belongs to UNIFEBE, and the lowest (0%) to USJ and UnC.

In turn, the content type dimension shows a predominance in the postings of informational content (47.3% of the posts). In other words, the publications present information about the institution's products, services, procedures and marketing activities; followed by posts with emotional content (32.6%), entertainment (12.0%) and incentive or remuneration (8.1%). In the information content, the highest percentage (68%) belongs to UnC, and the lowest (23.7%) to UNIFEBE. In terms of emotional content, the highest percentage (39.7%) corresponds to UNIBAVE, and the lowest (17.3%) to UnC. In the entertainment content, the largest percentage (40.3%) belongs to UNIFEBE, and the lowest (1.7%) to the USJ. In terms of financial compensation, the highest percentage (21.8%) is from UNIBAVE, and the lowest (1.2%) corresponds to FURB.

**Table 3** presents the results of the descriptive analysis of the variables used to measure the popularity of HEI postings on Facebook, in terms of user engagement: number of likes, number of comments and number of shares. The HEIs postings total 110,259 likes, which corresponds to an average of 55.6 likes per post. The median is 19 likes, and the standard deviation is 150.1; thus, there is a high degree of dispersion of the sampled data. There are 10 posts with over a thousand likes: six from UDESC; one from UNOESC; one from UnC; one from UNESC and one from UNOCHAPECÓ. The UDESC post of September 4, 2017 was the one that obtained the highest number of likes (3,132); the HEI with the highest average likes per post is UDESC (333.1) and the HEI with the lowest likes average is UNISUL (17.0).

HEI postings total 7,302 comments, averaging 3.6 comments per post with a standard deviation of 18.3. Four posts received more than 200 user comments (two from UDESC, one from UNESC and one from UNIVILLE). The UDESC posting of August 30, 2017 received the highest number of comments: 406. The UDESC has the highest average of comments (29.7), and UnC obtained the lowest average of comments (0.6).

The number of shares totaled 18,915 shares per post, averaging 9.5, with a median of 1 and standard deviation of 37.8. Eight posts obtained more than 200 user shares (5 from UDESC, 2 from UNIVALI and 1 from UNISUL). The post of UNIVALI of August 14, 2017 obtained the largest number of shares (1,130). The HEI with the highest average shares is the UDESC (56.1) and the one with the lowest average shares is CSC (2.1).

### ***Results of descriptive analysis by HEI***

**Table 4** shows the statistics related to the types of media (vivacity and interactivity) for each HEI, measured by the number and percentage of posts (at medium or high level). Regarding the liveliness, the results show that the vast majority of HEIs surveyed (81.2%) have high percentage of posts with liveliness characteristics - that is, they present messages with links that redirect the user to additional text or image, as well as videos with rich media and sound. In general, about 78.1% of the posts made by HEI have some liveliness characteristic. The institutions with the liveliest posts are: UNESC (99.5% of the posts), UNIVALI (98.6%) and UDESC (97%). On the other hand, the institutions with the fewest postings are: FURB (66.3%), UNIDAVI (59.3%) and USJ (22%).

With respect to the interactivity dimension, the results indicate a preponderance of HEIs (81.2%) that present a high degree of postings with interactivity traits; in other words, the posts display messages with links that encourage the user to interact (whether to watch a video, or to read more complete or detailed material). In general, 71.8% of the posts made by HEI have interactivity characteristics. The most interactive institutions are UNIVALI (92.9% of the

posts), UNOCHAPECÓ (92%) and UNIFEBE (89.2%), and the ones with the least interactivity are UNIARP (50%), USJ, 7%) and UnC (18.7%).

**Table 5** shows the statistics relevant to the variables in the content type dimension (remuneration, emotional, entertainment and informational) by HEI - with quantity and percentage of posts. Regarding the content of compensation, the results indicate that the HEIs analyzed rarely use this type of practice: in the analyzed period, only 8.1% of the posts carried out by the HEI have content of remuneration. Of these, only five HEIs (31.2% of them) present more than 10% of the posts with this type of content; (21.8% of the posts), CSC (17.8%) and UDESC (11.9%). The institutions that make the least use of this practice are: UNIARP (only 1.9% of the posts), UNIDAVI (1.9%), UnC (1.3%) and FURB (1.2%).

Regarding the emotional content, the results point out that all HEIs use posts on Facebook with emotional content; In other words, they all resort to the appeal that creates or strengthens the emotional bonds with the user. In general, about 31.8% of the posts made by HEIs in the aforementioned period use this type of approach. The institutions that most commonly use the emotional content are: UNIBAVE (39.7% of the posts), UNIVALI (39.7%) and UNIDAVI (38.9%). On the other hand, the HEIs that least use it are CSC (24.4% of posts), and UnC (17.3%).

Regarding entertainment content, the results show that HEIs rarely post entertainment content. In general, only 11.7% of the posts made by HEI adopt this type of strategy. The institutions with the most posts with entertainment are: UNIFEBE (40.3% of the posts), UDESC (19.4%) and UNOCHAPECÓ (16%). The lowest HEIs are: UNIVALI (5.7%), UNISUL (3.2%), UNIPLAC (1.9%) and USJ (1.7%).

Lastly, with regards to information content, the results indicate that this posting practice is widely used by the HEIs surveyed. In that period, all Facebook messages were published with information content. Overall, about 48.3% of posts have this type of content. The HEIs that most use this type of content are: UnC (68% of posts), UNIPLAC (62.3%) and UNIARP (61.1%). The institutions least use it are: UNOCHAPECÓ (34% of the posts), UNIBAVE (30.8%) and UNIFEBE (23.7%).

### ***Results of HEI post performance analysis***

A second objective of the study is to verify the engagement of users by HEI. **Table 6** presents the engagement metrics of the users, showing the arithmetic mean, standard deviation and weighted average by the number of followers (which is the dependent variable). These variables were used to measure the HEI post performance, since the level of user engagement tends to reflect the popularity of social media posts (Chua, Banerjee, 2015, Luarn et al., 2015).

Regarding the number of likes, the results indicate that the average likes per post is relatively low (55.6 likes), if we consider the number of followers (mean of 35,578 followers per HEI). The HEIs with the highest averages are: UDESC (M = 333.1, SD = 560.9), UNOESC (M = 100.7, SD = 204.9), UNIVALI (M = 89.1, SD = 117.0) and UNIVILLE (M = 69.3, SD = 92.8). On the other hand, the HEIs that less use it are: CSC (M = 17.6, SD = 33.7), USJ (M = 17.5, SD = 19.0) and UNISUL (M=17.0; DP=39.0).

The analysis of the likes' average shows that the best performing HEIs are: UNOCHAPECÓ ( $y_1 = 0.00485$ ), UNIVILLE (0.00460) and UNIFEBE (0.00458). However, the results of standard deviation are high. This leads us to conclude that – due to the high variability - the dispersion of the values does not allow us to make inferences regarding the amount of likes by followers for the HEI surveyed.

Regarding the amount of comments, the results show that the average number of comments per post is reduced: only 3.6 comments in the analyzed period. The HEIs with the highest comments' averages are: UDESC (M = 29.7, SD = 69.8), UNIVALI (M = 5.0, SD = 12.0) and UNIVILLE (M = 4.8, SD = 20.4). The lowest averages were: UNIPLAC (M = 1.2, SD = 2.4), UNISUL (M = 0.8, SD = 3.0) and UnC (M = 0.6, SD = 2.7). When analyzing the average number of comments weighted by the number of followers, the best performing HEIs are: UNIDAVI ( $y_2 = 0.00030$ ), UNOESC (0.00030) and UNIARP (0.00030).

Regarding the number of shares, the results indicate that the average number of shares per HEI is also low: 9.5 shares in the analyzed period. The highest HEI were: UDESC (M = 56.1, SD = 92.3), UNIVALI (M = 27.6, SD = 106.1) and UNIBAVE (M = 19.2, SD = 28.5), and those with lower means are: UNESC (M = 4.1, SD = 14.0); UNIFEBE (M = 2.5, SD = 9.4) and CSC (M = 2.1, SD = 4.7). When we analyze the average weighted shares by the number of followers, the best performing HEIs are: UNOCHAPECÓ ( $y_3 = 0.00082$ ), UNIVILLE (0.00077), UNISUL (0.00067) and UNESC (0.00067).

User engagement metrics indicate the existence of a negative evolution of all collected data, and a downward trend. The average likes by users present a negative variation in the period, of -13.2% (in August it was 59.4, in September of 56.3 and in October of 51.5). The comments also show a marked drop (-33.8%, in August it was 4.2, in September it was 3.9 and in October it was 2.8). Lastly, the results of averages of shares per user show the sharpest decline (-39.6% in August, 12.2 in September, 9.2 in September and 7.4 in October).

### ***Results of the analysis of differences according to the profile of HEIs***

Considering the last objective of the study - that is, the examination of the statistical differences in terms of the post-performance in terms of user engagement, in relation to the characteristics of the HEI profile -, our strategy consisted of performing Student's t-Test.

In a first analytical approach depicted in **Table 7**, we analyzed the differences of the time that the HEI exist (more specifically, we separated HEI into two groups according to its foundation: before and after 1965). With respect to the number of likes, we note that  $A(0.05) > P(t \leq t)$  two-tailed test (0.017), indicating that there is a greater amount of likes in younger HEIs. However, in terms of the quantity of comments and shares,  $P(t \leq t)$  two-tailed test (0.17)  $> A(0.05)$  and  $P(t \leq t)$  two-tailed test (0.104)  $> A(0.05)$ . Thus, no statistically significant differences were found between younger and older HEIs for these two questions.

**Table 8** analyzes the size / size of the HEI (considering those that have up to ten thousand students, and others that have a higher amount). With respect to the amount of likes and shared, we note that  $A(0.05) > P(t \leq t)$  two-tailed test (0.0007) and  $A(0.05) > P(t \leq t)$  two-tailed test (0.00005), which allow us to conclude that there is a statistically significant difference between the two groups: the smaller HEI have a greater amount of likes and shares. Regarding the comments, since  $P(t \leq t)$  two-tailed test (0.067)  $> A(0.05)$  show no significant statistical difference between the two groups.

Finally, **Table 9** presents the results of Student's t-Test, considering the location of the HEI - that is, its geographic market, which corresponds to the different mesoregions of the State of Santa Catarina: Greater Florianópolis, Northern region, Western Region, Mountains, Southern Region and Itajaí Valley. In terms of number of likes, the results indicate that there is a statistically significant difference for Greater Florianópolis ( $p = 3.28E-06$ ), Southern Region ( $p = 0.000225$ ) and Itajaí Valley ( $p = 0.015006$ ). With respect to the number of comments, the results show that there is a statistically significant difference for HEIs in the Greater Florianópolis mesoregions ( $p = 0.000119$ ), North Region ( $p = 0.029342$ ) and Western Regions

( $p = 0.005629$ ). In terms of shares, the results show a statistically significant difference for HEIs located in the regions of Greater Florianópolis ( $p = 6.47E-05$ ), the Western Region ( $p = 0.000327$ ) and the Itajaí Valley ( $p = 0.042703$ ).

### ***Analysis and discussion***

The present study collected data related to the postings of HEIs that are members of ACADE, in the State of Santa Catarina. The study indicates that there were 1,981 postings of 16 HEIs in a three-month period, which runs from August to October 2017. It should be noted that this number of pages and publications is higher than the amounts reported in previous studies on the subject. Specifically, Chauhan and Pillai (2013) analyzed 10 brands and 1,440 publications; Luarn et al. (2015) investigated 10 brands and 1,030 publications; De Vries et al. (2012) analyzed 11 brands and 355 publications; and Sabate et al. (2014) studied five brands and 164 publications.

The netnographic research points out that all HEIs linked to ACADE currently have a Facebook page. This is an improvement over the year 2011, when 19% of them did not have online social media pages and only 38% had Facebook profiles (Mondini et al., 2012). The results also show that the HEIs published, on average, 41.2 posts per month and have an average of 35,578 followers. It should be noted, however, that this number of followers is lower than the institutions studied by De Vries et al. (2012), which scored 337,500 followers per brand.

It is also worth noting that the 1,981 posts of Brazilian HEIs produced only 55.6 likes and 3.6 comments per post. In comparison, in the study by De Vries et al. (2012), firms presented 189.2 likes and 42.2 comments per post. In view of the absence of other similar studies in the context of HEI, it is considered that the work of De Vries et al. (2012) involving multinational manufacturing firms is useful to support the evaluation of the relative performance of HEI posts, considering the number of followers. As postulated by Cvijikj and Michahelles (2013), the amount of comments, likes and shares in posts is not an absolute measure and it is important to analyze them considering the number of fans and followers of the page. In this sense, the HEI surveyed have higher numbers of likes as compared to De Vries et al. (2012). However, we conclude that there is a gap in the literature of studies aimed at improving the popularity of posts in educational institutions, in terms of comments and user sharing.

Regarding the dimension of the moment of the posting, the results of the research reveal that the HEIs publish more on Wednesdays - an outcome that is quite distinct from the 11 brands studied by De Vries et al. (2012), which publishes more on Thursdays. The days with the least amount of posts are Saturday and Sunday - in line with the findings of Brookes (2010) on the subject. Regarding the time of day, the research shows that the HEIs publish mainly from 11:00 a.m. to 11:59 p.m. and from 5:00 p.m. to 5:59 p.m. This result contrasts with the practice of HEIs in India, which publish more between 20:00 and 00:00 (Chauhan; Pillai, 2013). Supposedly, this is justified by the HEIs to invest in the peak of Internet usage in the country (10:00-20:59), as revealed by the Brazilian Media Research 2015 (Brazil, 2016).

Regarding the size of the media type, the study reveals that most of the postings have characteristics of liveliness at a moderate level. This result corroborates the findings of Luarn et al. (2015); according to these authors, users show preference for posts with liveliness at a moderate level. However, as recommended by De Vries et al. (2012), the HEIs could invest in posts with more liveliness (with, for example, posts with more stamina, action and videos), since this type of message can generate a more positive attitude, which in turn will boost the popularity of their posts.

In terms of interactivity, the results show that most posts have moderate interactivity, unlike the findings of Luarn et al. (2015) and Chua and Banerjee (2015) on the theme. However, the level of interactivity is greater and there is more propensity to enjoy, comment and share posts (Chua, Banerjee, 2015, De Vries et al., 2012). Accordingly, the HEIs can promote interactivity in the posts, since this tends to promote socialization, expression of opinions and the sharing of experiences. In addition, Yazdanparast et al. (2016) postulate that this type of practice has a favorable impact on the consumer's attitude towards the brand.

In the content-type dimension, the results of the research point to a predominance of posts with information content (in particular, regarding the description of the courses, activities and events promoted by the institution). This result corroborates the findings of Malhotra et al. (2013), which indicate that brands of multinational companies invest more heavily in the dissemination of information about their products and services to users (i.e. information content). One possible explanation for the emphasis given by the HEIs to post informational content is that, in Brazil, about 50% of Internet users express a preference for obtaining information and news - a percentage higher than the world average (Brazil, 2017). On the other hand, there is evidence in the literature that posts with emotional content tend to cause users to share content more intensely with friends and acquaintances, which would increase the popularity of messages (Malhotra et al., 2013). Along the same lines, it was found that the posts with emotional content occupy the second position in the profile of the HEI search.

Finally, the research shows that the analyzed HEIs carry out different types of posts, in various and different dimensions: moment of the post, type of media and type of content. There is a statistically significant difference with respect to user engagement, due to characteristics of the HEI profile, which are in line with Gomes and Reis (2016) and Isohella et al. (2017). For these authors, the profile of the organization tends to influence their practices and strategies of digital marketing.

Accordingly, the study confirms that the performance analysis of social media can be made based on the users' engagement (likes, comments and shares); however, it is necessary to perform the analysis separately, since the performance may vary according to the characteristics of the organization, such as: time of existence in the market; bearing; size; marketplace; and place of performance. In addition, as suggested by Luarn et al. (2015), the behavior of liking, commenting, and sharing pages and branded posts are good Facebook metrics for analyzing the level of user engagement.

Consequently, the analysis of differences in Facebook post-performance – contingent on the profile of the organization - allows the following research hypotheses to be formulated: The younger HEIs tend to invest in posting practices that favor user engagement in terms of amount of likes, such as informational content (**proposition 1**); The smaller HEIs tend to invest in posting practices that favor the engagement of users in terms of amount of likes (**proposition 2**); Smaller HEIs also tend to engage in posting practices that favor user engagement in terms of amount of shares, such as content with liveliness and entertainment (**proposition 3**).

## **FINAL CONSIDERATIONS**

The present study analyzed the Facebook marketing practices in 16 higher education institutions located in the State of Santa Catarina, Brazil. To support our research objectives, a netnographic study was conducted. We analyzed the profile of Facebook of Higher Education Institutions with the aim of (a) raising the practices related to: posting time, content types and

media types; (b) verifying the users' engagement with the posts; and (c) to examine statistical differences in the performance of postings based on the HEI profile.

The research objectives were fully achieved, and the results indicate that most of the HEIs posted on weekdays (on Tuesdays and Wednesdays). Most posts run from 10:00 a.m. to 8:59 p.m. Regarding the type of media, results show that most HEI adopt moderately lively and interactivity posts, containing texts, images, links and requests for comments and user interaction. Regarding the type of content, most post informational content, usually for the purpose of passing information about the institution's services, procedures and marketing activities. In terms of user engagement, the results indicate that the number of likes, comments and post-sharing of the HEIs surveyed is relatively low (considering the analysis period, which lasted for three months, as well as the quantity of 35,578 followers per HEI).

The study also indicates that there is a statistical difference in the performance of Facebook posts for user engagement, depending on the profile of HEI. Posts from younger HEIs have a higher amount of likes than older institutions; the posts of smaller sized HEIs have more likes and shares than their larger counterparts. The results also indicate that there is a statistically significant difference in the post-performance as a function of the location of HEI - in terms of likes, such as comments and shares.

The present research contributes to broaden the understanding of marketing practices in social media of higher education institutions, as it presents details about the timing of posts, types of content and types of media practiced by the HEI. In a distinctive manner from previous studies on the subject – which have analyzed the performance of Facebook posts in terms of user engagement in the context of multinational manufacturing firms (Cvijikj; Michahelles, 2013; De Vries et al., 2012; Luarn et al., 2007), or from companies located in countries in regions of Europe and Asia (Chua, Banerjee, 2015, Sabato et al., 2014), this study analyzed the performance of Facebook posts in the context of higher education institutions in Latin American country.

In this way, the research provides a high academic and managerial relevance, as it turns to a sector of economic activity and a context of study in which there is a knowledge gap in the field (Chauhan; Pillai, 2013; Fagerstrøm, Ghinea, 2013). Thus, the research makes it possible to confirm of significant differences in the Facebook posts performance, from the perspective of the characteristics of the organization (time of existence, size and region of action). This corroborates the postulates of Gomes and Reis (2016) and Isohella et al. (2017). From an exploratory perspective, the research led to the proposition of three new research hypothesis on the topic, based on the results of the differences in the post-performance according to the HEI profile. These hypotheses provide a direction for the continuity of work in the form of empirical research, which may encourage further research of the subject.

In terms of managerial recommendations, the study analyzed the main market practices employed by HEIs in the State of Santa Catarina, as well as their effects on the engagement of Facebook users. In this vein, HEI marketing managers may - based on the results presented here - evaluate the effectiveness and efficiency of their Facebook marketing practices in order to identify improvement opportunities to improve performance. The research also presents the main practices in terms of users' engagement (likes, comments and shares).

In addition, it is suggested that the HEI marketing managers intensify the practice of postings with greater interactivity, since the three HEIs with better performance in likes and sharing (weighted by the number of followers) are those whose posts stimulate user interactivity. It is also suggested that they reduce the posts with remuneration offers (that is, those that offer

promotions, discounts or reduction of value), since the research shows that the HEIs that favor the posts of this nature obtained poor performance in terms of likes, comments and weighted shares.

Lastly, the only statistically significant differences were found in HEIs of the Greater Florianópolis mesoregion in the performance of the postings in terms of likes, comments and shares. This could be explained by the fact that this region concentrates almost half of the technology firms - notably information technology - which could be reflected in the behavior of online social media users in the region (ND, 2017). Thus, new studies in other regions that concentrate technology companies could be helpful to confirm the findings of this research.

As recommendations for future studies on the topic, it is suggested to use samples that have a higher number of participating HEIs, a longer collection period and the observation of HEI practices in other social media (such as Twitter and YouTube). In addition, new studies on the topic must to analyze other research variables that are not considered in this research (such as the size of the text and the practice of sponsored posts). Another interesting line of inquiry is the investigation of the effect of the posting hours and the remunerated content on the performance and popularity of user posts.

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Table 1: Facebook page data and post sampling period

HEI	Page on Facebook	Quantity followers	Total posts	First post	Last post
Centro Universitário Católica de Santa Catarina	<a href="https://www.facebook.com/CatolicaSC">https://www.facebook.com/CatolicaSC</a>	22,799	180	August 1	October 31
Universidade Regional de Blumenau	<a href="https://www.facebook.com/FURBoficial/">https://www.facebook.com/FURBoficial/</a>	44,115	83	August 1	October 31
Universidade do Estado de Santa Catarina	<a href="http://facebook.com/udesc">http://facebook.com/udesc</a>	60,651	67	August 1	October 31
Universidade do Contestado	<a href="https://www.facebook.com/universidadedocontestado">https://www.facebook.com/universidadedocontestado</a>	21,536	75	August 1	October 30
Universidade do Extremo Sul Catarinense	<a href="https://www.facebook.com/unescoficial">https://www.facebook.com/unescoficial</a>	35,264	215	August 1	October 31
Universidade Alto Vale do Rio do Peixe	<a href="https://www.facebook.com/uniarp">https://www.facebook.com/uniarp</a>	13,327	108	August 1	October 31
Centro Universitário Barriga Verde	<a href="https://www.facebook.com/unibave">https://www.facebook.com/unibave</a>	11,973	78	August 1	October 31
Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí	<a href="https://www.facebook.com/UniversoUnidavi">https://www.facebook.com/UniversoUnidavi</a>	20,113	108	August 1	October 31
Centro Universitário de Brusque	<a href="https://www.facebook.com/unifebe">https://www.facebook.com/unifebe</a>	17,267	139	August 1	October 31
Universidade do Planalto Catarinense	<a href="https://www.facebook.com/uniplaclages">https://www.facebook.com/uniplaclages</a>	12,498	53	August 1	October 31
Universidade do Sul de Santa Catarina	<a href="https://www.facebook.com/unisul.universidade">https://www.facebook.com/unisul.universidade</a>	70,651	217	August 1	October 31
Universidade do Vale do Itajaí	<a href="http://www.facebook.com/univali">http://www.facebook.com/univali</a>	84,605	141	August 1	October 31
Universidade da Região de Joinville	<a href="https://www.facebook.com/univille">https://www.facebook.com/univille</a>	45,332	176	August 1	October 31
Universidade Comunitária da Região de Chapecó	<a href="https://www.facebook.com/unochapeco">https://www.facebook.com/unochapeco</a>	42,992	162	August 1	October 31
Universidade do Oeste de Santa Catarina	<a href="http://www.facebook.com/unoescoficial">http://www.facebook.com/unoescoficial</a>	61,854	120	August 1	October 31
Centro Universitário Municipal de São José	<a href="https://www.facebook.com/USJ-Centro-Universitario-Municipal-de-Sao-Jose-116752718505085">https://www.facebook.com/USJ-Centro-Universitario-Municipal-de-Sao-Jose-116752718505085</a>	4,276	59	August 1	October 15

Source: Prepared by the authors (2019)

Table 2: Descriptive statistics of the variables measured

Dimension	Variable	Level	Count	Percentage	Minimum percentage	Maximum percentage
Post Time	Day of the week (VI)	0 = weekday	1761	88.9%	78.4%	100.0%
		1 = weekend day	220	11.1%	0.0%	21.6%
	Time of day (VI)	0 = 10 a.m. and 8:59 p.m.	1565	79.0%	69.2%	98.7%
		1 = between 9:00 p.m. and 9:59 p.m.	416	21.0%	1.3%	30.8%
Media Type	Vivacity (VI)	0 = null	2	0.1%	0.0%	0.6%
		1 = low	364	18.4%	0.5%	78.0%
		2 = average	1294	65.3%	22.0%	87.9%
		3 = high	321	16.2%	0.0%	34.7%
	Interactivity (VI)	0 = null	67	3.4%	0.0%	45.8%
		1 = low	404	20.4%	7.1%	72.0%
		2 = average	1176	59.4%	18.7%	79.2%
		3 = high	334	16.9%	0.0%	37.4%
Content Type	Remuneration (VI)	1 = with remuneration	160	8.1%	1.2%	21.8%
	Emotional (VI)	1 = with emotional appeal	646	32.6%	17.3%	39.7%
	Entertainment (VI)	1 = with entertainment	238	12.0%	1.7%	40.3%
	Informational (VI)	1 = informational	937	47.3%	23.7%	68.0%

Source: Prepared by the authors (2019)

Table 3: Results of descriptive statistics of dependent variables

Statistic	Likes	Comments	Shares
Total (amount)	110259	7302	18915
Average period	55.66	3.69	9.55
Maximum of posts	3132	406	1130
Minimum mean (HEI)	17.07	0.6	2.19
Maximum mean (HEI)	333.16	29.73	56.13
Mean	19	0	1
Standard deviation (SD)	150.15	18.31	37.87

Source: Prepared by the authors (2019)

Table 4: Results of dimension media types by HEI

HEI	Vivacity		Interactivity	
	count	percentage	count	percentage
CSC	150	83.3%	145	80.6%
FURB	55	66.3%	65	78.3%
UDESC	65	97.0%	57	85.1%
UnC	54	72.0%	14	18.7%
UNESC	214	99.5%	180	83.7%
UNIARP	83	76.9%	54	50.0%
UNIBAVE	58	74.4%	50	64.1%
UNIDAVI	64	59.3%	83	76.9%
UNIFEBE	109	78.4%	124	89.2%
UNIPLAC	47	88.7%	43	81.1%
UNISUL	173	79.7%	168	77.4%
UNIVALI	139	98.6%	131	92.9%
UNIVILLE	145	82.4%	146	83.0%
UNOCHAPECÓ	151	93.2%	149	92.0%
UNOESC	95	79.2%	87	72.5%
USJ	13	22.0%	14	23.7%

Source: Prepared by the authors (2019)

Table 5: Results of content types dimension by HEI

HEI	Remuneration		Emotional		Entertainment		Informational	
	count	percentage	count	percentage	count	percentage	count	percentage
CSC	32	17.8%	44	24.4%	17	9.4%	87	48.3%
FURB	1	1.2%	30	36.1%	11	13.3%	41	49.4%
UDESC	8	11.9%	18	26.9%	13	19.4%	28	41.8%
UnC	1	1.3%	13	17.3%	10	13.3%	51	68.0%
UNESC	10	4.7%	82	38.1%	31	14.4%	92	42.8%
UNIARP	2	1.9%	28	25.9%	12	11.1%	66	61.1%
UNIBAVE	17	21.8%	31	39.7%	6	7.7%	24	30.8%
UNIDAVI	2	1.9%	42	38.9%	8	7.4%	56	51.9%
UNIFEBE	8	5.8%	42	30.2%	56	40.3%	33	23.7%
UNIPLAC	5	9.4%	14	26.4%	1	1.9%	33	62.3%
UNISUL	21	9.7%	69	31.8%	7	3.2%	120	55.3%
UNIVALI	9	6.4%	56	39.7%	8	5.7%	68	48.2%
UNIVILLE	11	6.3%	60	34.1%	13	7.4%	92	52.3%
UNOCHAPECÓ	19	11.7%	62	38.3%	26	16.0%	55	34.0%
UNOESC	7	5.8%	37	30.8%	18	15.0%	58	48.3%
USJ	7	11.9%	18	30.5%	1	1.7%	33	55.9%

Source: Prepared by the authors (2019)

Table 6: Results of metrics of engagement of users by HEI

HEI	Total posts	Likes			Comments			Shares		
		mean	SD	y1	mean	SD	y2	mean	SD	y3
CSC	180	17.63	0.0015	0.00081	1.36	0.00018	0.00006	2.19	0.0002	0.00011
FURB	83	46.61	0.00533	0.00248	2.28	0.0008	0.00022	10.82	0.0012	0.00054
UDESC	67	333.16	0.00333	0.00171	29.73	0.00019	0.00008	56.13	0.00079	0.00039
UnC	75	44.80	0.00505	0.00216	0.60	0.00034	0.00012	7.28	0.00096	0.00046
UNESC	215	44.69	0.01473	0.00393	4.22	0.0007	0.0002	4.13	0.00179	0.00067
UNIARP	108	34.63	0.00727	0.00346	1.42	0.00092	0.0003	4.26	0.00128	0.00064
UNIBAVE	78	45.91	0.00495	0.00217	2.49	0.00033	0.00013	19.26	0.00094	0.00046
UNIDAVI	108	35.44	0.00727	0.00346	3.56	0.00092	0.0003	5.69	0.00128	0.00064
UNIFEBE	139	31.66	0.01672	0.00458	2.76	0.00083	0.00027	2.51	0.00122	0.00064
UNIPLAC	53	33.53	0.00151	0.00128	1.23	0.00011	0.00006	5.68	0.00054	0.00031
UNISUL	217	17.07	0.01467	0.0039	0.85	0.00069	0.00019	6.06	0.00178	0.00067
UNIVALI	141	89.13	0.01661	0.00454	5.06	0.00083	0.00027	27.67	0.00122	0.00063
UNIVILLE	176	69.39	0.01617	0.0046	4.86	0.00077	0.00023	8.27	0.00194	0.00077
UNOCHAPECÓ	162	55.50	0.01683	0.00485	3.53	0.0008	0.00025	9.62	0.00201	0.00082
UNOESC	120	100.72	0.00728	0.00355	2.37	0.00089	0.0003	5.48	0.00123	0.00064
USJ	59	17.56	0.00145	0.00122	2.25	0.00011	0.00006	5.27	0.00052	0.00029

Source: Prepared by the authors (2019)

Table 7: T-test: two samples assuming different variances

Engagement	Likes		Comments		Shares	
	Until 1965	After 1965	Until 1965	After 1965	Until 1965	After 1965
Average	0.00145	0.00199	$9.8 \times 10^{-5}$	0.000128	0.000276	0.000351
Variance	$1.35 \times 10^{-5}$	$4.19 \times 10^{-5}$	$1.92 \times 10^{-7}$	$2.9 \times 10^{-7}$	$7.18 \times 10^{-7}$	$1.45 \times 10^{-6}$
N	737	1244	737	1244	737	1244
Degrees of freedom	1976		1794		1922	
Stat t	-2.37153		-1.36799		-1.62504	
P (T <= t) one-tailed	0.008905		0.085744		0.052159	
t critical one-tailed	1.645625		1.645703		1.645647	
P (T <= t) two-tailed	0.01781		0.171487		0.104317	

Source: Prepared by the authors (2019)

Table 8: T-test: two samples assuming different variances

Engagement	Likes		Comments		Shares	
	Up to 10,000 students	More than 10,000 students	Up to 10,000 students	More than 10,000 students	Up to 10,000 students	More than 10,000 students
Average	0.002126	0.001334	0.000135	$9.32 \times 10^{-5}$	0.000402	0.000217
Variance	$4.49 \times 10^{-5}$	$1.28 \times 10^{-5}$	$2.59 \times 10^{-7}$	$2.46 \times 10^{-7}$	$1.6 \times 10^{-6}$	$5.88 \times 10^{-7}$
N	1138	843	1138	843	1138	843
Degrees of freedom	1816		1840		1910	
Stat t	3.389474		1.830738		4.023965	
P (T <= t) one-tailed	0.000358		0.033651		$2.97 \times 10^{-5}$	
t critical one-tailed	1.645693		1.645682		1.645652	
P (T <= t) two-tailed	0.000715		0.067301		$5.95 \times 10^{-5}$	

Source: Prepared by the authors (2019)

Table 9: T-test: two samples assuming different variances

Meso-region	Likes	Comments	Shares
Greater Florianópolis	<b>3.28x10<sup>-6</sup></b>	<b>0.000119</b>	<b>6.47x10<sup>-5</sup></b>
Northern Region	0.855174	<b>0.029342</b>	0.206977
Western Region	0.861288	<b>0.005629</b>	<b>0.000327</b>
Mountain Region	0.230636	0.501494	0.368745
Southern Region	<b>0.000225</b>	0.113306	0.835382
Itajai Valley	<b>0.015006</b>	0.91031	<b>0.042703</b>

Source: Prepared by the authors (2019)

Track 10 Innovation in Higher Education

**ID #614**

## **Internationalization of higher education in Central Asia towards innovation approachers**

Jyldyz Aknazarova (Osh State University, Kyrgyzstan)

### **Abstract**

*As Central Asian countries moves from transitional to the post-transitional stage of the economy, institutional changes, sustainable development, stabilization and economic restructuring are becoming the focus of public policy making. The reforms need to support the short-term and long-term future political as well as economic developments in Central Asia. Important changes in higher education are needed to ensure democratic development in both higher education institutions and within Central Asian countries society as well. The purpose of the present paper is to stress the role of accelerating higher education reforms in Central Asia in order to move Central Asian universities closer to the international level towards innovation approaches. The process of internationalization should enhance the overall human capital with an aim of reducing disparities in educational achievement, facilitating the mobility and employability of students and researchers, and supporting the economic development in the region. The cross-cultural implementation and dissemination of knowledge and information among individual researchers and partner institutions is the key factor of increasing the quality of higher education through research and innovation. Quality of education and educational co-operation is important in the development and strengthening of stable, peaceful and democratic societies. Knowledge is a fundamental component for social and human growth and indispensable to consolidate the consciousness of citizenship. Knowledge gives citizens the necessary competences to face the challenges of the new millennium, together with an awareness of shared values and belongings to a common social and cultural space. This research enables the author to make the following conclusions: Central Asian higher education institutions need 1) improved university governance and elimination of corruption, 2) developed infrastructure, 3) integration into the international educational space through building innovative higher education partnerships, academic cooperation and capacity - building actions between higher education institutions of different nations and cultures, and to work in international teams on multilateral projects, 4) introduction and implementation of the main objectives of the Bologna Process with combination of traditional and international experience. These changes will raise the role of higher education institutions as innovative engine bringing together excellent higher education, research and business, and the centers of knowledge and information and effect on the increasing effectiveness of higher education towards innovation approaches in Central Asia.*

**Keywords:** Innovation; Internationalization; Quality Standards; Accreditation.

## INTRODUCTION

The collapse of the Soviet Union had a strong impact on the education of each of the four countries (Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan) in Central Asia, particularly higher education which was more fully integrated across the Union primary and secondary education. For the education system as a whole independence has invoked both prosaic questions about infrastructure and human resource availability and difficult issues such as its contribution to the economy, its role in building a national identity – closely related to social and economic values.

Today politicians of the most developed countries of the world understand the role and significance of education, considering it as the primary factor of social and economic progress. Maintaining a high education level is the major condition of stable development of any country. Experts of the Organization of Economic Cooperation and Development (OECD) emphasize that basic economic growth long-term rates in the OECD countries depend on the support and expansions of knowledge ... For the last two decades in many OECD countries the real growth of the added value in the sectors based on knowledge has stably exceeded economic growth rates. “The process of globalization accelerates these tendencies ... Comparative advantages of the countries are less and less determined by natural resources or cheap labour. They are more and more determined by technical innovations and competitive application of knowledge ... today, the economic growth is in the same process of knowledge accumulation as the process of capital accumulation.”<sup>7</sup>

Despite their common origin, each higher education system in Central Asia today is evolving its own national education environment and which consist of three dimensions. First, higher education is part of a national education system and responds to the demands of secondary education. Second, education is closely related to and influenced by the labour market. In a market economy graduates sell their skills to employers in contrast to command economies where ministries often sponsor undergraduates and then place them in a predetermined department. Now the labour market is in flux. Not only are employers, particularly private and foreign employers, demanding different skills – for instance, management rather than engineering, but production structure has changed dramatically. The number of large manufacturing firms has fallen and existing producers face competition from technologically sophisticated imports based on consumer choice rather than producer decisions. These changes have been understood and adsorbed by leading universities and undergraduates, increasing demand for law, the social and information sciences at the expense of education and engineering. Third, national competitiveness requires an economy that can produce and sustain a broad range of skills associated with science and technology. During the Soviet era, it was the national academies and not universities that undertook most scientific research and technologies related to large manufacturing companies. Many countries, particularly in Eastern Europe, have attempted to integrate Academies into higher education as a way of reducing costs and bringing research closer to the market and so increasing their competitiveness for globalization. These three dimensions –the national education system, labour market demands and international competitiveness are the determinants of higher education in each of the Central Asian countries.

To make higher education a dynamic force for these economies and societies, two steps are important. First, the higher education system must increase the number of enrolled tertiary

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<sup>7</sup> Formation of Society Based on knowledge. New Objectives of Higher Education. A World Bank Report. Moscow, 2003, pp.7-8

students. Given the current conditions in the four Central Asian countries, the full potential will only be satisfactory achieved by founding autonomous independent colleges and universities.

The second step for a dynamic and successful tertiary sector is, as implied, the creation of fully autonomous educational institutions. At present, there are a range of quasi-autonomous arrangements that continues some aspect of bureaucratic centralization, limiting the potential possibilities of public and private education. The set of relations appears to very similar that described by Janos Kornai in that "...the bureaucracy behaves ambivalently toward the private sector in the reform phase. Sometimes it reassures and assists it and sometimes it undermines its confidence and hinders its operation. The ambivalence may take the form of the support for the private sector in one branch of the bureaucracy coupled with the obstruction of it in another, or of an alternation of periods favourable and unfavourable to the private sector"<sup>8</sup>.

There is another step that has become increasingly important for the growth and learning of tertiary education institutions internationalization and the presence of foreign universities in the four countries. These not only represent historic (Russian) or cultural (Turkey) ties but together with the USA or European universities examples of modern universities (curricula, approaches), which are possibly helpful as examples to the national institutions. They also provide links - one of their major selling points, which could act as competitive motivation to local institutions.

### **Internationalization of Higher Education in Developed Countries**

Traditionally, higher education has been more open internationally than most sectors because of its immersion in knowledge spreading across national boundaries in line with the basic freedoms of the single Market: the free movement of capital, goods, services, and persons. Economic and cultural globalization has imposed new challenges on the system of higher education. Every research university is part of a single worldwide network and as a result research is more internationalized than ever before.

In an analysis of mission statements from universities throughout the world global themes tend to dominate and the majority of universities in industrialized countries address the issue of increased international integration and the emergence of a so-called "global community". Research universities are intensively linked within and between the global cities that constitute the major nodes of networked world<sup>9</sup>. Key analyses of internationalization in higher education point to a broad range of international dimensions in higher education<sup>10</sup>. According to Knight "internationalization is changing the world of higher education, and globalization is changing the world of internationalization"<sup>11</sup>.

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<sup>8</sup> Kornai J. *The socialist System: The Political Economy of Communism*, Princeton, (1992), p.450.

<sup>9</sup> Castells M. 2001. *The Internet Galaxy: Reflections on the Internet. Business and Society*, Oxford, University Press, Oxford; McCarney P. 2005. *Global cities, Local Knowledge Creation: Mapping a New Policy Terrain on the Relationship between Universities and Cities.*, In G. Jones, P. McCarney, and M. Scolnik (eds), *Creating Knowledge Strengthening Nations: The Changing Role of higher Education*, University of Toronto Press, Toronto, pp.205-224

<sup>10</sup> De Wit H. 2002. *Internationalization of Higher Education in the United State and Europe*. Westport, CT Greenwood; Van de Wende M. 2001. *Internationalization Policies: about New Trends and contrasting paradigms*. *Higher Education Policy*, 14 (3), 249-259; Altbach P., Teichler U. 2001. *Internationalization and Exchanges in globalized University*, *Journal of Studies in International Education*, 5 (1), pp.5-25.

<sup>11</sup> Knight J. 2004. *Internationalization Remodeled: definition, approaches, rationales*. *Journal of Studies in International Education*, 8 (1), p.5.

The terms of internationalization have been applied to several themes such as the physical mobility of students, academic staff, and occasionally administrative staff, obviously the most visible international activity which is in the forefront of programs aiming to promote internationalization. The recognition of study achievements across borders is a second major theme which is clearly linked to the first one: the results of studies in one country accepted as equivalent to what is expected to be studied in another country. Various programmes for the support of student mobility were established with the hope that cognitive enhancement would be accompanied by attitudinal change: a growing “global understanding”, more favourable views of the partner country, a growing empathy with other cultures, etc.

Yang argues that “internationalization lies in an understanding of the universal nature of the advancement of knowledge”<sup>12</sup> that is based on the common bonds of humanity, while Knight underlines that internationalization of higher education should help enhance students’ competencies and create a culture or climate on campus that promotes and supports international and intercultural understanding<sup>13</sup>.

The approach of Kondakci, Van de Broecke and Devos emphasizes that internationalization “is not simply a issue of managing student mobility but an issue of strategic transformation of the Higher Education institutions”<sup>14</sup>. They further argue that perceiving internationalization as a managerial issue, which touches structural-functional domains of the organization, and conceptualizing it as an organizational change process is a necessary first step toward successfully developing international dimension into core functions of higher education institutions.

Knight presented a typology of four approaches<sup>15</sup> in order to elaborate on the approaches to internationalization:

- **Activity approach** (building an international student body, developing or joining exchange programmes);
- **Competency approach** (change in the knowledge, skills, interests, values, and attitudes of different groups of in the organization);
- **Ethos approach** (developing a culture and climate which facilitates internationalization) and
- **Process approach** (developing international aspects not only into the academic but also the managerial aspects of the organization).

The internationalization of higher education in the Central Asian countries has been developed within different frameworks indicating a less systematic or strategic approach under the umbrella of changes from a transition economy into a market economy. Internationalization must support the integration of third countries into the developed economic community. Internationalization has many benefits for higher education in EU candidate countries during its transitional period, but it raises a lot of challenges as well. Providing innovation does not exclude of inherent risks (e.g. inadequate level of institutional adjustment to technological requirements, resistance to change, lack of trained staff, lack of identification of necessary pedagogic skills, etc.). In developing regions, not only the consequences of lagging funds and

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<sup>12</sup> Yang, R., University Internationalization: its meanings, rationales, and implications. *International Education* 13 (1), 2002, p.85.

<sup>13</sup> Knight J. 2004. Internationalization Remodeled: definition, approaches, and rationales. *Journal of Studies in international Education*, 8 (1), pp.5-31.

<sup>14</sup> Kondakci Y., Van den Broecke H., Devos G. More Management concepts in the Academy: Internationalization as an Organizational Change Process. [http://www.vlerick.be/en/2454\\_VLK/version/default/part/Attachment Data/data/vlgms-wp-2006-28.pdf](http://www.vlerick.be/en/2454_VLK/version/default/part/Attachment%20Data/data/vlgms-wp-2006-28.pdf)

<sup>15</sup> Knight J. 2003 Internationalization of Higher Education Practices and Priorities: 2003 IAU Survey Report, <http://www.iau/internationalization.html>

obsolete educational systems create a fundamental imbalance which is visible in the form of poorly equipped learning facilities, brain drain of academic staff, declining research output, high graduate unemployment due to outdated and irrelevant curricula unaware of the real world demands.

Insufficient resources, outdated hardware, incompatible software and poor Internet access can also be justifications for poor operational management.

More attention is now paid to the need to increase the overall quality of education, and become more closely involved with the developments of the Bologna process.

### ***The Role of the Bologna Process***

The Bologna process aims at establishing a European higher education area. The Bologna declaration accepted by the Ministers of Education almost of thirty European countries in June 1999 is aimed at the formation of the all-European higher education space and securing leading global positions for European higher education institutions. The given declaration says, “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.”

What did the Ministers who signed the Bologna declaration want?

I think that they were looking for the following three things:

1. To start a process of convergence in the structures of higher education, in its architecture;
2. To consider measures that would build trust between their educational systems or create understanding for a start;
3. To build something that would increase the attractiveness of their higher education systems, which would make them understandable for people to come in from other parts of the world and bring their own experience and their own perspective to Europe.

These ideas are about an external dimension to the Bologna process, and a way of making simpler and more comprehensible structures to bring people in. The Bologna Process was not an easy process for Europe. In almost every country there have been difficulties, sometimes-political difficulties, sometimes difficulties with academics, which do not see why they should change the patterns of teaching that they are comfortable with. Difficulties were sometimes with students who do not see as much security in the new structures as in the old ones.

Therefore, the Bologna declaration proclaimed six basic purposes for the creation of the European higher education zone and the promotion of the European higher education system worldwide, namely:

- Introduction of two cycle trainings (bachelor-master);
- Introduction of credit hours to measure working hours spent by students to study educational programs;
- Introduction of the all-European supplement to diplomas for securing employment possibility for European citizens and increasing competitiveness of the European higher education system;
- Education quality control;
- Expansion of student’s mobility;
- Securing appeal of the European education system.

The introduction and application of the main aims of the Bologna Process, both at the national and international levels, are an essential condition and effective way to form an open all-European educational space. Today, 81 percent of European countries entered the Bologna system<sup>16</sup>.

The Bologna process involves the adaptation of a common framework of readable and comparable degrees, the introduction of undergraduate and postgraduate levels, the introduction of credit systems, the promotion of a European dimension in quality assurance, and the elimination of remaining obstacles to the free mobility of students and teachers. Most countries in the region are revising the structure of their higher education degrees, to make it compatible with the recommendations of the Bologna process. Quality is becoming a key aspect of the higher education modernization process, with the development of national standards, the upgrading of certification and accreditation institutions, and the training of local staff on new quality assurance procedures.

The mobility of students is an important purpose of the Bologna Process, which creates a competitive environment for higher education schools. It is the academic mobility of students that enables them to easily move from one university to another during their studies, i.e. the student is not so closely attached to the university where they began studying as they were in the past. Higher education institutions have stopped being a monopolist. The key to the successful maintenance and increases of the number of students at a university is the satisfaction of their demands as consumers of higher education services. Undoubtedly, there will be bigger competition between higher education institutions for maintaining or acquiring new clients. The aspiration of students to receive education of international standards promotes the growth of competition, and this, in turn, stimulates the improvement of the quality of curricula. While analyzing the literature on the Bologna Process, one can see that authors frequently express their reservations saying that the matter is not so much about the quality of education, but about “those mechanisms, procedures and technologies, which secure the level of quality for all high education schools and labour markets that produces trust.”<sup>17</sup> Indeed, in a situation where universities in the Central Asian countries spring up like mushrooms, the inclusion of a bigger number of countries into the Bologna Process brings about a problem of trust in the diploma i.e. the issue of maintaining some formal minimum quality control rather than a problem of education quality.

So, why have the European countries gone through the Bologna process? I think there are a number of things that are driving it, and that they are important for Central Asia as well. First, it is a capacity issue. The European Union is seeking to give experience to a larger percentage of its population. Some have said that 50% of any age group should have higher education experience. That is an enormous number. And it has certain consequences. If you want to get 50% of your young people into higher education, then you have to ask yourself whether a six-year qualification is appropriate. Whether, that is what individuals actually want. Whether there are actual jobs available for so many people with a six-year degree programme. The answer to both those questions is no. There not such jobs available and it is not what most people want. Most people want a greater degree of choice. That is the second element, because our education systems are moving towards the idea that the individual should have a greater degree of choice. This Bologna structure enables individuals to have more choice. Higher education is desirable, but it does cost money. Putting 50% or 35% or 20% of young people through the process of

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<sup>16</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

<sup>17</sup> Baidenko B., The Bologna Process, Moscow, 2004, p.175

higher education costs considerably more than giving them the choice to opt out earlier if that is what they want. Finally, the EU wanted to align their education structures to the model that was already quite well understood in other parts of the world. The Bachelor, Master, Doctoral systems have provided a way to make their systems more readable, more understandable, and more attractive. The Bologna process contributes to the development of models of higher education. It develops mutual learning and encourages higher education to contribute to the development of societies, not only in Europe but also in societies elsewhere in the world. It also encourages contacts and links between institutions within Europe and elsewhere in the world. When we develop higher education, we develop society as a whole. If we can create links between institutions, which are already built on links between people, then we will find a way of going forward together, not just in education, not just at universities, but also between the countries of Central Asia, and the countries of the European Union.

### ***The Creation of Education Quality Assessment Systems as a key to Innovation Approaches in Higher Education***

Two factors still affecting quality negatively are the lack of quality evaluation and corruption, the latter of which is mainly linked to inducements paid to enter university and obtain diplomas. This practice can only undermine the attitude of students and the value of university diplomas, which are no longer seen as the guarantee of academic standards. A number of initiatives have been taken in the modernization of their higher learning institutions. Most governments are, however, committed to education reforms, stressing the fact that education is an important factor of economic and social prosperity.

Most Central Asian countries have taken up these challenges and initiated ambitious education reforms, developed new policy reforms, and started to redefine the missions of their education system to be in line with the requirements of a modern society. However, initial expectations about the transformation of the educational systems have largely failed to materialize. Higher education legislations are being adjusted to the new socio-economic environment, and strongly influenced by developments taking place in Europe. Each country is of course following its own pace: some countries are more advanced and have heavily invested in education and training; some have less resources to invest the modernization of higher education systems. A lot of emphasis has been put on curriculum reform. There is without a doubt a need to modernize curricula, which are rigid, centrally determined, overloaded, not adapted to the needs of the labour market, inflexible and cover a narrow scope. But curricular reform can only be considered as an entry point for reforms, not an end in itself; it has to be accompanied by the proper structural reforms of the systems. This is a considerable challenge. The challenges currently confronted by these HEIs do not exist in isolation from broader economic, technological and educational expectations from the use of ICTs in the world at large. One can observe the existence of a strong technological and economic push for HEIs to adopt e-learning strategies in the Central Asian region. This is driven, partly, by the requirement of industry for lifelong learning and the influence of a process of global change. Simultaneously, there is a localized attempt to raise awareness among HEIs of the pedagogical issues that underpin good teaching and learning practice, stimulated by the creation of accreditation programs and related topics.

The problem of the harmonization of national education quality control systems and development of common approaches has appeared to be difficult to accomplish. Educational systems of European countries have too many differences starting from principles of educational management to aspects, which at first sight do not directly concern higher education (for example, national languages, histories, cultures, traditions in teaching and training).

Fundamental differences have developed in a certain group of countries, which may be presented as the Anglo-Saxon model and the Continental model. The first model includes the education systems of Great Britain, Ireland and partly that of the Scandinavian countries. They may be characterized by a high level of autonomy of higher educational facilities, independence from government controls and also a significant share of private ownership in the education system. The continental model is used in such countries as France, Germany and the Russian Federation, where state ownership prevails in the education system and educational facilities have limited autonomy with governments exercising centralized financial and academic control.

Many European countries have their own traditions and wide experience in the creation of education quality assessment systems (for example, Great Britain, the Netherlands, and France).

The various assessment models differ in purposes, approaches, methods and assessment results. Other countries (for example, Germany, Italy and Denmark) have just started forming such systems under the influence of the Bologna Process.

In some countries, the main purpose of quality assessment is the perfection of educational processes, for example, in France, Great Britain, the Netherlands and the Scandinavian countries; while in other countries purposes may be assistance to the international recognition of programs (Germany), informing the public about deserving educational facilities (Estonia) comparison with other education facilities and programmes (Great Britain, Latvia) and the establishment of accreditation status (Eastern-European countries, including the Russian Federation).

In European countries, approaches to assessment are also different: it may refer to the assessment of an establishment as a whole (institutional assessment), which has been introduced in the majority of countries of Western and Eastern Europe; or the assessment of separate subjects or directions of an educational establishment. Accordingly, assessment systems have different forms: accreditation, audit and higher assessment.

Results of quality assessment procedures may be both confidential and accessible to the public; recommendations for educational establishments on perfection as well as confidential comments and ratings based on assessment results may influence the financing and confirmation of educational establishments, the change of their status and image promotion.

Due to political and economic changes in Europe, a tendency of the integration of educational systems is observed during the last few years. Higher educational institutions, which have been exposed to comprehensive government control, obtain more autonomy (the continental model), and, on the contrary, in the countries with traditionally weak influence of government control (Anglo-Saxon model) independence of higher educational institutions are more and more limited, but these processes are developing slowly.

Simultaneously, under the influence of the Bologna process, accreditation agencies are created in Germany, Austria, Denmark, Sweden and Italy, and the education quality assessment system is being transformed in other countries.

Thus, today education quality assessment systems have been developed in the majority of European countries. However, the integration process does not come with the challenge to unify these systems. On the contrary, in order to effectively apply accumulated experience and available resources, a network structure has been established which unites bodies responsible for external assessment of higher education quality on a voluntary basis – the European

Association for Quality Assurance in Higher Education (ENQA). It was created to develop common approaches and conduct joint research on the integration of educational programmes.

All three countries in CA are ready to develop internal and external quality assessment systems in order to develop relevant national standards. Taking the lack of the relevant experience, knowledge, expertise and methodology in QA into account, many universities are highly interested in learning and implementing the best practices of their European Union colleagues and establishing a network for information exchange and recognition.

Quality of education in CA is a major debated issue nowadays. Despite the efforts from Europe, the United States and Russia in providing instruments of co-operation and reform, quality has depreciated in a number of universities since 1991. The importance of the quality of education is specifically stressed by Ministries of Education.

In Kyrgyzstan at present the system of higher professional education unites 47 higher educational institutions (HEI) including 32 state and 15 non-state institutions, 41 independent structural departments, 16 branches of local HEIs and 10 branches of foreign HEI. The total number of students of all HEIs (full-time, distant, and evening) is 236,900 and the number of educators is 13,500. Recently, the enhancement of higher education quality has been one of the most important problems. Within the system of higher professional education there are systems of state certification (attesting) and licensing carried out by the state authority – the State Inspection on Licensing and Accreditation under the Ministry of Education and Science of the Kyrgyz Republic. However, the methods of quality assessment used by this public body are more quantitative than qualitative, lacking the characteristics of an internal system of checking the quality of specialists. As a result, the present external system of QA does not motivate HEIs to establish essential valuable internal systems of quality insurance. Universities are obliged to introduce QA departments. However, a strategy on improving the quality of education does not exist. This initiative as well as lifelong learning is to be addressed in a new frame of alignment with the Bologna process. The system of government financing has improved dramatically since the introduction of the National Testing System in 2002. The idea is that the system administers a universal admission test in all regions of the Kyrgyz Republic, which is free of charge and is open to all perspective students (high school graduates) willing to apply for a government scholarship supporting their studies. Top scorers are awarded government scholarships (as well as stipends). Before, universities were allocated quotas by the government and independently distributed their shares of government scholarships. Despite the fact that the former system was highly criticized for discrimination, corruption, and ineffectiveness, the National Testing System improved the access of young people from remote districts to free education.

Another latent issue in the world of higher education concerns accreditation. Although the National Strategy for Higher Education Development assumes the creation of accreditation bodies, independent from the government, Kyrgyzstan has never had independent accreditation. There has been a debate about it since 2001; however, nothing has been done to promote independent accreditation yet. The respondents of social surveys have stressed the importance of establishing a branch system of quality insurance of higher professional education, which would be based on common methodological approaches. They also have underlined the necessity of arranging experimental bases to work out and implement the system of quality management on the basis of HEIs and academic and methodological unions. However, there is no methodology on establishing such systems in the national system of higher education at the national or HEI level. At present, HEIs have to work out such systems independently. This outcome turns out to generate financial and time expenses.

Thus, we can observe that the problems preventing the process of implementing the systems of quality insurance in HEIs in Kyrgyzstan and CA are linked to the lack of methodology on establishing the system adopted to the national educational standards; the lack of specialists authors; the lack of financial means and, above all, the lack of knowledge of top managers in the field of quality management in addition to underestimating the practical benefits of implementing the systems of quality management in HEIs.

One of the most important concerns is that curricula in most universities suffer from overloading and an irrational allocation of classes. In many respects they remain poorly structured and do not reflect students' needs. In principle, most existing curricula have not been adapted to the expectations of potential employers at all. With the exception of economics, business, and few others, courses are taught in the same manner as at the beginning of 1991. The contents of courses have undergone little change. As I mentioned before, the labour market and the educational services are in many respects isolated from each other. The existing state educational standards are too rigid and do not allow new approaches to developing academic programs. It is worth mentioning, that the Ministry of Education and Science is flexible and often recognizes academic programmes that although do not conform to state standards, bear real market value. At a time of widening relations with European HEIs, and high desire from students to get a diploma recognized worldwide, HEIs are motivated to establish independent accreditation structures and an external system of quality insurance. This fact has been testified by numerous projects in the data field realized by HEIs and NGOs of the Kyrgyz Republic. Therefore, in 2007 the Education Network Association together with the Ministry of Education and Science of the Kyrgyz Republic and by support from "Soros-Kyrgyzstan" Foundation implemented the project "Higher Education Reforming of the KR" realized by the consortium of HEIs of Kyrgyzstan, Italy and Slovakia on establishing quality departments in HEIs of Kyrgyzstan.

Despite some national specifics, the introduction of contemporary quality assurance systems has many common characteristics within the Central Asian countries. The currently existing traditional systems, methods and criteria of quality assessment and control do not satisfy higher education in most countries of Central Asia. All countries highlight their openness and intention to orientate their higher education system towards European frameworks and standards in QA in particular those set by ENQA, adapted to the specific characteristics of national systems.

In Kazakhstan, great efforts have been made in recent years to reform Kazakhstan's education system to meet the needs of a modern competitive economy. This review considers how far these efforts have succeeded, and what still needs to be done in the higher or tertiary education sphere.

A National Accreditation Center (NAC) has been created by the government of the Republic of Kazakhstan. The mission of NAC is to conduct institutional and specialized accreditation of HEIs, the notification, and recognition of certificates; to make contribution to the development of higher education quality. Today in Kazakhstan the main objectives we can cite include the realization of a programme, according to which Kazakhstan would be among the 50 most competitive countries of the world; the implementation of an accreditation model harmonized with international quality assurance practice; and the approval of the high standards of the quality of education of Kazakhstan, developing educational programmes to increase the competitive capacity of the national system of higher education.

In Tajikistan the reformation of the educational system in general and higher education in particular is under way and the country faces many difficulties relating to its demographics, the

financing of the education system, the insufficiency of the legal-normative framework, the conditions of transition to the market economy. The Ministry of Education of Tajikistan has worked out the main priorities in reforming the Higher Education in the Republic of Tajikistan (Strategic Directions of Long-term Reforms of Educational System of Tajikistan for 2004-2015). The strategy identifies education quality enhancement as one of the key priorities. Other crucial strategies are to provide transparency and efficient management in the education and to introduce credit technologies.

For Tajikistan, the emphasis is put on the development of a framework for qualifications.

In general, there is a crucial need in all CA countries for the creation and development of quality assurance systems to enhance the quality of education. Quality enhancement, in higher education in particular, has become official policy declared at the government level in most CA countries. It is included in the country development strategies and is one of the national priorities set up by Tempus for Kyrgyzstan and Tajikistan. Our key focus is on the development of national QA systems (internal and external level to get recognition and accreditation). However, the present challenge of QA system development in CA is that we can find it at different levels across countries. There were several initiatives in CA in the enhancement and assessment of the quality of education with some different approaches and in different areas. These initiatives offered systematic work at the national level and inside universities except for Kazakhstan where the National QA Centre was set up under the Ministry of Education and some legislative basis for the accreditation and QA was developed. In the other CA countries some projects and initiatives formed the basis for the future systematic work at the national and later on at regional and international levels. For instance, in Kyrgyzstan research and preparation work for the development of internal QA system model has been started by the Education Network Association with the support of the Ministry of Education and international partners. In Tajikistan there were several projects that covered some parts of QA but not systematically. In Turkmenistan there is not any information about such initiatives. An important fact is that the levels of QA system development in Central Asian countries are quite different; another one is that a joint Tempus project is being implemented with Central Asian HEIs, hopefully creating adequate and sustainable internal and external QA systems at the national levels and providing exchange and recognition within the network. Despite the fact that the recognition of accreditation agencies and their co-operation with national authorities is yet to come, we believe that the Central Asian Network of Quality Assurance will lay the foundations for an accelerated process of the independent accreditation and recognition of studies and quality assurance by non-governmental agencies.

Innovation approaches to higher education is an inevitable result of the globalized and knowledge-based economy of the 21<sup>st</sup> century. The intersection of the logic of globalization and other pressures facing central Asian universities make a reconsideration of international programs and strategies. Exchanges, university linkages, patterns of mobility, and international and regional arrangements among universities are all changing.

## **CONCLUSIONS**

The reform of higher education for the Central Asian countries in transition will have direct impact on various aspects of the development of innovation approaches to higher education, 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 Central Asia will serve as the main promoters of access to European educational and research opportunities.

The European Union launches several programmes to promote the internationalization process of higher education. One of the EUs successful programmes is the Erasmus programme. This programme fosters the exchange of students and scholars to gain global cultural experiences in the sphere of higher education. The ERASMUS programme for students include not only studying abroad, but also hosting students for placements in enterprises abroad. It also aims to provide possibility to start academic and structural networks, intensive programmes between higher education institutions of different nations and cultures, and to work in international teams in international teams on multilateral projects.

The number of similar innovative international exchange and networking partnership programmes (in the form of franchise, twinning, distance learning: joint or double awards leading to professional, academic, vocational qualifications) is rapidly growing. This fact envisages the realization of the global village phenomenon in the intercultural, cross-cultural, international partnerships of the Central Asian, European and worldwide system of multicultural higher education of the 21<sup>st</sup> century.

The cross-cultural implementation and dissemination of knowledge and information among individual researchers and partner institutions is the key factor of increasing the quality of higher education through research and innovation.

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 has changed the degree structure at Central Asian universities, but a much stronger political and economic effort is required to renew university education. Students should be trained to think critically, libraries should be modernised and expanded, and master programmes should build on undergraduate courses rather than repeat them. Moreover, radical change is required in the doctoral training system with greater focus on methodological training and research. The Bologna Process represents a strategic transformation of HEI and a process of reshaping the internal higher education structure. At the institutional level it relies heavily on the efforts of government to invent different means to support universities in the course of the reform process, thus making the system of higher education more flexible and responsive to the needs of the labour market and of the knowledge society and also on the intension to increase the percentage of GDP allocated to research and education fund. This research enables the author to make the following conclusions: Central Asian higher education institutions need 1) improved university governance and elimination of corruption, 2) developed infrastructure, 3) integration into the international educational space through building innovative higher education partnerships, academic cooperation and capacity - building actions between higher education institutions of different nations and cultures, and to work in international teams on multilateral projects, 4) introduction and implementation of the main objectives of the Bologna Process with combination of traditional and international experience. These changes will raise the role of higher education institutions as innovative engine bringing together excellent higher education, research and business, and the centers of knowledge and information and effect on the increasing effectiveness of higher education towards innovation approaches in Central Asia.

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Track 10 - PDW Papers

**ID #700**

**University as an agent of development and technology diffusion: Interaction perspective in innovation systems**

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**Abstract**

*This paper explores the National Innovation Systems concept, its components and the relationship between them, especially in the university -enterprise dimension, focused on brazilian nowadays reality. In addition, using the Universidade Federal do ABC (UFABC) example and its Innovation Agency, we expect to show the maturity status of some actors of the innovation system*

**Keywords:** Innovation; National Innovation Systems; University-Enterprise Relationship; Innovation Agencies.

*Track 10 Innovation in Higher Education*

**ID #737**

**The importance of the Information and Communication Technologies in research in the University of Guadalajara, Mexico**

**Araceli Duran-Hernandez** (Universidad de Guadalajara, Mexico)  
**Judith Mireya Cornejo-Macias** (Universidad de Guadalajara, Mexico)

**Abstract**

*During the development of research, we realize how we evolve and the importance of some tools, that become a key factor to improve. One of these tools are the Information and Communication Technologies (ICT). In this research we focus on the impact of the ICT in research in the University of Guadalajara, Mexico. We describe the advances in the development of research with the use of the ICT taking into account the quality of the educative systems in the field of research. We will focus on our experience in the University of Guadalajara, Mexico. In this emerging scenario, where the education systems require new competences, and a continue development, the use of the ICT have become crucial. Our dependent and independent variables are the relation of the research processes with the use of ICT and its competitiveness. The research is a key factor in developed countries and normally, it becomes a priority in their internal politics, in Mexico we are promoting a shift of paradigms and prompting the development of research to higher levels.*

**Keywords:** Research; competitiveness; Information and Communication Technologies..

**Acknowledgments**

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## **INTRODUCTION**

Nowadays we face a new scenario, where we have researcher professors and students, who want to develop in research, and therefore they need to start an educative formation and development with the use of ICT, that are becoming a key factor to achieve higher levels of competitiveness in research. In Mexico we are encountering with students that want to continue their formation in the field of research, and these new generation of students are part of the so-called group of “Millennials”, that in the majority of cases, have good aptitudes with the use of new technologies and in the same way with the use of ICT.

In light of this new scenario, we need a shift of paradigms in the curricular planning, with new, more practical and dynamic formation processes

In Mexico we are also facing a highly competitive environment, with the regulation of the “National System of Researchers” that evaluates the researcher candidates, who want to pursue a career funded with grants of the government.

The curricular planning should be adapted, according to the occupational demands, and we need to prompt these new trends in research and competitiveness with the use of ICT.

## **THEORETICAL FRAMEWORK**

ICT are the initials for: Information and Communication Technologies, which are defined by the Colombian law as the “set of resources, tools, devices, information programs, applications, webs and media, that allow the compilation, processing, storage and transmission of information as voice, data, text, video and images. “(let 1342 de 2009 art. 6).

There are universities, that with the awareness of the importance of the ICT, prompt its use between their academical staff, in order to avoid a lag behind other educative institutions.

This is what Bates (2000) has called the “Technological Imperative”. Through different promotion/innovation programs, these technologies are disposed for its experimentation and posterior evaluation.

It is important to remark that even the world bank, has defined the access to the ICT, as one of the four pillars, in order to measure the grade of advancement of a country, in the context of the knowledge economy (World Bank Institute, 2008).

In some of the developed countries, as for example: Finland, considered a front-runner in technology in Europe, it has 5 million of inhabitants and has more than 6 million of mobile devices, thus each Finnish has an average of 1,2 cellphones (Syrjänen y Pathan, 2008).

Drucker (1959), makes reference to those subjects that work mainly with information or the management of knowledge in their workplace. These individuals have the knowledge, abilities and skills to develop with a good performance in environments of profound changes and redefinitions. There is no room for doubts, that the daily praxis of this professionals of knowledge is tightly related with the use of the new communication and information devices.

These professionals require a set of skills for a higher grade of digital competence development, and this will be directly related with the use of the ICT, hardware or software knowledge, and with the competences with the use, management and distribution of information and knowledge (informatic and strategical skills) [Van Dijk y Hacker, 2003].

In this context, we bring to your attention the cross-sectional or generic competences, that are a group of competences that born in the intersection of multiple disciplines; due to this reason, they are essential in the current curricular planning in the universities, that are oriented to the learning of competences. Perrenoud (1997) remark that «the cross-sectional competences are part of the general characteristics of the human action in communicative and technical environments ».

Taylor, M (2009) in a recent and polemic article in The New York Times, titled «The End of University as We Know It» highlight the paradox of the current universities, that commonly produce the formation of students with no labor market and develop the skills for which there is not demand.

The UNESCO (1998) in “The global declaration of the higher education in the XXI century: vision and action” informs about the need of technological, cultural and social changes that should be perform, in order to adapt to the needs of these current times. These transformations are also mentioned in the recent “Quito declaration of the university role in the information societies” , that was taking place in February 13-14 of 2003 in Ecuador, highlighting in their conclusions the obligation to “support the modernization of the higher education, promoting a shift of thinking and action paradigms , that warrants a greater access to knowledge, and a larger and better coverture, high quality, and social values, remarking the key factor of the ICT in this endeavor.

## **JUSTIFICATION**

In the higher levels of education of our university, the use of the ICT is of central importance, developing a conjunction of competitiveness in research to impulse and generate knowledge in different fields.

Overcoming cultural, communicative and social barriers in our country the ICT are a great tool for the development and promotion of research.

There are several teaching models, supported by the possibilities that the information nets provide us, (Adell, 1997; Salinas 1998a). Hanna (1998), for example explain about 7 different types of organization: remote universities based on technological tools; private institutions dedicated to the teaching of adults; corporative universities; strategical alliances university-enterprise; organizations of accreditation and certification control; traditional universities and multinational universities. In the context of the higher education, the success is determined by the capability of this institutions to transform their structures and avoid the institutional isolation and prompt the teams that conjugates the academical quality, with systems that combine the interactions between nets and that impulse the cooperation in the design and distribution in the courses and remote education materials, giving place to real learning nets described in other works (Harasim y otros, 1995; Salinas, 1995, 1996).

It is also essential to keep a continuous capacitation in order to obtain an impulse in research with the use of ICT.

## **OBJECTIVES**

The use of the ICT results in a greater competitiveness in the development of research.

## Hypothesis

*The greater the research work, the greater the use of the ICT.*

*The greater the use of the ICT, the greater the level of competitiveness in research*

*The variables: research process, use of ICT and competitiveness.*

## METHODOLOGY

This research used an exploratory, descriptive, correlational and prospective approach.

We used ANOVA and Cronbach Alpha in order to verify the reliability of the data.

In the first block we describe the skills required to be competitive, in the second block their performance in research and in the third block the use of the ICT.

## RESULTS

In the table 1 we show the results of the interviewed professors. We observe that only a few professors use the ICT representing the 25.9% of the sample and 74.1% don't use the ICT in research.

TABLE 1. COURSES PERFORMED WITH THE USE OF ICT TOOLS

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Available	Teachers with online courses and use of the ICT	7	25.9	25.9	25.9
	Teachers with offline courses and use of the ICT	20	74.1	74.1	100.0
	Total	27	100.0	100.0	

Table 1. Self-elaborated table with the use of SPSS.

In the table 2 we show that 100% of the professors conduct at least one research project in our university, fostering the use of ICT in research.

TABLE 2 RESEARCH PROJECTS

		Frequency	Percentage	Valid percentage	Cumulative Percentage
Available	5	27	100.0	100.0	100.00
	4	0	0.0	0.0	0.0
	3	0	0.0	0.0	0.0
	2	0			
	1	0			
	Total	27	100.0	100.0	100.00

Table 2 Self-elaborated table with the use of SPSS.

In the table 3 we show the most significative between-groups

**ANOVA**

	Sum of squares	gl	Mean square	F	Sig.
D9.4 Between-group	21.750	4	5.438	3.121	.035
Within-group	38.324	22	1.742		
Total	60.074	26			

Table 3. Self-elaborated table with the use of SPSS.

The use of the ICT demonstrates the most reliable results in the search of information in the data bases, with the highest significance for its use in research.

**Statistical reliability**

Cronbach alpha	Number of elements
.713	38

Source: self-elaborated table

## CONCLUSION

The use of the ICT has demonstrated an improvement in research and its quality, we show how the universities in Mexico are in a process of optimization, supported by the use of new technological strategies, that have brought more reliability in the sources of information.

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*Track 10 Innovation in Higher Education*

**ID #764**

**An evaluation of hyflex instruction delivery in business courses**

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**Abstract**

*We analyze the implementation of the hyflex (blended) course delivery for business courses in an urban university in the U.S. In this model of instruction students choose among three alternatives: attend class in a traditional face-to-face lecture format, watch the class via live streaming, or watch the recorded lecture at a later time. Recordings are made available to all students. After five years of implementation, faculty is mixed about the benefits of hybrid courses. Some faculty value the flexibility and convenience it provides to students, while others are concerned about the lack of student feedback and distant relationship with the instructor and other classmates. Student performance in class, as measured by final overall grade, was similar for both hyflex and traditional face-to-face sections. However, hyflex classes showed greater dropout rates and slightly lower student ratings of the instructor. After controlling for demographic variables, and in line with previous studies (Damianov et al 2009, Calafiore and Damianov, 2011), we find that students' overall GPA (grade point average), which can be used as a proxy for effort, is the main determinant of final grade.*

**Keywords:** Hyflex Course Delivery; Undergraduate Instruction; Faculty Perceptions.

**Acknowledgments**

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## **Track 11**

# ***Agribusiness and Food Management***

*Track 11 Agribusiness and Food Management*

**ID #626**

**Inter-regional impacts of freight behavior: a computable general equilibrium application for Brazil agriproducts**

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**Abstract**

*While e-commerce and smartphones apps have changed the way how many consumers buy goods and services, the purchase of a physical product still generates a demand through a production chain (to assemble the product) and a logistics chain to deliver the product from a provider to a consumer, even more if the product is perishable. The freight component of this consumption signal is variable depending on the place, the product, the periodicity, the perishability, the transport used, and all these costs will affect the final delivered price that will influence not only the consumer's decision to buy or not buy the product but also from which supplier (location). Hence, the competitiveness of a product no longer depends on the retail price but also the transportation (freight) delivery margin. Thus, spatial competition may take on a much more complicated decision-making process than two decades ago where the choice was restricted to some finite set of locations. Yet, the paper aims to understand what happen to the goods consumption (price, export and import) for agriproducts due to freight variation. In order to investigate this, a case study for Brazil is proposed, by using a general equilibrium model which will be modified to fit the transportation services on behalf of freight, that's will provide alternatives to freight modelling given an alternative consumption options that differ from traditional models abroad.*

**Keywords:** Computable General Equilibrium; Logistics; Freight..

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## **INTRODUCTION**

By the end of 1990's and early 2000's world globalized start an internet era which brings amenities and facilities to people. The access to information, mobility, products and other stuffs are facilitated by globalized trade and the act of buying was simplified. Although, all physical products must be delivered to the buyer in certain time and with security. If the product was virtual, like a software for example, the delivered form could be by downloading through the net, but not all product is like this., most of them have to be delivered because its physical.

Delivery physicals goods is logistics assignment that Antón (2005) threat like a science who studies how goods exceed time and distance efficiently to maintain a productive activity. Thus, Rutner & Langley (2000), Bosona & Gebresenbet (2013) and Croucher & Baker (2014) understood logistics as the link between producers and consumers, or vice versa, with ensure the flow of products and services from the point of origin to the point of consumption.

In some ways, logistics can be confused or used as a synonym for transportation, for this paper there are no difference between and as Crainic & Laporte (1996) observe transportation as a human activity that's support social and economic activities and make exchange possible. Even Cranic (2003) puts transportation like a key component of supply chain, which includes a movement of raw materials to be at time production for finished products corroborating the idea of Antón (2005).

Logistics, in general, is responsible to integrate business as Cooper, Lambert & Pagh (1997) already said. In agreement of that, Christopher (2016) highlights that's logistics are planning operations and framework following product and information through business and the approach to efficiency gains is where business has competitive advantages.

One way to gain efficiency and competitive is in freight rate. Industries whose play an interesting freight rate can be more competitive than others. In fact, the reduce of freight can guarantee a low cost of production or low cost to deliver those goods, which indicates a possible low price of then. In a world of narrow profit merges or commodities prices (like agriculture products), reduce costs may imply in the survival of some company in the market.

Moving objects and goods from the point of origin to the final delivery is a service that fits logistics system and must be remunerated correctly. According to Council of Supply Chain Management Professionals (2013) the freight is "goods being transported from one place to another" and this entails in freight charge or fee which is the "rate established for transporting".

In order to stablish a freight rate, some carriers are based in factors such a speed delivery, type of product and distance. All those variables are important when the product is perishable, such agriproducts or foods. There are some attributes to consider when using freight to delivery products and goods. Piercy & Ballou (1978) study several of them and indicates as significant: speed and time (transit-time), loss and damage of products and the availability of service. With this conjunction the authors indicate that the better freight transport is capable to ally these factors to provide an interesting alternative to freight transport with better rate.

The freight is a variable which depends on the place, the product, the periodicity, the perishability, the transport used and all this impact in the final cost of the product and has to be considered in order to buy or not determined product of determined producer and local, that's influences directly the competitiveness of a product, having a competitive freight represents entering in disputed markets.

A demand for this type of services occurs because there is difference in geographical locations between producers (sellers) and consumers (buyers). However, freights aren't an exact science and it is difficult to predict what's happen in long term. Because of this it is important to study the freight behavior, and which impacts the volatility of freight causes in trades.

In line with the freight behavior, countries which as import and export as main economic activities, such Brazil, could be affected by the increase and decrease of the international freight. The oscillation in the value of the freight may impact in the country competitiveness in some economic sectors.

At this time, this paper aims to understand what happen to the goods consumption (price, export and import) for agriproducts due to freight variation. As main purpose of this work is proposed a case study for Brazil by using a Computable General Equilibrium Model (CGE) which will be modified to fit the transportation services on behalf of freight. This model will investigate the impact of freight rate on Brazilian trades such as price, export and import.

To investigates the freight behavior, this paper will take some guidelines to freight modelling given an alternative for traditional models abroad. It was chosen the General Equilibrium Analysis Project for the Brazilian Economy (PAEG), develop to represents a Brazilian economy in 19 sectors (7 related to agriculture products and food consumption) and 12 regions (five macro-regions of Brazil and seven other regions). That's will give another perspective for freight modeling considering what happening to a set of sectors and regions all at a time due to freight rate volatility.

The paper is structured in four chapter include this one of introduction. The second one is to introduce de PAEG model and the modified structure to capture the behavior of freight rate volatility on trades. The third part is dedicated to present the results and describes the impacts caused by these volatilities. To the end, the fourth chapter is the final considerations of the paper.

## **THE COMPUTABLE GENERAL EQUILIBRIUM MODEL**

The Computable General Equilibrium Model as the ability to represent the economy of a country and your commercial relationships with others inside a set of algebraic equations or accounting identities. To Sadoulet & De Janvry (1995) and Partridge & Rickman (1998), CGE models can capture the relationships among economic agents through the macroeconomic and microeconomic aspects present in the Input-Output Table.

The basic concept of a CGE model is describe by Wing (2004) as a circular flow of commodities in a closed economy, whose main variables are households, because they are the final consumer and own the factors of production. Additionally, the CGE characteristic is a zero-profit condition and the market equilibrium, managed by the Walrasian equilibrium that supply equals demand.

This paper will be based on a quantitative descriptive research focused on scenario analysis through CGE modeling that will be used to investigate the impacts of freight behavior on Brazilian trades.

### ***The General Equilibrium Analysis Project for the Brazilian Economy Model***

The General Equilibrium Analysis Project for the Brazilian Economy is a static, multi-regional and multi-sector model, structured for represent the Brazilian economy and its interactions with

other economies around the globe. According to Gurgel *et al.* (2011) each region presents in the model is represented by a final demand structure and each players, producer and consumer, act to maximize their welfare subject to their budget constraint, considering fixed investment, capital flow and public-sector production.

PAEG's structure is based on the *GTAPinGAMS* (Rutherford & Paltsev, 2000; Rutherford, 2005), adopting a nonlinear complementarity problem in the General Algebraic Modeling System (GAMS) developed by Brooke *et al.* (1998). For the programming language, PAEG uses a Modeling Programming System for General Equilibrium syntax (MPSGE) to solve non-linear complementarity problem in GAMS programming language develop by Rutherford (1999).

The database used by the Global Trade Analysis Project (GTAP) was disaggregated by Teixeira *et al.* (2013), to portray the Brazilian economy in its five different macro-regions – Midwest, North, Northeast, South, and Southeast. However, the GTAP database has been preserved the other countries and of trade flows identical to the original ones.

The PAEG is divided into a total of 12 regions and 19 sectors in its most recent version is compatible with *GTAPinGAMS* in the seventh version, that refer to the world economy for the year 2011. The regions, sectors and the factors of production considered in the PAEG are described in Figure 1.

As Gurgel *et al.* (2011) and Teixeira *et al.* (2013) defines, PAEG model represents the way goods and services are produced in Brazilian and world economies. The regions are represented by a final demand structure and the behavior of the players is that of an optimizer in that they maximize their welfare. These authors indicated that the productive sectors minimize their costs with a combination of intermediate inputs and primary factors given technology. Such as bilateral trade, transport costs, taxes, subsidies are part of the model. A set of PAEG's database is indicated in the Figure 2.

In order to combine the database, regions and sectors is created some variables to represents the regional economy into the model. The variables of economic model are  $Y_{ir}$ , as production of good  $i$  in region  $r$ . The  $C_r$ ,  $I_r$  and  $G_r$ , are private consumption, investment and public consumption in region  $r$ . The  $M_{jr}$  represents the importation of good  $j$  by the region  $r$ , as well the  $HH_r$  is the variable for representative consumer. The public sector or government in region  $r$  is the variable  $GOVT_r$  and the activity through which specific inputs are allocated to private sectors is the  $FT_{sr}$ . To exemplify how regional economy is structured in PAEG model the Figure 3 illustrated the structure and the economic flows.

In Figure 3, the dashed line defines a region  $r$ , the solid line indicates the flows of the variables and the dotted lines determinates the tax flow. Besides that, it is possible to see the variables –  $Y_i$ ,  $C_r$ ,  $I_r$ ,  $G_r$ ,  $M_{jr}$ ,  $HH_r$ ,  $GOVT_r$  and  $FT_{sr}$ . – and the other parameters. These other parameters are the indirect taxes represents for the letter “R” and affects: production ( $R_{ir}^Y$ ); consumption ( $R_r^C$ ); public demand ( $R_r^G$ ); factors of production ( $R_r^{FT}$ ); and imports ( $R_{jr}^M$ ).

Also, Figure 5 brings PAEG's accounting identity for the players and how each one affects the trade flow. Teixeira *et al.* (2013) define PAEG model as a perfect competition and constant returns to scale, with intermediate input costs and production factors being equal to the production value and, thus, economic profits equal zero. To fulfill all these conditions the base accounting identity for the variables in the model is indicated in Equations 1 through 7.

$$Y_{ir}: \quad \sum_f vfm_{jir} + \sum_j (vifm_{jir} + vdfm_{jir}) + R_{ir}^Y = vom_{ir} \quad (5)$$

$$M_{ir}: \sum_s \left( vxmd_{irs} + \sum_j vtwr_{jisr} \right) + R_{ir}^M = vim_{ir} \quad (6)$$

$$C_r: \sum_i (vdpm_{ir} + vipm_{ir}) + R_{ir}^C = vpm_r \quad (7)$$

$$G_r: \sum_i (vdgm_{ir} + vigm_{ir}) + R_{ir}^G = vgm_r \quad (8)$$

$$I_r: \sum_i vdim_{ir} = vim_r \quad (9)$$

$$FT_{fr}: evom_{fr} = \sum_i vfm_{fir} \quad f \in s \quad (10)$$

$$YT_j: \sum_r vst_{jr} = vt_j = \sum_{irs} vtwr_{jirs} \quad (11)$$

Gurgel *et al.* (2011) describes step by step each how these accounting identities are calculated which are composed of: domestic production ( $vom_{ir}$ ); exportation ( $vxmd_{irs}$ ); international transportation services ( $vst_{ir}$ ); intermediate demand ( $vdfm_{ijr}$ ); private consumption ( $vdpm_{ir}$ ); government consumption ( $vdgm_{ir}$ ); investment ( $vdim_{ir}$ ); imported goods ( $vim_{ir}$ ); goods used in the intermediate consumption ( $vifm_{ijr}$ ); private consumption ( $vipm_{ir}$ ); government consumption ( $vigm_{ir}$ ); consumption of public agent ( $vigm_{ir}$ ); exportation of good  $i$  by region  $r$  ( $vxm_{ir}$ ); importations of good  $i$  by region  $r$  ( $vxmd_{irs}$ ); international transport services ( $vt_j$ ); value of transport service exportation ( $vst_{jr}$ ); bilateral transport service flows acquired in importation of goods ( $vtwr_{jisr}$ ); budget constraint of government ( $vgm_r$ ); and budget constraint of representative agent ( $evom_{fr}$ ).

Presented the basic structure of the model and its accounting identities, the main use of the CGE occurs through simulation and scenarios analysis. In this paper, scenarios of increase and decrease of freight rate will be simulated, due to investigate the influences of freight behavior.

### **Model changes in freight**

To understand the proposed scenarios to investigate the implications of freight volatility, it's necessary that some of the accounting identities must be explore and how there are linked in. The main freight-related identity is that described by equation 7, that has two main parts which is represented in Equations 8 an 9.

$$vt_j = \sum_r vst_{jr} \quad (12)$$

$$vt_j = \sum_r vtwr_{jisr} \quad (13)$$

The Equation 8 represents the equilibrium of the international transportation services, provided by the equality of the aggregate supply of transport services and the value of transportation services. While the Equation 9 describes an equality of supply and demand for the transportation services.

These two equations are directly correlated to the production function describes in Equation 1. The relationship between the transportation services and the production function is based in the accounting identity in Equation 1 which can also be described according to Equation 10.

$$vom_{ir} = \sum_r vxmd_{irs} + \sum_j vdfm_{ijr} + vst_{ir} + vdpm_{ir} + vdgm_{ir} + vdim_{ir} \quad (14)$$

Whereupon the production is composed by the exportation ( $vxml_{irs}$ ), intermediate demand ( $vd_{ijr}$ ), private consumption ( $vd_{pm}_{ir}$ ), government consumption ( $vd_{gm}_{ir}$ ), investments ( $vd_{im}_{ir}$ ) and also the transportation services ( $vst_{ir}$ ).

The logic of the PAEG model and its accounting identities are related for MPSGE as blocks of production. The Figure 4 shows the technological decision tree representing the  $vom_{ir}$  supply block and describes the technologies undertaken by firms into PAEG model.

As the same logic for the production function, a transportation services have a technological decision tree represent by the Figure 5.

The production block for transportation services is a combination of the inputs  $py(j,r)$  for produce the  $pt(j)$ . Another interpretation that can be given to this production block is that to produce  $pt(j)$  there is need a quantity of intermediate inputs ( $i$ ) that must be transported ( $q$ ) to obtain the final product ( $o$ ). The logic of the model is representing by the matrix in Equation 11.

$$\begin{aligned} & \$prod: yt(j) \$vtw(j) \quad s: 1 \\ & o: pt(j) \quad q: vtw(j) \\ & i: py(j,r) \quad q: vst(j,r) \end{aligned} \tag{15}$$

In this case, the  $vtw(j)$  and the  $vst(j,r)$  is the price for the transportation services between the goods ( $j$ ) for the determinate regions ( $r$ ), both prices are in equilibrium and no surplus or absence are observed due to the elasticity impose by the Leontief,  $s: 1$ . To adapt the PAEG model in order to capture the freight behavior, the  $vst$  will be decomposed into two other variables: price and quantity of transportation services. The Equation 12 introduce these two variables through the model.

$$S_j = D_{jr} = P_{ir} \times Q_{ir} \tag{16}$$

In equilibrium.

$$vst_{ir} = P_{ir} \times Q_r \tag{17}$$

The price of as input in region ( $P_{ijr}$ ) and demanded quantity of this input in another region ( $Q_{ijr}$ ) of transportation services is given according the supply and demand law. Therefore, the volatility of the freight can be simulated in changes of that price and create scenarios to investigate the impact of freight rate on Brazilian trades.

Those trades are restricted, in this work, to agriproducts and food sectors that are: rice (pdr); corn and cereals (gro); soy and other oils (osd); sugar cane, sugarbeet and sugar industry (c\_b); meat and livestock (oap); milk and dairy products (rmk); agribusiness products (agr); and foods (foo).

In that case, all simulated scenario will be based in chances in freight rate, which leads different demanded quantity for each product and sector ( $i$  and  $j$ ) divides by each region present into the model. Instead, the chance in freight rate will only focus on products and services coming from Brazil.

## IMPACTS OF FREIGHT BEHAVIOR ON BRAZILIAN INTER-REGIONAL TRADES FOR AGRIPRODUCTS

One way to simulate the scenarios of different freight rates is increasing the transportation cost. Such cost can be represented by an increase in the value of needed components, like insurance, distance travel, transportation quality routes and fuel prices.

To delivery products and goods, Brazilian logistic sector privileges highways, however other modes of transportation are receiving new investments and growing in participation even those modes took more time to deliver the same number of products (Marchetti & Ferreira, 2012; Asai, *et al.*, 2017; Machado, *et al.*, 2018). Nevertheless, to simulated scenarios of changes in freight prices a proxy must be determined, and for the Brazilian case, this work will use the fuel prices (diesel) fluctuation as proxy which can be justify because of the high level of highways cargo transportation.

With that said, some research of diesel prices uses in trucks has been done for each Brazilian macro region during January 2013 through February 2019 in order to determinate a magnitude for the shock into the CGE model. Those prices are consumers average prices, final prices with all taxes included. The results for the fuel prices are present in Table 1.

This observed fuel average growth rate will be uses as a price input into the CGE model in order to verify and analysis what happen within Brazilian inter-regional trades. Each macro-region will have your own multiplier in price rate ( $P_{ir}$ ), described at Equation 13, this will represent a proxy to increase freight prices, in most cases, Brazilian cargo transportation is made by highways, as explained before.

Analysis the inter-regional trades, this work retains the focus in imports, exports and prices. That variables gives insights in with direction are the trade flows inside the county, due to freight behavior. All those results are presents in Tables 2, 3 and 4.

Starting with importations, all regions the behavior of the regions are similar, even in exports rates, which means that balance trade stays in balance. However, in some sectors, changes in imports are not closest to export which may represent an imbalance in the region's trade balance, this can be observed basically in agriculture sectors (rice, corn and cereals, soybeans, sugar industry, meat and livestock and milk).

In cases that are significant imbalance trades, may represent a comparative advantage to the region with more exports. Makes sense correlating the comparative advantage and the imbalance affected sectors (most cases, related to agriculture production), because if the freight influences final prices, the region with lowest production costs will have better performance, unlike those with higher production costs.

Considering freight rate as a component of production cost is normal a sector pursuit minimizes costs and sectors involving very competitive agricultural commodities, increase in transportation, both for final products and for productive inputs, can be affect and even render products unviable in certain regions. Specially in commodities freight and prices are important to analyses together in order to observe if increase in transportation cost will reflect in final prices, in other works, if final consumer pays the increase in freight rate.

When the analysis refers to prices, all changes prices are less than 1% causing a gap between the behavior in freight prices (based in fuel prices) and final goods prices. This may indicate two situations: (i) freight is not an important cost and not affect direct the final consumer prices; or (ii) Brazil do not have representative to leads changes prices into market, it is a price taker.

For the first situation, there are a few cost production components and freight are only one of them. Nevertheless, the second situation is more appropriated in meaning that Brazilian economy are not sufficient strong to change prices by yourself, mainly if the sector is leading by international commodities prices, even though it is considered one of the main producers and exporters of agricultural commodities in the world.

In short, freight behavior impact directly into Brazilian inter-regional trades causing more trades between regions and possible sector specialization in regions with a comparative advantage. Nonetheless, final prices were not influence by changes in freight rate.

## **FINAL REMARKS**

As a basic purpose of this paper is investigate and understand what happen to the goods consumption (price, export and import) due to freight variation using a Computable General Equilibrium Model to gives a different approach instead of more traditional methods, an alternative for traditional models. The model investigates the impact of freight rate on Brazilian trades such as goods consumption flagged by price, export and import.

As a result, import and export were suffer impact caused by the change in the freight price. In some cases, especially in labor intensive, like agriculture, the exports increase in all Brazilian macro-regions, similar import movement (except North region). This kind of movement causes an imbalance in trade flows, but the gap between both are is beneficial to the economy of the country, since there is foreign exchange and trade activity inside country.

For prices, there are no significant changes which indicates that increase in freight did not have affect into consumer prices. By mid-2016 and 2017 Brazil suffered from trucker strikes because of the increase in diesel and claimed there would be price increases and inflation for all consumers. Indeed, some products have had an increase in prices, momentary. In long run, this claimed has not been proven, as well into the simulated scenario.

Thereby, freight can interfere in inter-regional trades but nor in final prices. The scenario of freight behavior over time may determinate a point that freight rate is important to national economy and how trades handles form freight fluctuation perspective.

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Sectors	Acronym	Regions	Acronym
Rice	(pdr)	Northern Brazil	NOR
Corn and cereals	(gro)	Northeastern Brazil	NDE
Soy and other oils	(osd)	Midwestern Brazil	COE
Sugar cane, sugarbeet and sugar industry	(c_b)	Southeastern Brazil	SDE
Meat and livestock	(oap)	Southern Brazil	SUL
Milk and dairy products	(rmk)	Rest of Mercosur	RMS
Agribusiness products	(agr)	Venezuela	VEM
Foods	(foo)	United States	USA
Textile Industry	(tex)	Rest of Nafta	RNF
Clothes and shoes	(wap)	Rest of America	ROA
Wood and furniture	(lum)	Europe	EUR
Cellulose and grafic industry	(ppp)	China	CHN
Chemical, plastic and rubber industry	(crp)	Rest of the world	ROW
Manufactured	(man)		
Gas, electricity, and water distribution	(siu)	<b>Factors of Production</b>	<b>Acronym</b>
Building	(cns)	Capital	cap
Sales	(trd)	Labor	lab
Transport	(otp)		
Service and Public administration	(adm)		

Figure 1. Regions and sectors present in the PAEG model.

Source: Pinto, et al., 2016.

Index	Description
i, j	Sectors and goods
r, s	Countries and regions
$f \in m$	Mobility`s Free Production Factors among a determined region: labor; capital
$f \in s$	Fixed Production Factors: Natural resources

Figure 2. Regions and sectors present in the PAEG model.

Source: Gurgel *et al.*, 2011.



Year	Midwest	Northeast	North	Southeast	South
2013	2.605	2.348	2.478	2.427	2.420
2014	2.818	2.567	2.716	2.636	2.629
2015	3.137	2.953	3.117	2.935	2.915
2016	3.336	3.145	3.361	3.107	3.038
2017	3.457	3.164	3.463	3.232	3.103
2018	3.771	3.560	3.743	3.568	3.438
2019	3.710	3.569	3.757	3.507	3.386
<b>Avg. growth rate (%)</b>	6.155	7.373	7.284	5.863	6.614

Table 1. Diesel S10 prices per region.

	North	Northeast	Midwest	Southeast	South
<b>pdr</b>	-0.743	0.065	0.565	0.719	-0.214
<b>gro</b>	-0.122	0.070	0.134	0.560	0.058
<b>osd</b>	-0.177	0.079	0.392	0.662	-0.220
<b>c_b</b>	-0.526	0.008	0.212	0.506	0.015
<b>oap</b>	-0.186	0.066	0.302	0.690	-0.044
<b>rmk</b>	-0.790	-0.633	-0.014	0.979	-0.324
<b>agr</b>	1.167	0.389	0.409	1.124	0.406
<b>foo</b>	-0.175	0.121	1.057	1.103	2.490

Table 2. Change in total imports (%).

	North	Northeast	Midwest	Southeast	South
<b>pdr</b>	3.401	3.144	0.278	3.246	1.337
<b>gro</b>	1.060	0.780	0.633	0.549	0.683
<b>osd</b>	1.784	1.622	0.689	0.825	1.444
<b>c_b</b>	1.547	0.234	0.424	-0.427	0.485
<b>oap</b>	1.057	0.529	0.447	0.200	0.872
<b>rmk</b>	2.064	1.764	0.390	-0.732	1.209
<b>agr</b>	1.703	2.598	0.837	2.649	0.991
<b>foo</b>	6.341	6.150	1.866	6.799	0.794

Table 3. Change in total exports (%).

	North	Northeast	Midwest	Southeast	South
<b>pdr</b>	0.172	0.039	-0.174	-0.084	-0.006
<b>gro</b>	0.146	0.034	-0.175	-0.152	-0.046
<b>osd</b>	0.200	0.063	-0.194	-0.043	0.019
<b>c_b</b>	0.141	0.024	-0.194	-0.138	-0.067
<b>oap</b>	0.175	0.060	-0.186	-0.069	-0.019
<b>rmk</b>	0.213	0.096	-0.137	-0.131	0.022
<b>agr</b>	-0.437	-0.195	-0.330	-0.276	-0.268
<b>foo</b>	0.079	-0.114	-0.657	-0.530	-1.295

Table 4. Change in prices (%).

*Track 11 Agribusiness and Food Management*

**ID #627**

**Analysis of the effects of BONSUCRO in the Brazilian sugarcane sector**

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**Carlos Eduardo de Freitas Vian** (University of São Paulo (USP), Brazil)

**Abstract**

*The sugar-energy sector is one of the most dynamic in the country. Its importance in the Brazilian economy is evident, being a great employer, generator of foreign exchange, contributing to the economic growth. With increasing availability of information and awareness of society, social and environmental causes have gained more prominence. The socio-environmental certifications emerge as a response to society, in addition to promoting improvements according to their requirements. Through studies carried out with other cultures, it was verified that socio-environmental certifications can generate competitive advantages for companies. When it comes to the sugar-energy sector, Bonsucro stands out, a socio-environmental certification directly related to the sector, besides being present in the main power plants in the country. Using statistical methods of analysis of variance (ANOVA), comparisons were made between the Bonsucro certified and non certified plants, in order to highlight their main contributions. It was also aimed to find the particularities of the Bonsucro seal, through the application of questionnaires to certified plants, from which, the reasons for obtaining, impacts and difficulties related to these certifications were measured. The Bonsucro certification for having socio-environmental characteristics, in general, did not present significant differences in relation to the indicators of the first analysis, but it was highlighted among the motivations listed in the application of questionnaires, where the plants agreed that it has a market impact, among them, increase competitiveness and increased exports.*

**Keywords:** Certifications; Sugar-energy sector; Bonsucro.

**Acknowledgments**

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*Track 11 Agribusiness and Food Management*

**ID #645**

**Concerns over production process (CPP): Scale development and validation regarding beef in Brazil**

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**Abstract**

*Food seals and certifications regarding origin are valued by consumers, but studies show that the knowledge and the concern about them could be different individually, are multidimensional, and are less than a desirable level for a good food choice. A lack in the literature of a specific scale that measure the dimensions related to the consumer concern of production process is a gap that has been verified and suggested in previous studies. This paper proposes a Concern over the Production Process (CPP) scale. The production of beef for the empirical investigation is due to the relevance of this product in Brazil, regarding the high level of consumption, recent food safety scandals and the discussion of sustainability in production. The concept of the construct derived from a triangulation among the results of a bibliographic research, an interview with experts and two focus groups with consumers. To empirically test the scale, 725 frequent beef meat consumers were interviewed. After the statistics tests and purification, the final scale results with 18 items and six latent variables: animal welfare, traceability, social responsibility, environmental responsibility, sanitation in slaughterhouses. New studies are suggested to test CCP in other cultural contexts and different groups of consumers and types of food.*

**Keywords:** Scale Development. Beef. Consumer Behavior. Certification. Origin. Brazil..

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## **INTRODUCTION**

With the increase in income in Brazil, more consumers started to buy meat more frequently. Consumers have exhausted their basic need for food and have come to consider additional factors as important, moving to more sophisticated products that meet their needs and expectations. In this context, consumers have sought more information about food quality, reflecting growing concern about environmental impact, labor laws, safety, health and nutrition

Seals and certifications regarding origin, food safety, and unique product characteristics (e.g., pesticide-free) are understood by the market, and even by the academic community, as increasingly valued by consumers. Notwithstanding, studies show that the degree and the knowledge of the consumers regarding certification are less than desirable. (Boccaletti & Nardella, 2000; Oliveira & Spers, 2018).

When buying food, consumers find a myriad of products differentiated by various attributes. Traditionally, price and brand have been perceived as the most obvious attributes (Sharp, 2010). Over the past few decades, however, more and more products with food attributes and claims, including signs of quality (such as the protected designation of origin) and organic origin information, have emerged. More recently, other claims have been used to add value to a product, such as fair trade, "low carbon footprint," natural, biodynamic, animal welfare and other "sustainable consumption" (Sirieix et al., 2013). Sustainable consumption can be the result of a decision-making process that considers not only the individual needs of consumers (related to taste, price and convenience) but also attitudes towards social responsibility (environment and fair trade), sustainable labels and sustainable food production (Vermeir & Verbeke, 2008; Hartikainen et al. 2014).

The choice of beef product as the object of study is due to the relevance of this product in the discussion of sustainability in the Brazilian food sector, taking into account that the country is one of the largest producers of beef in the world. In 2016, cattle production generated 7% of Brazil's gross domestic product (GDP) (US\$ 130 billion), having almost 80% of produced beef consumed into domestic market (ABIEC, 2018). Cattle breeding is one of the main factors responsible for the expansion of the national agricultural frontier and also the main source of greenhouse gas emissions (GHG) in the sector, accounting for 69% of total agricultural sector emissions (Seeg, 2018). Additionally, the beef sector needs to be aware of this consumer behavior to improve sustainability to develop actions and meet legislation relevant to these demands.

Regarding sustainability in food production, numerous initiatives have been carried out to encourage farmers to adopt Good Agricultural Practices. Drigo (2013) reports that producers are not interested in adhering to production standards and certification system that will confirm good practices without having clear economic benefits, that is, without a premium price for the "quality" that will be certified. On the one hand, the producer demands a differentiated price as an incentive in the production of animals within good socio-environmental practices. On the other side, slaughterhouses and retailers began a process of launching campaigns in an attempt to make the meat origin security more tangible. However, we are faced with the reality that both links do not seem to be willing to pay more for the "sustainable" Beef." In this case, quality appears as the way to obtain this Premium remuneration. Ranchers are combining beef quality with environmental efforts and has managed to break into niche markets, says Drigo (2013) in her study.

A lack of a specific scale to measure the dimension related to the production process is a gap that has been verified in the previous studies (Oliveira, 2012; Barcellos, 2007). The creation of

the *Concern over the Production Process* (CPP) scale constitutes a relevant academic contribution to assess the influence of the environmental dimension related to other important constructs such as attitude, purchase intention and the desire to pay for beef, besides identifying the degree of consumer involvement with the product. This study has brought important elements to assist cattle ranchers, industry and the retail sector in the formulation of communication strategies and product/brand positioning due to the influence of the consumer's concern over the production process.

For this reason, a scale was developed considering sustainability actions effectively carried out in the food sector. With the creation of a scale to evaluate the consumer's concern regarding the Production Process, future studies will be able to analyze the impact of consumer knowledge regarding the Production Process of beef (animal welfare, traceability and socio-environmental responsibility) as well as the impact of knowledge / concern on the quality of beef, including food safety attributes; on consumer attitudes towards sustainable consumption.

We followed the Mackenzie et al., (2011)'s approach for construct measurement and validation to develop "the concern over the production process" scale. For further details, see Figure1.

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

## **LITERATURE REVIEW**

In this session, we tried to address some issues related to the sustainable production process as well as to take as basis some certification criteria existing in cattle raising. Issues such as animal welfare, traceability, food safety and sanitary conditions, social and environmental responsibility are part of the literature review. In the end, some initiatives that work with good practices and certification in the Brazilian beef sector were presented.

Products that contain attributes obtained from sustainability processes and supply chain practices are distinguished by their attributes of credibility, characteristics that members of the chain cannot readily discern when examining or consuming product (Golan et al., 2004). Credibility attributes are both physical and process-related. A physical attribute refers to product content properties (e.g., whether it contains elements such as genetically modified organisms (GMOs), herbicides and pesticides). A process attribute refers to characteristics of a process in the production or supply chain, such as country of origin, fair trade, labor ethics (Golan et al., 2004). In order to have an impact on the market, the processes of creating products with attributes of credibility must be guaranteed throughout the supply chain and communicated to the consumer. From a producer's point of view, it is important to understand whether their efforts in making socio-environmental practices have been effectively communicated to the market and what impacts those efforts have brought about.

Grunert et al. (2004) argue that consumer concern over the way food products are produced has increased in recent years in most European countries. There were three major areas of interest: organic production; animal welfare; and interest in products manufactured in a "natural" way, that is, without the use of advanced technology.

The quality attributes related to the production process have credence characteristics since the consumer will hardly evaluate the mentioned conditions in the production of a certain meat. During a study conducted by Grunert (1997) with organic pork, the consumer made positive inference of organic meat referring to concern for the environment, health, but also animal welfare and better taste. This study clearly shows the pitfalls of positioning a product based on the characteristics of the process, in which the effects on those dimensions of product quality

that are accessible to the consumer experience are unclear. Characteristics of the process can "influence the formation of quality expectations more as an indicator of overall quality than as a singular attribute," said Grunert.

In her cross-cultural research Barcellos (2007) raised consumer concern regarding animal welfare, protection of the environment, use of slave labor and consumption of product with Genetically Modified Organism. The results show little concern for animal welfare among the "paulistas" and Australians. In Australia, this concern with AWE was directly related to the degree of education and, inversely, to age. The concern with environment preservation may appear among the priorities of "Paulistanos" and Australians (2°) and Dutch (1°). As suggested by experts, Barcellos (2007) included a question to raise consumer concern about the use of slave labor. The possibility of using slave labor in beef cattle farms in Brazil worried 73.8% of those interviewed in São Paulo.

Chini (2015) sought to investigate consumer values on animal production as well as expert opinions on how beef produced in pasture areas could be a differential. The signal attribute, animal welfare, was much discussed in this work, this being an attribute directly related to the production process of the meat. In this case, the animal raised on pasture represents animal welfare.

Another study that addresses animal welfare, BEA, was carried out by Souza et al. (2013) to understand better the reactions of consumers to the mistreatment of animals in the industrial processes of meat production, which can cause pain, suffering, and stress. The study shows that, generally, consumers are unaware of management standards in meat production and that around 87% of respondents have difficulty connecting the food they consume to the living animal. However, evidence was found that a seal guaranteeing the absence of maltreatment in the meat production process would be well accepted by the consumer market if the public were correctly informed about differences in animal welfare standards. Even with meat being considered a commodity, some countries have labeling schemes. The main criteria certified in these schemes include herd tracking, a guarantee of origin, employee management, food safety and hygiene, and animal welfare, among others.

Some studies have discussed the level of knowledge that consumers have on the food production process, within the boundaries of different constructs. Hanf and Kuhl (2005) argue that quality, in consumer understanding, is a construct with multiple attributes and they consider orientation through the process as one of the main dimensions of the quality control system, i.e., the production system as a whole must be explicit: "from farm to fork" (Hanf & Kuhl, 2005). "Providing traceability information and having a transparent production chain becomes a competitive necessity," said the authors.

Research indicates that consumers' food choices have been more influenced by concerns about the impact of the food system on human health - Food Safety. The perception of safe food appears as a strong requirement in the choice of a product. **Traceability** during the different stages of the meat production chain appears as a way to tangibilize the "quality" of the product.

Among ways to identify traceability, some authors use the term "traceable to the farm" (Caracciolo, 2010, Cicia & Colantuoni, 2010, Loureiro & Umberger, 2007, Lusk et al., 2003). In Wu et al. (2017) study, traceability was tested including product traceability information at three levels: (1) no traceability information (NOTRACE); (2) traceability to slaughter/processing (LOTRACE); (3) traceability to the farm (HITRACE).

Several studies have shown consumer preferences and WTP for certification associated with credence attributes related to the preference for traceability and Beef origin (Umberger et al., 2003; Verbeke & Ward, 2003; Lusk et al., 2003). The advent of mad cow disease has led to more discussion on COOL (certification of origin), traceability and food safety inspection issues in consumer perceptions of food safety and quality. Loureiro and Umberger (2007) investigated with American consumers and evaluated the attributes of the country of origin certificate, traceability and meat tenderness. The results of this research prove that attributes related to "inspected food safety" presented the highest average premium compared to other three evaluated attributes. These authors also mentioned that "[...] traceability is necessary to verify credence attributes such as origin, so it is expected that the traceability of an animal will be valued by the consumer and would help maintain high reputation of American meat [ ...]" (Loureiro & Umberger, 2007, p. 510).

A meta-analysis study of consumer behavior in relation to meat traceability conducted by Cicia and Colantuoni (2010) helped to summarize the extensive consumer WTP literature on this attribute. This work demonstrated that consumers from different countries are giving more importance to attributes related to traced meat. According to these researchers, "food safety," "field traceability" and "animal welfare" seem to be consumer`s most requested attributes (Cicia & Colantuoni, 2010). They consider this information important for the industry to establish premium prices for their products with different levels of traceability (Cicia & Colantuoni, 2010). Caracciolo et al. (2010) suggest that an important attribute is a the traceability to the farm. In this case, the premium price would be between 11% and 16.4% so that the consumer would be informed about the production steps of the meat from the "farm to table."

Stranieri and Banterle (2015) carried out a study to understand consumer attitudes regarding the origin of the meat, considering information present in the product label. Results indicate that the majority of the consumers showed high interest in different information in labeled meat. The variables named as traceability, certification, freshness and shelf life are important in model studied by these authors.

The importance of traceability was analyzed in a study conducted by Wu et al. (2017) with Chinese consumers who were interviewed for their preferences on pork traceable meat in a real-choice experiment. Results showed that consumers had the greatest willingness to pay (WTP) for traceability certification. Additionally, traceability to slaughter/processing was considered as a substitute for local product labeling and as a complement to non-local agricultural product labeling. Despite the heterogeneity among the consumer groups, they all had some positive WTP for local product attribute in traceable pork meat. Therefore, it is beneficial to include source labeling during the launching of traceable food markets in China.

Kraisintu and Zhang (2011) have identified the benefits of traceability in each sustainability dimension. In the economic dimension, factors that create economic sustainability are cost savings and increased profits; in social dimension, traceability provides social sustainability, reducing, preventing and controlling the occurrence of harmful foods; and, in environmental dimension, traceability contributes to environmental sustainability, protecting environmental resources and preventing pollution. Traceability alone does not reduce the asymmetry of information about the credence attribute, but it becomes a necessary condition to control unobserved attributes, such as animal welfare and environmentally friendly production (CICIA; COLANTUONI, 2010). The demand for products with labels containing credence attributes (e.g., natural, organic, local, "human") need a traceability system to verify the integrity of information contained in these labels (Loureiro & Umberger, 2007).

Some studies have addressed consumer interest regarding social aspects, especially employees' work conditions. The study conducted by Stöckigt et al. (2018) approached the broad topic of sustainability in online-shopping deliveries and grocery shopping. The authors looked at implicit measures of sustainability awareness by investigating the relative importance of products' sustainability-related attributes in a CBC (Choice-based conjoint) and tried to explain individual differences in these by previously proposed trait variables. Results show that in scenarios where certain information is accessible (e.g., about a grocery product's environmental impact or the working conditions of a product's delivery), sustainability-related attributes, such as environmental impact and working conditions, show higher importance values in the decision-making process for a certain scenario than most other attributes. In other words, it is an interesting result the fact that consumers seem to base their decisions on sustainability-related attributes (in case information is provided) to an about equal extent as on price. The result is in line with Rashid and Byun (2018) who concluded from their experiment that a Fairtrade label on a product causes a significant increase of attitude, purchase intention, and brand trust compared to products without a tag informing about fair and environmentally-friendly conditions during production.

There are several implications that can be assigned to Stöckigt et al. (2018) research. First of all, the CBC's descriptive results show that sustainability concerns would play a much greater role in consumer decision making, if information on sustainability— e.g., the environmental impact and the working conditions behind products—were displayed in pre-purchase situations (i.e., on product shelves or in the online shop) in a similarly clear and simple manner as price.

There seems to be an inconsistency between consumers' values of the ecological and socially responsible production and their actual choices of products with claims for these attributes. Ghvanidze et al. (2017) decided to examine this relationship between consumers' values – namely, environmental values and ethical concerns for food production – and consumers' preferences for products indicating social and ecological responsibilities of producers. In this study, the choice of the product attributes – namely, nutritional information, health benefits, ecological impact of production (produced with minimum chemical emissions) and social responsibility of producers (good working conditions for our employees)– was based on an extensive literature review and the results of the pilot study. Results showed product attributes emphasizing the ecological impact of production and social responsibility of food producers are specifically valued by consumers with high levels of environmental consciousness and by those concerned about goods production.

Some studies demonstrate the relevance of the concern over Environmental Responsibility related to Production Process. Organic and locally grown products have positive environmental impacts due to the reduction of greenhouse gas (GHG) emissions required for their production. Magistris and Gracia (2016) conducted a non-hypothetical choice experiment on Spanish consumers to test their preferences for sustainable food products by examining those related to reducing GHG emissions: organic and locally produced almonds. Results suggest that consumers were willing to pay a price premium for locally grown (less distant) and organically grown almonds and were not interested in paying a higher price for almonds that traveled long distances.

On Carlsson et al. (2010) study about common citizen's willingness to pay (WTP) for reducing CO<sub>2</sub> emissions, Americans generally seem to believe less in climate change, and that human being is responsible for these changes when compared to the Chinese and Swedes. The study also found clear differences in the WTP between three countries (China, Sweden, and The United States), rejecting the hypothesis of equality in WTP (for a given level of CO<sub>2</sub> reduction)

between them. Sweden had the largest WTP; and China, the lowest. Thus, while Swedes and Chinese have similar attitudes towards climate change, they differ considerably in their WTP for this attribute.

The study developed by Echeverría et al. (2012) seems to have been the first paper to provide an analysis of the WTP for food labeling concerning the Carbon Footprint (CF) in developing countries. This work showed that, contrary to general belief, Chilean consumers respond well to the global warming issue. Although they are unfamiliar with the concept of CF, they want to receive more information related to this topic and also prefer foods with low GHG emissions. Chilean consumers show a positive attitude towards this concept and are willing to pay 29% above the average price for milk and 10% bread. Those authors mention that WTP seems to be specific for these products. Thus, any intention to extrapolate the exact results of this study (WTP values) should be done with caution.

Several studies have included consumer's degree of knowledge over the food production process, within the measurement of different constructs. In Oliveira (2012) research this construct is closely related to the perception of Food safety. In this way, the author intended to access the degree of consumer knowledge on issues such as animal welfare, traceability, and socio-environmental responsibility. In our work, we will use these dimensions for the evaluation and measurement of the construct "Concern over Production Processes."

At this moment it will be presented some initiatives directly related to Good practices and socioenvironmental certification criteria within Brazilian livestock (BPA, GTPS and Rainforest Alliance) which served as the basis for concepts involved in creating the scale of concern over the production process.

The Good Agricultural Practices Program (BPA) created by Embrapa (linked to the Brazilian Ministry of Agriculture, Livestock and Food Supply) and partners was created over a decade ago, and the exercise of developing and promoting the implementation of good practices in the Beef supply chain inserted new concepts to the rancher's routine. BPA seeks to adapt the field to technologies and to use of production practices focusing on efficiency and sustainability, important words in the agricultural sector. This Good Agricultural Practices system is widely accepted among main actors in the Brazilian Beef supply chain and became a reference for quality and socio-environmental certifications systems in this sector.

Initiatives to trace beef for export, especially to the European Union, have contributed to meeting expectations of international consumers regarding food safety. To ensure the quality and Food safety, consumer groups, non-governmental organizations, and supermarket chains, linked to national and international meat trade have demanded from their suppliers implementation of quality control processes, certifying that products offered by market requirements and standards. BPA has as a prerequisite the implementation of good practices in the field, as well as in industry and other links in the beef production supply chain. Another market requirement concerns the sustainability of production systems, i.e. those that respect environmental laws, are economically viable and also guarantee animal welfare.

The main control activities in BPA are listed in Table 1, which are: Farm management; Farm social function; Human resource management; Environmental management; Rural Facilities; Pre-slaughter management; Animal welfare; Pasture Management; Food supplements; Animal identification and traceability; Sanitary Control and Reproductive Management. BPA has evaluation criteria for each of these areas. The description of these criteria was used as the basis for the scale proposed in this study.

The *Rainforest Alliance* certification system (SAN, 2010) is one of the most recognized certification systems in the sustainable agriculture sector and is present in several countries. The Rainforest Alliance's mission is to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior. Support strategies help to improve farming practices, management systems and to increase farmers' knowledge. At the same time, these aspects contribute to improving the conservation of biodiversity, natural resources, productivity and resilience of farms, as well as improving livelihoods of producers, workers and their families.

The *Rainforest Alliance* for Sustainable Agriculture recognizes the challenges of climate change and seeks to address them by actively promoting Climate-Smart Agriculture and developing resilience of farms and farming communities. The Rainforest Alliance standard promotes the three pillars of Climate-Intelligent Agriculture: 1) sustainably increase productivity and farming practices; 2) adapt and develop resilience to climate change; and 3) Reduce or eliminate greenhouse gas emissions where possible (Rainforest Alliance, 2017).

The five basic principles that are part of this system incorporate effective Planning and Management; Biodiversity Conservation; Conservation of Natural Resources; Better livelihoods in human well-being; Sustainable Livestock Production.

Among the areas covered in this certification system it can be mentioned: animal welfare and management; food; sanitation, traceability, sustainable pasture management, phytosanitary treatments; waste and pollutants management; environment; employees training; employee health and safety; employee well-being and social aspects.

Another reference of an institution that works with socio-environmental practices in Brazilian livestock is the GTPS (roundtable: Sustainable Livestock Working Group). GTPS created in 2018 an Indicator Guide for Sustainable Livestock production (GIPS). The objective of GIPS is to provide guidance on what is meaning of sustainable livestock and to encourage all stakeholders involved on Beef supply chain to improve their practices towards sustainability through the construction of a self-assessment tool for continuous improvement, gradual, with different performance stages, applicable to all members of Brazilian Beef supply chain in an auditable format. The activities covered by the GIPS includes five principles: Management and Support to the Production Sector; Communities; Workers; Environment and Supply Chain. (GTPS, 2018).

## **METHOD**

This study adopts an exploratory sequential mixed method (Creswell, 2014) or Independent mixed methods research strategy (Bahl & Milne, 2007), where the results of the phase of study stage will serve as a substrate for the others.

We justify the conduction of this study through mixed methods since the inability of a data source (e.g., only quantitative) to provide a complete solution to our problem (Creswell & Clark, 2011). The application of qualitative and quantitative approaches together provides a more consistent solution to the problem than one method's use separately (Johnson & Onwuegbuzie, 2004). Mackenzie et al. (2011)'s construct measurement and validation procedures were used to develop "the concern over the production process" scale. For further details, see Figure 1.

### ***Specific domain of construct (Step 1)***

We delimit the concept of the construct from the triangulation among the results of the bibliographic research (Grunert et al., 2004; Barcellos, 2007; Cicia & Colantuoni, 2010; Grunert et al., 2011; Chini, 2015; Wu et al., 2017; Caputo et al 2018; Oliveira & Spers, 2018), five in-depth interviews with experts, two focus groups with consumers and consultations with the Brazilian Agricultural Research Corporation (EMBRAPA, 2011), the Sustainable Livestock Indicators Guide (GIPS) of the Sustainable Livestock Working Group (GTPS, 2018) and the Rainforest Alliance (SAN, 2010).

### ***Items generation (Step 2)***

In this step, 36 items were generated from the bibliographical and empirical researches conducted in step 1. After the items were generated, the authors evaluated the adequacy of the items and eventual redundancies and problems of conceptual equivalence. At the end of this evaluation, 12 items were discarded, the remaining 24 items divided into the six dimensions of the scale (see Table 2).

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

### ***Face and content validity (Step 3)***

We prepared a pretest on the SurveyMonkey platform and sent the link to 40 beef consumers and five marketing professionals before the instrument was applied. The respondents were instructed to read the questionnaire carefully and report any problems with the spelling, meaning of the statements, as well as the use of the measurement scale. The Marketing Specialists also validated content, pointing out possible problems in the clarity of the statements and the theoretical adequacy of the items. To perform the judgment, two scales were used on a seven-point Likert scale ranging from "too bad" and "very good" and "completely inappropriate" to "completely inappropriate." Items with an average below three are revalued and/or redone.

After this procedure, the respondent's doubts were discussed by the researchers under the supervision of an adjudicator, who was responsible for judging the relevance of the proposed changes. The final wording of the items is shown in table 3.

### ***Specification of the measurement model (Step 4)***

Concern over the production process (CPP) is measured through 24 issues divided into traceability (TRA), animal welfare (AWE), social responsibility (SOR), food safety concerns in meatpacking (FSC), environmental responsibility (ENR), and legality (LEG). It is a second order reflective multidimensional construct, measured from six first order reflective dimensions with multiple indicators. The observable variables are measured on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree."

### ***Data collection (Step 5)***

The questionnaire link on the Survey Monkey platform was sent by email to Brazilian consumers registered in a research company database. We created filters to exclude consumers who rarely or never purchased meat and those individuals who did not eat meat.

Of the 795 who accessed the questionnaire, only 725 filled it completely. We detected 34 unsystematic missing values, and they were filled with the average of their respective variables. The sample was separated into two groups through a lottery. In section 4.1, we used sample 1

to perform an exploratory factorial analysis (EFA) and to check the adjustment of the instrument (Step 6). In section 4.2, sample 1 was used to confirm the model fit using confirmatory factorial analysis (CFA), reliability, convergent, and discriminant validity obtained in the first CFA and to test the nomological validity of CPP scale (Step 7-8). In section 4.3, sample 2 was used for cross-validation of the scale (Step 9).

In addition to a specific section dealing with socio-demographic issues, three parts of the quantitative instrument dealt with constructs of the survey, all measured on a seven-point Likert scale ranging from “strongly disagree” to “strongly agree.” The first part of the questionnaire addressed the scale we developed (concerns over the production process) and the other scales were used to test its nomological validity.

Next, the second section addressed questions related to product involvement (PIV) and consisted of 14 questions divided into the dimensions of risk likelihood (RIL), importance attributed to risk (RIM), symbolic value (SIV), and pleasure value (PLE) (Laurent & Kapferer, 1985; Jain & Srinivasan, 1990; Verbeke & Vackier, 2004; Barcellos, 2007).

The third section dealt with attitudes related to sustainable consumption (ASC) from the “food product” (FOP) and “general green product” (GGP) constructs and contained eight items (Roberts, 1996; Lages Neto, 2002; Bedante, 2004; Silva et al., 2015). Further details about the questionnaire are provided in Table 3.

\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\*

### ***Scale purification and refinement (Step 6)***

Regarding scale purification and refinement, we conduct an exploratory factorial analysis (EFA) in each dimension of the scale to verify the unidimensionality and reliability of the measurements, as well as check the convergent and discriminant validity.

We have confirmed that all second-order constructs are one-dimensional. The reliability of the dimensions was attested by high Alpha values (between .852 to .971), the convergent validity was obtained by high factor loadings (between .734 to .969) and AVEs (between .697 to .911). Additionally, we found discriminant validity by the criterion of Fornell and Larcker (1981).

## **RESULTS**

### ***Gathering data and reexamination of scale properties (Step 7)***

To analyze the scales, composite reliability (CR) and MaxR(H) were used to measure the internal consistency of the constructs. To attest discriminant validity, we compared if maximum shared variance (MSV) and average shared squared variance (ASV) are fewer than AVE. For convergent validity, we considered AVE values greater than .500 (Fornell & Larcker, 1981).

The Amos 22.0 Software was used to perform a CFA employing covariance-based structural equation modeling. The model fit indices we considered were chi-square per degree of freedom ( $\chi^2/df < 5.0$ ), GFI ( $> .90$ ), TLI ( $> .95$ ), CFI ( $> .95$ ) and RMSEA (close to .06) (Hu and Bentler, 1999). The Harman single factor test was used to check for the existence of common method variance. (Podsakoff and Organ, 1986).

The CFA of scale did not present good fit indices ( $\chi^2/df = 4.173$ ; GFI = .812; TLI = .920; CFI = .932; and RMSEA = .094). Considering the problem of model fit, we opted to exclude items using the modification indexes.

To obtain a good fit, we excluded items CPP3, CPP8, CPP9, CPP14, CPP17 and CPP24. As a result, we reach an adjusted model ( $\chi^2 / df = 3.514$ ; GFI = .892; TLI = .953; CFI = .963; and RMSEA = .083). We also attested the reliability (CR > .700 and MaxR (H) > .800), convergent validity (AVE > .500) and discriminant validity of the scale (MSV < AVE, Fornell & Larcker, 1981). Further details about reliability, convergent and discriminant validity, see Table 4. To consult correlations among constructs and factor loadings see Figure 2.

\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\*

### ***Assessment of scale validation (Step 8)***

In this step, we tested the nomological validity of the CPP scale using the hypothesized structural model with PIV as an antecedent (Burnier, Guerra, & Spers, 2018). We perform a CFA of the PIV scale and the measurement model, considering CPP as the response variable and PIV as a predictor.

The results show that the PIV scale presented a good adjustment index ( $\chi^2 / df = 1.262$ , GFI = .977, TLI = .994, CFI = .996 and RMSEA = .027) after excluding items PIV09 (RIL dimension) and PIV11 (RIM dimension).

We also attest the reliability (CR between 0.719 and 0.935), convergent validity (AVE between 0.564 and 0.826) and discriminant validity (MSV - between 0.012 and 0.254 < AVE) among the dimensions of the construct. These results indicate the possibility of using PIV in the structural model to test the nomological validity of the CPP scale.

We confirmed the fit of the measurement model ( $\chi^2 / df = 2.482$ , GFI = .853, TLI = .942, CFI = .948 and RMSEA = .064) and estimate the beta coefficient between PIV and CPP. We verify that PIV is an antecedent of CPP ( $\beta = .586$ ; S.E = .113; critical ratios = 5.179;  $p < .001$ ). These results corroborate the findings of Burnier, Guerra, and Spers (2018) and confirm the nomological validity of the CPP scale.

### ***Cross-validation of the scale (Step 9)***

For the cross-validation of the instrument, we used sample 2. First, we tested the fit of the CPP scale to rule out the existence of sample bias in the results found in section 4.2. After, we performed a CFA in ASC scale and tested the relationship between CPP (antecedent) and ASC (consequent) using structural equation modeling.

The results shown in Table 5 suggest that in CPP scale the criteria of reliability (CR between .879 to .959), convergent validity (AVE between .709 to .886) and discriminant validity (MSV - between .440 and 0.720 < AVE) were reached. The results of CFA shows also a good fit for CPP ( $\chi^2 / df = 3.672$ , GFI = .882, TLI = .948, CFI = .959 and RMSEA = .086), confirming the scale good properties. Further details about correlations among dimensions and factor loadings see Figure 3.

\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*\*

We also found excellent fit indices for ASC ( $\chi^2 / df = 3.092$ , GFI = .970, TLI = .972, CFI = .983 and RMSEA = .076) and for structural model that consider ASC as a consequent of CPP construct ( $\chi^2 / df = 3.169$ , GFI = .845, TLI = .935, CFI = .943 and RMSEA = .078). After confirming the good properties of the constructs, we tested the cause and effect relationship

between CPP and ASC to reinforce the discriminant validity obtained in section 4.2. The results confirmed CPP as a predictor of ASC ( $\beta = .969$ ; S.E = .079; critical ratios = 12.296;  $p < .001$ ), corroborating previous nomological validity (section 4.2) and literature (Burnier, Guerra, & Spers, 2018).

## **CONCLUSIONS**

A gap indicated at the beginning of this work was the absence of a specific scale to measure the dimension related to the production process. A scale was proposed to measure items related to the production process, and the qualitative study served as the basis for its construction.

The relevant conclusion of this study was the confirmation of a scale that can measure items related to the production process. The scale developed with six latent variables and 18 items is adequate to measure the construct "concern with the production process." The discriminant and convergent validations have attested the possibility of using these items in the measurement of this construct. Moreover, we confirmed the nomological validity of the instrument using PIV as an antecedent construct and ASC as a consequent of CPP. The final instrument is shown in Table 6.

Regarding the last step (10) of the process of development and validation of the CPP scale, we present instructions to the researchers and practitioners who will use our instrument in their researches and projects.

The CPP scale is multidimensional and was measured on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree." The instrument has to be applied directly with beef consumers. We recommend that appropriate filters are created in the questionnaire to exclude consumers who rarely or never purchased meat and those individuals who did not eat meat. It is possible that application patterns are updated by researchers (Mackenzie et al., 2011), especially in the case of new validation and adaptation research.

Previous studies explore only some dimensions of the production process as observed in Oliveira and Spers (2018) and Barcellos (2007) that found animal welfare, traceability, and socio-environmental responsibility as relevant in determining the consumer's concern with the production process. Some criteria used in socio-environmental certification standards (SAN, BPA, GIPS / GTPS) cover items related to good practices that were also evaluated in this study.

In this article, a filter question was used before the questionnaire was answered to maximize responses from respondents with higher income. The fact that it does not include the low-income public becomes a limitation to extend the findings to the Brazilian population. This procedure was adopted considering that the consumer with income above R\$ 60,000 (Usd 18,000) per year should be part of the public that is adequate to understand attribute's concept of sustainable Beef.

As a suggestion for new research, the proposed model should be used as a reference for new research addressing the socio-environmental theme in other segments of the food industry in Brazil. The scale with the six latent variables that compose the construct "concern over production process" (animal welfare, traceability, social responsibility, environmental responsibility, sanitation in slaughterhouses) can be adapted and used as a reference in investigations that intends to address this subject.

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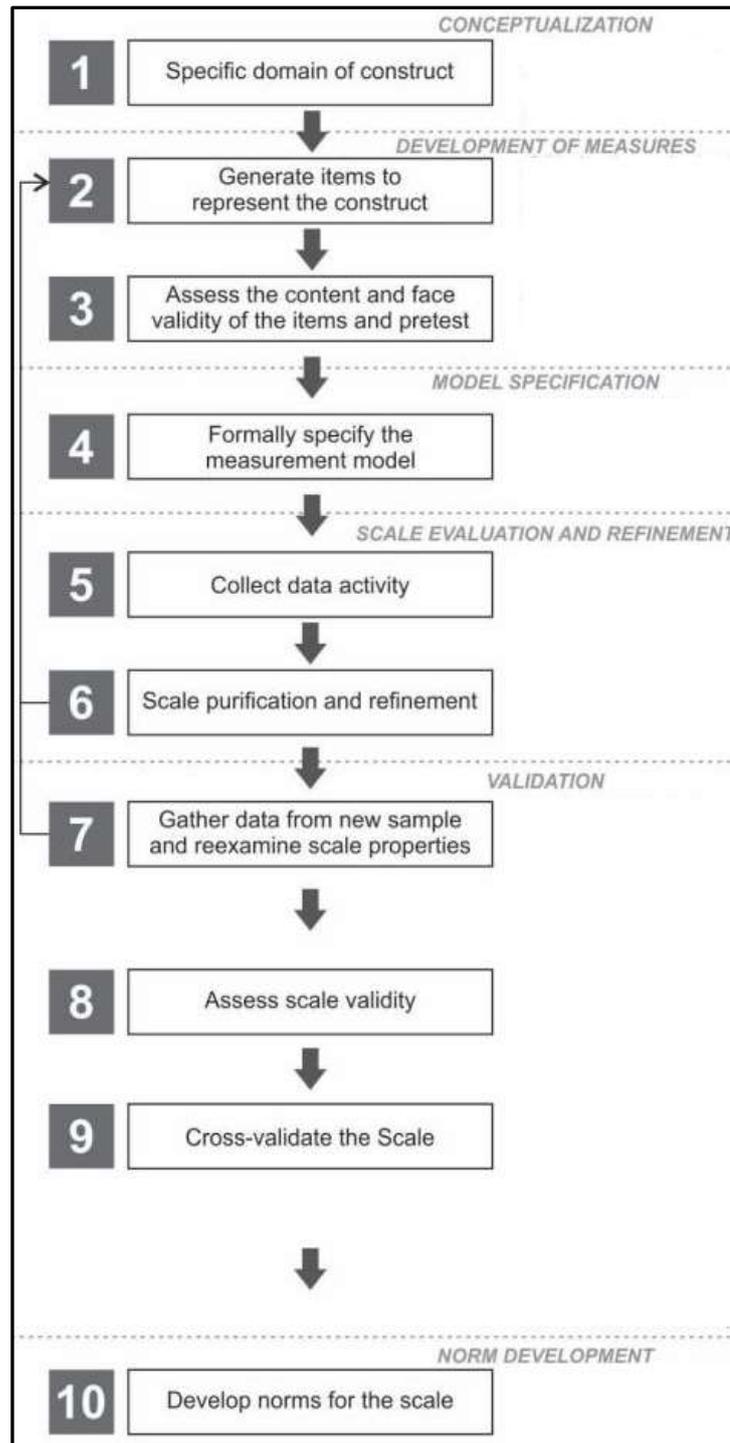
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**Figure 1** – Scale development and validation  
Source: Adapted from Rossetto, Borini, and Frankwick (2018)

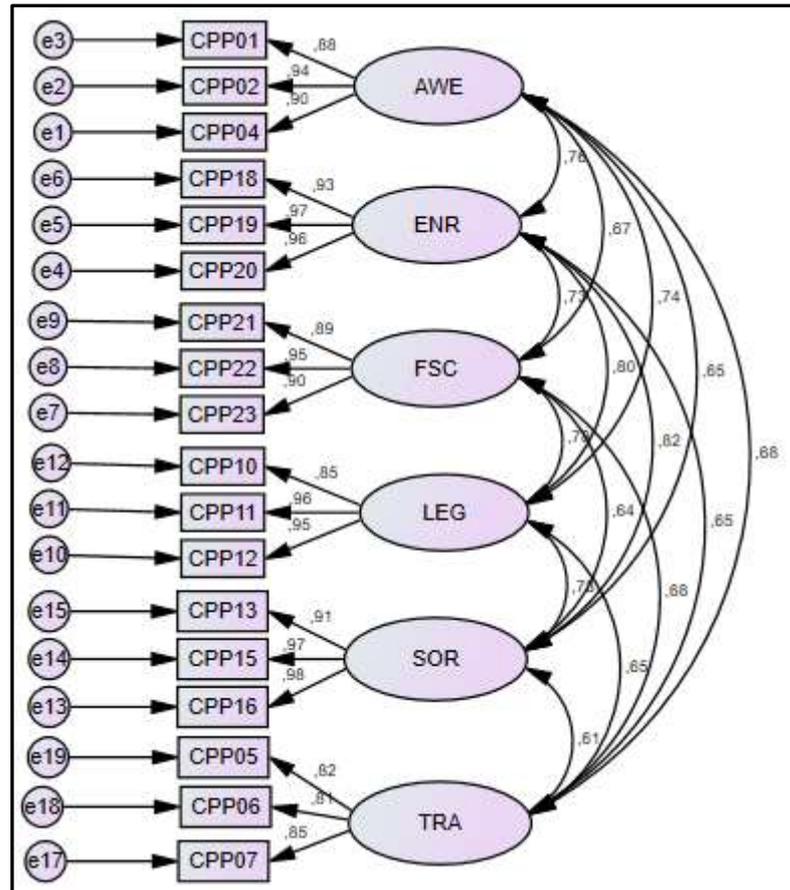


Figure 2 – CFA of CPP scale – sample 1

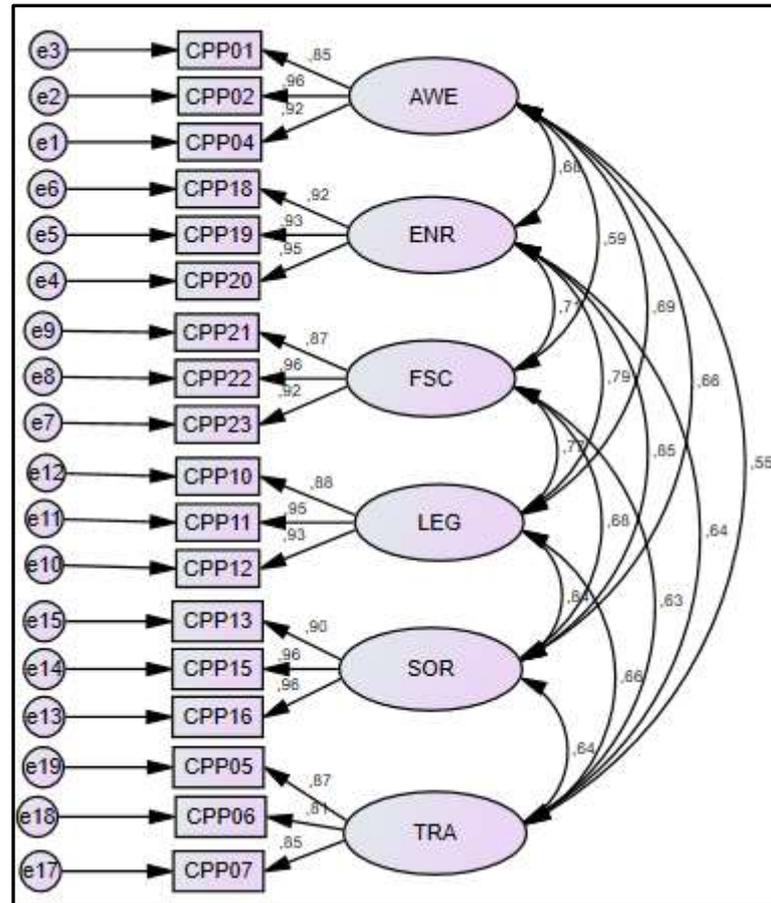


Figure 3 - CFA of CPP scale – sample 1

**Table 1 – BPA Assessment areas**

<b>Activities</b>	<b>Description</b>
Farm Management	It deals with the four functions that make up the administration of rural property: planning, organization, direction and control. Proper management requires that all of these functions be exercised at a minimum level, applied to the various functional areas of the company.
Farm Social Function	It deals with the criteria and requirements established by law in the social, environmental and productivity areas of the rural property.
Human Resource Management	It deals with social and labor relations that regulate participation of the rural worker in the productive systems, having ethics as the basis and, culture and moral values as partners, which are inseparable.
Environmental Mmanagement	It deals with proper management of natural resources existing in a rural property, in accordance with environmental laws, and with recommended techniques for soil conservation, biodiversity, water resources and landscape.
Rural Facilities	It deals with adequacy of farming facilities in order not to cause damage to the animal (leather and carcass) and to ensure safety of personnel responsible for animals` management
Pre-slaughter Management	It deals with knowledge and application of operations involving management, facilities and transportation conditions aiming to reduce injuries that can compromise quality and yield of carcass and leather.
Animal Welfare	It deals with knowledge about animal behavior and management strategies implementation that take into account physiological and behavioral needs of cattle, with direct and indirect gains in the production of quality meat and leather.
Pasture Management	It deals with care that must be observed in the formation, recovery and utilization of pastures. As they are main component of cattle feed, supply and nutritional value of forages directly affect herd productivity, and the appropriate management of livestock can extend its productive life, reducing pasture recovery costs.
Food Supplements	It deals with inputs and additives quality used in animal supplementation in order to guarantee food production that is economically viable and free from residues that could harm human health.
Animal identification and Traceability	It deals with different ways of animal individual identification and recording of occurrences that significantly contribute to animal and herd yield evaluation and information tracking throughout animal`s life.
Sanitary Control	It deals with preventive and curative measures of sanitary control recommended for herd good performance, ensuring safe and healthy food production.
Reproductive Management	It deals with management practices that aim to optimize calf herd reproductive and production performance in a rational, economic and environmental friendly way

Source: by authors, 2019

**Table 2 – CPP scale source**

2nd Order variable	1st variable	items	References
Concerns over the production process	animal welfare	4	Caputo et al. (2018); Chini (2015); Grunert et al. (2014)
	traceability	4	Barcellos (2007); Cicia and Colantuoni (2010); Oliveira and Spers (2018); Wu et al. (2017)
	legality	4	BPA norms; RAS; Imaflora
	social responsibility	4	BPA norms; RAS; Imaflora; Ghvanidze et al (2017); Stöckigta et al. (2018)
	environmental responsibility	4	BPA norms; RAS; Carlsson et al. (2010); Echeverria et al. (2014); Magistris and Garcia (2016).
	food safety concerns in meatpacking	4	BPA norms; RAS, Imaflora

**Table 3 - Descriptive statistics of measures**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Product Involvement (PIV)	Pleasure value (PLE)	PIV01	Meat is important to me	5,686	1,583	5,823	1.520
		PIV02	For me meat is absolutely necessary	5.141	1.811	5.239	1.799
		PIV03	I enjoy a meal with meat more than a meal without meat	5.584	1.772	5.660	1.720
		PIV04	I appreciate meat very much	5.804	1.557	5.828	1.577
	Symbolic value (SIV)	PIV05	You can tell a lot about a person based on his/her choice of meat	3.986	1.967	3.830	2.062
		PIV06	My choice of meat conveys about me to other people	3.967	2.026	3.809	2.104
		PIV07	My choice of meat gives other people an image of me	3.892	2.020	3.820	2.088
	Risk importance (RIM)	PIV08	I would find a bad choice of meat terrible	5.144	1.833	5.158	1.976
		PIV09	I don t have a lot to loose when I make a bad choice of meat (rev)	2.920	1.994	2.994	2.087
		PIV10	I find it very annoying to make a wrong choice of meat	5.080	1.994	5.006	2.087
	Likelihood of risk (RIL)	PIV11	When I buy meat. I know that I make the right choice (rev)	5.365	1.776	5.303	1.773
		PIV12	I feel lost when having to choose meat	5.435	1.478	5.396	1.540
		PIV13	I never know if I make the right choice of meat	2.565	1.478	2.604	1.540
Concern over the Production Process (CPP)	Animal Welfare (AWE)	CPP01	I am concerned if animals were created in a natural and free way	3.615	2.020	3.672	1.983
		CPP02	I am concerned if animals received a humane and ethical treatment throughout their life	3.413	1.969	3.417	1.928
		CPP03	I am concerned if animals received adequate feeding and sanitation.	5.576	1.732	5.668	1.639
		CPP04	I am concerned if slaughter was carried out painlessly and according to animal welfare standards	5.430	1.764	5.314	1.893
	Traceability (TRA)	CPP05	I only choose one beef when it is possible to identify its origin	4.890	1.871	4.906	1.878

		CPP06	I try to choose foods that have guaranteed origin	5.710	1.489	5.668	1.505
		CPP07	I try to choose food that can be traced back to its origin in case of any problems	5.017	1.866	5.011	1.868
		CPP08	A traceable food is a safer food.	5.680	1.549	5.794	1.488
	Legality (LEG)	CPP09	I am concerned if producers and meatpackers follow labor standards (workers register. safety at work) .	5.403	1.720	5.263	1.865
		CPP10	I am concerned if producers and meatpackers use child labor or forced labor	5.558	1.712	5.532	1.805
		CPP11	I am concerned if producers work within the legality	5.702	1.625	5.586	1.719
		CPP12	I am concerned if meatpackers work within the legality	5.776	1.616	5.744	1.639
	Social Responsibility (SOR)	CPP13	I am concerned if producers and meatpackers worry about benefits to officials and families (health plan. early childhood education)	5.017	1.860	5.135	1.824
		CPP14	I am concerned if producers and meatpackers promote development of communities	4.934	1.897	4.870	1.922
		CPP15	I am concerned if producers value hiring and training of local labor	4.948	1.865	4.928	1.895
		CPP16	I am concerned if meatpackers value hiring and training of local labor	4.953	1.851	4.920	1.870
	Environmental responsibility (ENR)	CPP17	I am concerned if producers adopt practices that reduce greenhouse gases emission	5.133	1.840	5.047	1.906
		CPP18	I am concerned if beef comes from farms that have not had deforestation	5.080	1.833	5.039	1.925
		CPP19	I am concerned if beef comes from farms that conserve water and avoid its waste	5.097	1.808	5.067	1.880
		CPP20	I am concerned if beef comes from meatpackers that conserve water and avoid its waste	5.088	1.812	5.097	1.848
	Food Safety concerns in the meatpackers (FSC)	CPP21	I am concerned if beef comes from meatpackers properly inspected by health authorities	5.834	1.586	5.895	1.492
		CPP22	I am concerned if beef comes from meatpackers that have good hygiene practices in relation to slaughter environment and machinery	5.840	1.558	5.727	1.589
		CPP23	I am concerned if beef comes from meatpackers that take care of the hygiene of employees (uniforms) and of instruments used	5.837	1.562	5.681	1.601
		CPP24	I am concerned if beef comes from meatpackers that have waste and effluent control	5.536	1.665	5.406	1.771
Sustainable Consumption Attitude (ASC)	General Green Products (GGP)	ASC01	I would be willing to stop buying products from companies guilty of polluting the environment	5.014	1.800	5.086	1.858
		ASC02	I make a special effort to reduce the use products products that use scarce natural resource	5.293	1.666	5.183	1.753

	ASC03	When possible. I always choose products that cause less pollution	5.589	1.541	5.448	1.712
	ASC04	I do not buy a product when I know the possible damage it can cause to the environment	5.372	1.616	5.232	1.728
	ASC05	When I buy products and foods the concern over the environment interferes with my purchase decision	5.188	1.675	5.144	1.760
Food Products (FOP)	ASC06	I prefer foods that are produced respecting the environment	5.686	1.501	5.644	1.582
	ASC07	I buy organic products because they are healthier	5.161	1.760	5.196	1.748
	ASC08	I am willing to pay a little more for products and foods that do not harm the environment	5.343	1.626	5.385	1.674

Notes — M = mean; SD = standard deviation; \* Sample 1; \*\* Sample 2

**Table 4 - Confirmatory factorial analysis - sample 1**

	SOR	AWE	ENR	FSC	LEG	TRA
<b>SOR</b>	<b>0.955</b>					
<b>AWE</b>	0.647	<b>0.906</b>				
<b>ENR</b>	0.817	0.757	<b>0.953</b>			
<b>FSC</b>	0.644	0.671	0.726	<b>0.913</b>		
<b>LEG</b>	0.734	0.737	0.799	0.781	<b>0.919</b>	
<b>TRA</b>	0.610	0.677	0.647	0.681	0.648	<b>0.825</b>
<b>CR</b>	0.969	0.932	0.967	0.938	0.942	0.865
<b>AVE</b>	0.912	0.821	0.908	0.834	0.845	0.680
<b>MSV</b>	0.667	0.573	0.667	0.610	0.638	0.464
<b>MaxR(H)</b>	0.979	0.937	0.973	0.945	0.958	0.866

Note: the diagonals represent the root of the extracted variance

**Table 5 - Confirmatory factorial analysis - sample 2**

	SOR	AWE	ENR	FSC	LEG	TRA
<b>SOR</b>	<b>0.941</b>					
<b>AWE</b>	0.661	<b>0.910</b>				
<b>ENR</b>	0.848	0.677	<b>0.933</b>			
<b>FSC</b>	0.679	0.592	0.710	<b>0.921</b>		
<b>LEG</b>	0.839	0.687	0.786	0.767	<b>0.921</b>	
<b>TRA</b>	0.637	0.548	0.641	0.629	0.664	<b>0.843</b>
<b>CR</b>	0.958	0.936	0.953	0.944	0.944	0.880
<b>AVE</b>	0.885	0.829	0.871	0.848	0.849	0.710
<b>MSV</b>	0.719	0.472	0.719	0.588	0.704	0.441
<b>MaxR(H)</b>	0.966	0.952	0.954	0.958	0.951	0.884

Note: the diagonals represent the root of the extracted variance

**Table 6 – Final instrument**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Concern over the Production Process (CPP)	Animal Welfare (AWE)	CPP01	I am concerned if animals were created in a natural and free way	3.615	2.020	3.672	1.983
		CPP02	I am concerned if animals received a humane and ethical treatment throughout their life	3.413	1.969	3.417	1.928
		CPP04	I am concerned if slaughter was carried out painlessly and according to animal welfare standards	5.430	1.764	5.314	1.893
	Traceability (TRA)	CPP05	I only choose one beef when it is possible to identify its origin	4.890	1.871	4.906	1.878
		CPP06	I try to choose foods that have guaranteed origin	5.710	1.489	5.668	1.505
		CPP07	I try to choose food that can be traced back to its origin in case of any problems	5.017	1.866	5.011	1.868
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Notes — M = mean; SD = standard deviation; \* Sample 1; \*\* Sample 2

*Track 11 Agribusiness and Food Management*

**ID #699**

**Earned value management in agriculture: Case study of sugarcane planting operation**

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**Abstract**

*The major purpose of this study was to evaluate the potentiality of Earned Value Management to manage sugarcane planting operations in a farm located in Brazil. This study was limited to analyze data collected from April 21st, 2015 to April 27th, 2015, which totalized 49.8 hectares distributed through 5 fields. In order to use the EVM method, data were collected directly on the field as well as from other sources. EVM was useful to evaluate the current status of the project's activities and to forecast the project costs' performance. In conclusion, EVM can be used as a managerial tool for farming operations. Additional research is needed to evaluate whether EVM can be used in other types of crops, environments, and level of technology.*

**Keywords:** Agriculture; Project Management; Earned Value Management; Sugarcane; Agricultural Mechanization..

**Acknowledgments**

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## **INTRODUCTION**

According to the United Nations (UN, 2011), the world population has reached 7 billion people and by 2050 it is estimated to be over 9 billion people. The Food and Agriculture Organization (FAO, 2009) estimated that the global production for food, feed, and fiber must grow by 70% in order to meet the demand of 10 billion people. At the macro level, food security and wasted food are two major challenges that demand improvements in farming management methods at the micro level.

There will be no future unless society and its organizations develop systems that allow nature to run its natural cycles that result in fresh air, potable water, healthy foods, and so on. Consequently, agricultural systems are essential to sustainable development. First, agricultural systems are essential for providing food security that enhances social stability. Second, they are essential to producing the most basic goods for human to ensure the livelihood of society. Finally, they are essential for managing natural resources and transforming them for human utilization (Scherr & McNeely, 2007).

At the micro level, farmers should consider three main goals in their business strategy: “environmental health, economic profitability, and social and economic equity” (Feenstra, Ingels, & Campbell, 2011, para. 3). Farmers can also contribute to developing sustainable agricultural systems by using available resources wisely and by reducing the impact of human activities, machineries, fertilizers, and pesticides on the natural environment.

In order to improve the efficiency of use of available resources, Firbank (2012) recommended the integration of a range of technologies, methods, and productive systems. Crecana (2012) stressed the importance of process control over the resource utilization as the way to maximize the chances of farming success. Moran (2009) pointed out that, “Managing a farm business is about manipulating resources in situations where much is unknown, to try to achieve and establish situations in a future which is knowable” (p. 12).

Farmers are required to manage scarce resources to maximize economic efficiency. In order to achieve their goals, farmers usually adopt similar managerial approach as found in industrial sectors, such as financial management, human resources management (Jack, 2009), risk management (Qasim, 2012), and production management (Bojnec & Latruffe, 2008). However, there are few studies on the applicability of project management methods as farming managerial tools, and in particular, very few studies on a concept called Earned Value Management (EVM).

Farming processes have high variation on operational performance, which has correspondingly negative effects on the economy, environment, and society as a whole. Despite the existence of several agricultural managerial tools, few methods focus on operational performance. Agriculture is still an economic area where project management techniques (PMT) and EVM are not common managerial tools.

In such scenarios, Earned Value Management (EVM) is recognized as an efficient tool for measuring performance and providing feedback on ongoing projects (Project Management Institute (PMI), 2008). Another important EVM feature is its applicability to a range of project types, from aeronautics (National Aeronautics and Space Administration (NASA), 2013) to research (Caron, Ruggeri, & Merli, 2012). By considering a crop as a project, a new range of operational performance assessments can be obtained by applying efficient managerial tools such as EVM.

However, there is a general lack of research in the utilization of EVM on farming operations, which was the primary motivation to conduct the current study. Using a case study approach,

this study aimed to apply the EVM step-by-step to manage and evaluate the efficiency of planting sugarcane crops. The findings may contribute to further studies on performance of farming operations that may lead to better resource utilization, waste reduction and increased food availability.

Greenia and Posluszny (1998), who viewed a crop as a distinct project, pointed out that a crop could be analyzed through the five project phases. These authors described a hypothetical scenario where the five project phases (initiating, planning, executing, monitoring and controlling, and closing phases) would be useful in managing the farming operations by more closely observing the variables that could impact crop performance such as time, cost, risk, and quality.

Dodson, Chaves Jr, Rodriguez, Smith, and Wells (2011) elaborated a project to manage a four-year cycle of sugarcane crop. They concluded that not only is the methodology efficient for managing all farming operation activities, but it also enhances the quality and risk management of all farming operations. Dodson (2012) stated that, “By integrating the PM knowledge areas through the crop life cycle, it is possible to achieve a more sustainable agriculture in which profit, stewardship, and quality of life are met” (p. 15).

The major purpose of this study was to evaluate the potential of Earned Value Management in improving the performance of farming operations by considering the constraints of time, cost, and quality. In order to achieve its purpose, this study examined the sugarcane planting operations on a farm located in the State of Mato Grosso do Sul, Brazil, as a project. Due to time constraints in collecting data from all operations in the sugarcane crop cycle, this author selected the planting operation due its clear relevance in the crop cycle and to sugarcane production overall (Ripoli, Ripoli, Casagrandi, & Ide, 2007; Barros & Milan, 2010; and Voltarelli, Silva, Rosalen, Zerbato, & Cassia, 2013). Finally, the study expanded research on the performance and efficiency of farming operations by monitoring and controlling their time, cost, and quality.

## **RESEARCH QUESTIONS**

RQ1: Can Earned Value Management methodology be used to manage farming operations?

RQ2: Is Earned Value Management methodology an efficient tool to monitor and control sugarcane planting operations?

## **LIMITATIONS AND DELIMITATIONS**

### **Limitations**

This case study only covered the sugarcane planting operation.

### **Delimitations**

The study is delimited to apply EVM to evaluate the planting operations at a sugarcane farm. The farm has five fields in which the sugarcane planting operation occurs between February and April of 2015.

## **LITERATURE REVIEW**

Sustainability is the motto of these early decades of 21<sup>st</sup> century. Organizations and societies worldwide are discussing, at different levels, how they can reduce their impact on the environment while meeting the demands of the marketplace. In fact, this is the 21<sup>st</sup> paradigm, because economic and social growth of the most recent 100 years was based on exploiting nature. This changing paradigm also exerts considerable pressure on the agricultural sector, which is a source of environmental pollution that in turn suffers from the effects of pollution from other economic sectors as well.

The UN's call demands a productive, new systems approach that decouples resources, increases efficiency, and improves the management of finite resources (Tansey, 2011). These three major components provide the direction for sustainable development. They are also the precise areas in which the current agricultural system needs change. In fact, the maximization of profits is going to be the result of how efficiently organizations can manage these three components.

### ***Project Management***

In a broad sense, project management (PM) is an inherent component of human behavior because many activities can be considered projects. Getting a new job, married, or higher education; taking a vacation; producing foods; and raising a child are some examples of the many "projects" in contemporary human life. Yet from ancient civilizations, it is also possible to visualize project management behind epic constructions such as the Pyramids, the Great Wall, and the Taj Mahal. However, as a systematic methodology, PM has its origins in the early 20<sup>th</sup> century.

Unfortunately, the agriculture industry sector is not listed as a "project-intense industry". In fact, there are few studies of the application of PM principles throughout the agriculture chain, another motivation for the current study. The following section on earned value management presents literature describing the use of PM or some PM tools and techniques in agricultural projects.

### ***Earned Value Management***

Earned Value Management (EVM) is a project management (PM) technique that is used to monitor and control the schedule and cost variation of a given project. "EVM is a methodology that combines scope, schedule, and resource measurement for projects" (PMI, 2013, p. 217). It seeks to analyze project performance against its baseline as well as to forecast expected project performance outcomes (Fleming & Koppelman, 2010). EVM is a flexible method that can be applied to both small-scale projects and mega-projects. EVM is the standard methodology for megaprojects to monitor and control their performance (Tyler, 2011).

The fact that multiple organizations have published documents articulating EVM argues in favor of its potential contribution towards project success. First, EVM can be used in any project across different organizations and productive sectors (PMI, 2013). Second, EVM expresses the efforts of performed work in monetary terms (Erdogmus, 2010). Third, measurements can be taken throughout the project life cycle (Fleming & Koppelman, 1998). Fourth, EVM makes it possible to forecast project outcomes (Vargas, 2014).

Another advantage to EVM is its possibility of forecasting the project's final performance outcome (PMI, 2011). PMI described four forecasting data most frequently utilized within EVM: Estimate to Complete (ETC), Estimate at Completion (EAC); Variance at Completion (VAC) and To-complete Performance Index (TCPI).

The Estimate to Complete or ETC is “the estimated cost of completing the remaining work” (PMI, 2011, p. 146). ETC seeks to support the project team efforts to revise the schedule and forecast costs at a high level of confidence (Watts Bar Nuclear Unit 2 (WBN2), 2012). At any given moment ETC can inform the project, the project’s expected total cost to complete a task, a group of tasks, or the project itself (Qasem, 2012).

The Estimate at Completion or EAC is “the expected total cost of completing all work” (PMI, 2011, p. 146). EAC is useful in analyzing the impact of project changes by informing the project team how much money they need to finish the project (Usmani, 2012).

The Variance at Completion or VAC is “a projection of the amount of budget deficit or surplus” (PMI, 2011, p. 148). VAC’s major contribution is to answer the following question: “As of today, how much over or under budget do we expect to be at the end of the project?” (Qasem, 2012, p. 15). In other words, it tells the project team how the project will finish, in terms of being over or under budget.

The To-complete Performance Index or TCPI is “a measure of the cost performance that must be achieved with the remaining resources in order to meet a specified management goal” (PMI, 2011, p. 148). TCPI informs the work needed to achieve the budget baseline or a cost objective (Usmani, 2012).

A good project plan results in a more accurate EVM, which can bring a number of benefits to the project team as well to the project health. This accuracy dictates the success of predicting the project success (Marshall, 2007), the health of the project by analysing of schedule and cost performance, and the precision on forecasting the project performance (Taylor, 2007).

This review of literature discussed the EVM structure that makes this method the most adopted monitoring and controlling method for projects (Fleming & Koppelman, 2010). EVM has been used in a range of industries such as IT, construction, and ammunition. However, few studies have been conducted on the applicability of EVM as an agricultural project management tool. In fact, to this author’s knowledge, only one paper describes the use of EVM as managerial tool for farm management. Dodson (2014) presented the paper entitled, “*Earned Value Management: The Soybean Harvesting Case Study*”, that discussed the possibility of using EVM to monitor and control the operational performance of harvesting soybeans. Dodson reported that EVM should be used in food production. He also reported that the process variances provided reliable information for the farmer’s decision-making.

### ***Sugarcane Planting Operation***

Brazil is one of the world’s largest sugarcane producers and processors. During the 2013/2014 harvesting season, Brazil cultivated 8.7 million hectares of sugarcane and produced over 600 million metrics tons of sugarcane (CONAB, 2013). The sugarcane sector has some 400 processing mills, over 1,000 suppliers and support industries, more than 70,000 independent sugarcane growers and almost 850,000 workers (Jank, 2009).

Sugarcane (genus *Saccharum*) is a perennial grass from the Poaceae family. The ratoon-system method is the sugarcane crop system the most used in Brazil, which means that, at normal environmental and productive conditions, the grower has 5-8 harvesting seasons (Carvalho, Braunbeck, Chagas, 2012). Replanting occurs when the yield per hectare has declined below the economic return, due to crop and soil debilitation and/or pathogens issues (Cheavegatti-Gianotto et al., 2011).

In Brazil, it is possible to plant sugarcane throughout the year in areas that do not have environmental limitations (such as precipitation and temperature). However, mills located in south central Brazil prefer planting sugarcane in two periods. The first period occurs between September and October and the second period initiates in January and ends in April (Ripoli et al., 2007).

Based on the fact that growers seek at least 5-6 harvesting before renewing (re-planting) the plantation, planting is considered by many researchers to be the most critical phase for the sugarcane crop (Arlin, Silva, & Perecin, 2004; Beauclair & Scarpari, 2006; Fernandes et al., 2014; Jadoski et al, 2010; Peloia & Milan, 2010; Voltarelli et al., 2013).

Planting operations are essential for the success of growing sugarcane because these operations aim to provide a adequate plant population per hectare, free of diseases, pests, and weeds (Arlin et al., 2004.) The planting phase is the foundation for a good crop development and it demands that all agronomic requirements be met (Beauclair & Scarpari, 2006).

The current study examined the applicability of EVM to the planting phase of sugarcane production. According to Fernandes et al (2014), a planting operation that is run without proper planning has a negative impact on the crop cycle, due to germination gaps, weeds and diseases that result in rising costs, decreasing profits, and alterations to cost-effective field renewal.

Mechanization of sugarcane cultivation, particularly in the planting phase, may be considered the second most important production factor, just behind the land (Peloia & Milan, 2010). Mechanization has the potential to reduce operational costs when it is uses modern managerial tools. It is part of the crop production system that involves sequential activities, as long as it is executed in such a way as to provide the best environment for crop development (Milan, 2004).

Planting sugarcane is not a simple operation. Instead, it is a set of sequential agricultural practices that must address both the biological needs of the plant and objectives of the business, while preserving the environment (Milan, 2004). In order to accomplish these diverse goals, it is imperative to adopt managerial techniques that enhance the chances of operational activities to meet their requirements on time and on budget. Zacharias, Santos and Jesus (2011) suggested that a good method for monitoring and controlling mechanized operations can increase the field capacity and, consequently, the grower's monetary return.

Serafim et al. (2013) reported that the engine RPM, tractor alignment error, and the effective field capacity of the mechanized set are also majors elements that affect the performance of sugarcane mechanized planting. Their study suggested that planter machines should operate within 5 to 8 km h<sup>-1</sup> in order to allow the machine to distribute the recommended amount of seed stalks per meter.

Incorrect row spacing and planting density are the major reason for lower sugarcane yields, due to reductions of final stalk density per unit area (Ehsanullah, Jabran, Jamil, & Ghafar, 2011). Variations in spacing between furrows and planter alignment error can cause variations above the agronomic requirements, which would harm all subsequent operations (Garside, Bell, & Robotham, 2009). Row spacing not only affects successive operations but also compromises radiation capture, peak tiller and final stalk density, biomass and stalk yield (Singels & Smit, 2009).

Voltarelli et al. (2013) pointed out that, "The studies on the operational performance of sugarcane machinery, in particular the mechanized planting system, are still incipient in Brazil, requiring greater efforts to increase the quality of agricultural operation" (p. 193). There is a trend to try managerial methods that are successful in other industries to improve the daily

activities on the farms (Milan, 2004). For example, a correct fit between the tractor and the sugarcane planter can not only reduce planting operational costs but also can maximize the combine performance (Zacharias, Santos, & Jesus, 2011).

Dodson et al. (2011), using the project management methodology to elaborate a plan for implementing 200 acres (84 hectares) of sugarcane through semi-mechanized planting, applied the work breakdown structure (WBS) to define the total scope of the project. They listed 7 activities related to the planting operation in a farm located in Southeast Florida: harvesting the sugarcane stalks seeds, furrowing, planting sugarcane seeds, spraying insecticide, cover furrows, planting fertilizer application, and quality control of planting phase.

Part of any agricultural schedule is planting. According to Vianna, Cherri, Florentino, and Ramos (2014), efficient planning for the sugarcane planting brings several benefits, such as increasing yield per hectare and crop longevity. However, planting is a complex process that requires the collaboration of different professionals in order to maximize the chances of success.

A review on Brazilian peer-reviewed journals showed that the predominant cost estimation method used to calculate the cost of cultivating sugarcane in Brazil was the Total Operational Cost of Production (COT) proposed by Matsunaga et al. (1976). In their paper, “Metodologia de custo de Produção utilizado pelo Instituto de Economia Agrícola (IEA) (translation: *The Production Cost Methodology used by the Institute of Agricultural Economics (IEA)*” Matsunaga et al. (1976) explained that this method was developed in response to “the difficulties in estimating fixed costs of agricultural productions, especially in the agricultural sector in an inflationary economy” (p. 138).

Matsunaga et al. described COT as the sum of the Operational Cost (CO) plus the Effective Operational Cost (COE). The CO is compounded by variable costs, and the COE is the remuneration of family labor plus the depreciation of machinery and buildings. In the authors’ opinion, the method shows that “the effective disbursements made by the producer plus the depreciation for machinery and buildings and the estimated value of family labor is included” (p. 138).

The review of the literature also indicated that the Total Operational Cost of Production (COT) also included items in order to estimate the Total Cost (CT) (Sanguino, 2009; Nachiluk & Oliveira, 2012; Moreira & Bonizio, 2012; Carvalho, Braunbeck, & Chagas, 2012; PECEGE, 2013). According to Marques (2007), the CT is the sum of COT plus the opportunity cost of both the land and the own capital.

Some authors have generated average cost estimates for planting sugarcane but comparisons shows that such estimates vary by substantial amounts. Borba and Bazzo (2009) provided the following average cost estimates for planting sugarcane (in descending order): inputs (40%), seed stalk (30%), machinery (24%), workers (5%) and freight (1%). Teixeira (2014) provided very different estimates (in descending order): seed stalk (48%), workers (21%), inputs (20%), machinery (7%) and freight (3%).

## **METHODOLOGY**

The aim of this study was to evaluate the applicability of Earned Value Management (EVM) in managing sugarcane farming operations. This qualitative case study required an approach that combined three methodologies: EVM, farm management, and agricultural machinery management (AMM). EVM requires the elaboration of a work breakdown structure (WBS) for

the work to be accomplished, and thus also requires both farm management and agricultural machinery management to calculate the schedule and estimate the cost of each operation. Farm management tools and agricultural machinery management provided the necessary information for the development of the EVM baseline and established the criteria for field data collection. The reasoning behind the combination of the three methodologies to elaborate the EVM baseline, along with further monitoring and controlling processes, is based on the fact that the quantity of tractors, seeders machines, fuel trucks, fertilizers, workers, etc.

### ***Research Design***

The PMI (2001) publication, *Practice Standard for Earned Value Management*, listed thirteen practices for efficiently incorporating EVM into a project. Ten of the 13 practices were applicable to the current study, and guided the framework for this study's methodology. They are described below in ten steps.

### ***Step One - Define the Project Scope and Create the Work Breakdown Structure (WBS)***

#### **Project Scope**

The scope of this study was to evaluate the potentiality of Earned Value Management to manage sugarcane planting operations in a farm located in the State of Mato Grosso do Sul, Brazil. The farm sugar cane planting season was planned to occur between March 2<sup>nd</sup>, 2015 and April 30<sup>th</sup>, 2015 covering 733 hectares. The non-tillage system is adopted on the farm fields, after harvesting corn that was cultivated on the spring crop season, having the furrowing operation as the first activity on the field counting for this project.

This study was limited to analyze data collected from April 21<sup>st</sup>, 2015 to April 27<sup>th</sup>, 2015, which totalized 49.8 hectares distributed through 5 fields. In an interview, the agronomist described the requirements, goals and other metrics to complete the planting on all fields in the planned schedule. Each field was considered as a subproject since the activities listed on the WBS were repeated on each field and their performance were different. This researcher was only an observer of the process and he did not modify, add, interfere, or remove any activity during the observation days in the fields.

The outcome from this phase is the hierarchical sequence of activities required to complete planting sugarcane in the fields. The goal was to get enough information to elaborate the WBS so that it assures proper data collection.

### ***Step Two - Define Managerial Responsibility for the Work***

The project WBS was then elaborated into a responsibility matrix, connecting each WBS activity with a specific employee. The alignment between the activities and the organizational structure provides the foundation for budget and schedule elaboration (PMI, 2011). At the managerial level, it was possible to identify professionals who provided a range of information, such as salaries of employees assigned to the project and hourly costs of machinery and equipment. The outcomes of this step are the Organizational Breakdown Structure.

### ***Step Three - Elaborate the Project Schedule***

At this point of the methodology, the agricultural activities was defined using the combination of the agronomic recommendations, the specifications for the sugarcane crop, and the information gathered with the farm's agronomists. The agronomists explained that the schedule set the goal of a planting rating of 20 hectares per day. It means that the project schedule was

set up to meet this goal and the quantity of machineries and implements were defined to reach the required field efficiency. This daily planting rate also defined the number of employees for harvesting and planting the stalk seeds, number of trucks to transport the stalks seeds, and so forward.

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**Process 1: Define Activities** - Interviews with the mill's agronomic team were completed. The aim of these interviews was to define the required activities for planting its sugarcane. The agronomists provided their list of activities to achieve their daily planting rate, listed on the WBS.

**Process 2: Sequence Activities** - The project activities were sequenced following the agronomists' recommendation and using logical relationships based on the crop requirements and agronomic recommendations.

**Process 3: Estimate Activity Resources** - Agricultural activities, resources and durations were calculated using the sugarcane agronomic recommendations, specifications, and available machinery.

**Process 4: Estimate Activity Durations** - This step followed recommendations of the American Society of Agricultural Engineers (ASAE, 2002) and Iowa State University (Ag Decision Maker: Files A3-24, A3-28, and A3-29). Recommendations included the procedures for calculating (1) field efficiency, (2) effective field capacity, (3) number of field days required, and (4) required quantity of machinery to perform the work.

The estimated workable days per month is from Monday to Friday the work hours goes from 7:00 am to 5 pm and on Saturday the work hours goes from 7:00 am to 12:00 pm, having 1 hour break for lunch.

**Process 5: Develop the Schedule** - At this point of the schedule elaboration, the WBS got more information with the introduction of some cost components items. This decision was made to present cost components in one single table as well as to simplify the form for calculating the EVM metrics. The planned start and finish dates for project activities were estimated. Then, the project schedule baseline was established which is the major output from this section as it is the foundation for using the EVM method.

**Process 6: Control the Schedule** - The planned activities were controlled using the EVM method (Table 4).

#### ***Step 4 - Elaborate the Project Costs and Budget***

“Project Cost Management includes the processes involved in estimating, budgeting and controlling costs so that project can be complete within the approved budget” (PMI, 2013, p. 165). It lists the following processes for the project cost management.

##### **Cost Estimating**

Cost estimating used the bottom-up methodology to develop an approximation of the monetary resources needed to complete the project activities. Cost estimates are predictions that were

based on the information known at a given point in time. Cost estimating was the sum of farming machinery costs and other costs related to sugarcane production (Matsunaga, et al., 1976). The labor cost estimates were based on a Monday- Saturday workweek and 44 hours worked per week. It used the Brazilian currency “Reais” (R\$) (Table 1).

### **Cost Budgeting**

The project budget was the sum between the cost estimating and overhead costs. It did not include the contingency reserve.

### ***Step 5 - Define Earned Value Technique***

PMI (2013) listed four discrete effort techniques for Earned Value estimation: (1) Fixed Formula, (2) Weighted Milestone, (3) Percent Complete, and (4) Physical Measurement. In this study, the EV technique was Physical Measurement expressed in hectares planted per day as Performance data was collected direct on the field (Table 2).

### ***Step 6 - Set up the Performance Measurement Baseline (PMB)***

The PMB integrates the scope baseline, the schedule, and the budget baseline in order to manage the project execution. This single project baseline is the foundation for determining how much work has been performed at a given point of time (Fleming & Koppelman, 2010). Based on the planting rating requirements, the scope baseline, schedule baseline was defined and the budget baseline were estimated (Table 5).

### ***Step 7 - Create the Project Structure for Monitoring and Controlling Activities***

Data were collected in the field on the work performed directly. This researcher collected data from the farm’s two work shifts (7:00 AM to 6:00 PM). The data were organized in both MS Project 2010 software and the Microsoft Excel 2010 software files for elaborating the EVM report and the “S-shaped” curve.

### ***Step 8 - Estimate the Earned Value***

Earned Value Management (EVM) has four types of data that are essential for measuring the progress of the planned work: Planned Value, Earned Value, Actual Costs, and Budget at Completion (PMI, 2013). The EV was estimated from field operational data and the actual costs were calculated by crossing-referencing the field information and the managerial records.

### ***Step 9 - Evaluate Activities based on their Cost and Time Performance***

### ***Step 10 - Forecast Cost Performance and Schedule Performance***

EVM allows the project team to forecast the project outcome in different perspectives. In this study, forecasting was calculated at the end of every worked day on the project (Table 3).

## **RESULTS**

In this chapter, Earned Value Management was used to evaluate the performance of each field (considered as a sub-project) that comprised this case study. The results are presented chronologically, following the sequence of events that occurred from April 22<sup>nd</sup>, 2015 to April 27<sup>th</sup>, 2015. By documenting the daily occurrences and the managerial information on each field, it was possible to elaborate each individual accomplished schedule and actual costs. Then, the earned value (EV) was calculated using the percentage of completion of each activity listed on

the WBS. After that, both performance metrics and forecasting were estimated and their results are displayed at the bottom of each field's EVM table. Finally, the sugar cane planting project overall performance is displayed.

### **Field #1**

The field average fertilization was only 3kg/ha less than the plan, saving of 26 kg of fertilizer in the whole field and R\$39.34 on the fertilization cost. The planting rating was lower than planned, consumed 4.8t/ha more of stalk seeds (costing R\$1,875.53) and demanded three more trucks to deliver the need amount of at a cost of R\$459.00. Furrowing variance for field efficiency resulted in the costliest activity of Field #1. Not only did it take 10.70 hours more to be completed than the plan but also did it cost R\$2,888.95 more to get to work done. Covering field efficiency was also lower than the plan, resulting on additional 3.3 hours to complete the activity in the field at additional cost of R\$491.68. The schedule suffered a delay of 10 days in which the actual start date was five days after the planned finish date (table 6) (figure 1).

Regarding costs, the cost was anticipated to be R\$ 48,875.63 but the actual cost was R\$60,805.23, which means that the cumulative cost variance was R\$11,929.60 more than expected. The average Cost Performance Index was 0.80, showing that the sub-project execution was 20% over budget. In other words, for each dollar spent to perform the work, twenty cents did not result in performed work (Figure 2).

Estimation at Completion (EAC) forecasts the project final costs at a given date and Variance to Complete (VAC) forecasts the budget results (surplus or deficit) at the end of the project. Analysis of the work performed on April 22<sup>nd</sup> indicated a CPI as 0.73, the EAC as R\$67,065.42, and VAC as R\$ 18,189.79. EAC was R\$6,259.59 more than the field final costs. VAC was R\$6,259.00 more than the final cumulative CV. But, on April 23<sup>rd</sup>, the CPI improved and reached 0.81 and the EAC as R\$ 60,708.68, being only R\$97.14 lower than the final cost. The VAC was R\$11,833.06, very close to the final cumulative CV (R\$11,930.00).

The To-Complete Performance Index (TCPI) shows how the project performance can meet its budget at completion (BAC). On April 22<sup>nd</sup>, it would need to improve 4% on its cost performance but, on April 23<sup>rd</sup> TCPI as 1.26, which indicated that the project would need to improve 26% to be completed on budget.

### **Field #2**

The field average fertilization was 25kg/ha more than planned, resulting on 425kg in the whole field and adding R\$641.78 onto the anticipated fertilization cost. The planting rating was lower than planned, consumed 5.8t/ha more stalk seeds (costing R\$4,437.00) and required that nine more trucks deliver the needed amount at an additional cost of R\$1,377.00. Furrowing variance on field efficiency resulted in the second costly activity of Field #2. Not only did it take 13.50 hours more to be completed than planned, but it also cost R\$3,719.25 more to get to work done. Covering field efficiency was also lower than the plan, resulting on additional 4.7 hours to complete the activity in the field at additional cost of R\$811.61 (table 7).

Regarding the costs, the furrowing activity needed two-night shifts to get the activity done, adding R\$1,280.00 to this activity. In summary, the planned cost was R\$95,132.45 but the actual cost was R\$123,755.99, which meant that the cumulative cost variance was R\$28,623.53 more than expected. The average Cost Performance Index was 0.77, showing that the sub-project execution was 23% over budget, the highest of all fields (Figures 3, 4).

Analysis of the work performed on April 22<sup>nd</sup> indicated a CPI as 0.74, the EAC as R\$128,531.42 and VAC as R\$ 33,398.04. But, on April 23<sup>rd</sup>, the CPI was 0.76, the work performed on the field reached 76% and the EAC as R\$125,023.28, being R\$1,267.38 higher than the final cost. The VAC was R\$29,899.81, which was R\$1,276.28 more than the final cumulative CV (R\$28,623.53).

The To-Complete Performance Index (TCPI) on April 23<sup>rd</sup> TCPI reached an incredible 121.07, clearly indicating that at that point it would be impossible to meet the BAC. It can be explained by the fact of 76% of the work were performed on April 23<sup>rd</sup> and the volume of issues that this sub-project faced throughout that day.

### **Field #3**

The field average fertilization was 17kg/ha less than the plan, resulting on savings of 104 kg of fertilizer in the whole field and saving R\$156.30 of the fertilization cost. The planting rating was lower than planned, consumed 3.8t/ha more of stalk seeds (costing R\$1,041.39) and required two more trucks to deliver the need amount of at a cost of R\$306.00. Furrowing variance on field efficiency resulted in the costliest activity of Field #3. Not only did it take 16.6 hours longer to be completed than the plan but it also cost R\$4,392.95 more to get to work done. Covering field efficiency was also lower than the plan, resulting on additional 2.0 hours to complete the activity in the field at additional cost of R\$491.68 (table 8).

Regarding the costs, they had planned to spend R\$ 34,428.01 but the actual cost was R\$43,784.56, which means that the cumulative cost variance was R\$9,953.84. The average Cost Performance Index was 0.77, showing that the sub-project execution was 23% over budget (Figures 5, 6).

Analysis of the work performed on April 24<sup>th</sup> indicated a CPI as 0.52, the EAC as R\$66,776.86, and VAC as R\$32,348.86. These results were very different of the final costs accrued to this field as this sub-project ended up costing R\$43,784.56 and having a CV of R\$9,953.84. This variation between the EAC and the cumulative actual costs may be explained by the fact of only 15% of the project were performed at that day.

On April 24<sup>th</sup>, the TCPI was 1.20 and on the following day was 0.06. It indicated that this sub-project needed to reduce 20% of its costs in order to meet the budget on April 24<sup>th</sup> but there was not much improvement on the following day.

### **Field #4**

The field average fertilization was only 4kg/ha less than the plan, saving 38.8 kg of fertilizer on the whole field and R\$58.72 on the fertilization cost. The planting rating was lower than planned, consumed 3.5t/ha more of stalk seeds (costing R\$1,531.22) and demanded three more trucks to deliver the need amount of at a cost of R\$459.00. Furrowing on Field #4 was above expected, resulting in savings of R\$442.81. Covering field efficiency was also lower than the plan, resulting on additional 3.15 hours to complete the activity in the field at additional cost of R\$474.55 (Table 9).

The planned cost was R\$54,653.56 but the actual cost was R\$61,152.39, which means that the cumulative cost variance was -R\$ 8,996.41. It is important to highlight that the cumulative EV did not end equal to the PV, as it should. Review of the data showed that the cumulative SPI did not end equal because their money was not spent on repair shanks as planned. The average Cost Performance Index was 0.81, showing a cost overrun as 19% (Figures 7, 8).

Analysis of the work performed on April 24<sup>th</sup> and 25<sup>th</sup>, respectively, indicated a CPI as 0.87 and 0.85; the EAC as R\$63,776.86 and R\$64,158.41; and VAC as R\$8,349.98 and R\$9,504.89. These results were close to the cumulative AC as R\$61,152.38 and CV as R\$8,996.41. Also, the TCPI was 1.02 on April 24<sup>th</sup> and -3.11 on April 25<sup>th</sup>. These results indicated that this sub-project had performed between “on budget” and “under budget”. However, this sub-project ended R\$8,996.41 over-budget. The flaw in forecasting may be explained as the cumulative actual cost at the end of April 25<sup>th</sup> was already higher than the BAC.

### ***Field #5***

The field average fertilization was 48kg/ha more than the plan, resulting in 385kg for the whole field and adding R\$581.35 to planned fertilization costs. The planting rate was lower than planned, consumed 3.0/ha more stalk seeds (costing R\$1,082.00) and demanded three more trucks to deliver the needed amount of at a cost of R\$459.00. Furrowing variance on field efficiency resulted in the costliest activity of Field #5. Not only did it take 13.3 hours more to be completed than the plan, but it also cost R\$3,495.49 more to get to work done. Covering field efficiency was also lower than the plan, resulting in an additional 2.75 hours to complete the activity in the field at additional cost of R\$391.23 (table 10).

It was planned to cost R\$45,160.86, but the actual cost was R\$55,495.03, which means that the cumulative cost variance was -R\$ 10,334.18 (App. K). The average Cost Performance Index was 0.81, showing a cost overrun as 19% (Figures 9, 10).

Analysis of the work performed on April 25<sup>th</sup> indicated a CPI as 0.55, the EAC as R\$82,824.58 and VAC as R\$37,663.78. Once again, these results were very different from the final costs accrued to this field, because this sub-project ended up costing R\$55,160.84 and having a CV as -R\$ 10,334.00. These results were similar to the results found on Field #3. On April 25<sup>th</sup>, the TCPI was 1.06, indicating that the sub-project execution was over-budget. Since 95% of remaining operations were performed on April 27<sup>th</sup>, this TCPI seems to be useless for predicting the sub-project ability to meet the BAC.

### ***Summary of All Fields***

The above text presented the findings of the activities’ performance listed on the WBS per field. Each field was considered as a sub-project and the sum of all fields resulted in the entire project. This section presents the results of analyzing the performance of all fields as a whole, the influence of individual field on the project’s overall performance, the cumulative CPI, SPI, and TCPI indexes graph and the project “S” curve (Figures 11, 12).

The planting operation should have started on April 17<sup>th</sup> and should have finished on April 22<sup>nd</sup>. But it only started on April 22<sup>nd</sup> and finished on April 27<sup>th</sup>. The cumulative PV for April 22<sup>nd</sup> was R\$278,250.00.. The operational issues related to this project affected both schedule performance and cost performance. The planting operation project ended with a total cost of 20% above the BAC, or R\$344,993.80. The managerial team needed to add R\$69,838.16 to complete the project. Figure 12 illustrates how the cumulative planned value (PV), actual cost (AC) and cost variance (CV) were distributed through the fields.

The cost performance index (CPI) varied by each field: Field #4 had the best CPI (0.85) whereas Fields 17 and 18 and Field #3 had the worst CPI (0.77). The project average CPI was 0.80. The project started with a CPI as 0.73 (April 22<sup>nd</sup>) and its performance increased daily until the final CPI was reached. It seems to be coherent with the fields’ reports, which showed that April 22<sup>nd</sup> and April 23<sup>rd</sup> were the days that the agronomists faced the majority of the problems. This forced

them to make managerial decisions that affected costs. As the days went by, reductions in issues and increases in operational performance were reported.

The cost was anticipated to be R\$6.150.05 per hectare but the average cost per hectare was R\$7,008.31. Field #4 got the best performance, having a final cost per hectare as R\$6,639.97. On the other hand, Fields 17 and 18 had the highest cost per hectare at R\$7,279.34.

By analyzing each field separately, causes of variation that affected the planting operations in that field were identified. On each day, there were a combination of unpredictable events and managerial decisions that affected each field in one particular way.

The first research question was “*Can Earned Value Management methodology be used to manage farming operations?*” It was possible to combine agricultural requirements, machinery and implements field capacity estimating, agricultural cost elaboration methods, and other information into the EVM method.

The first outcome was the possibility of the elaboration of the project performance baseline, which is compound by the scope baseline, schedule baseline, and cost baseline.

The association between field observation and office records allowed this researcher to create the accomplished schedule, to estimate the project’s earned value (EV) and to calculate the actual cost (AC). The results provided detailed information for answering project management questions. Based on these comments, it is possible to affirm that Earned Value Management can be used as a managerial tool for farming operations.

The second research question was “*Is Earned Value Management methodology an efficient tool to monitor and control sugarcane planting operations?*” The EVM was applied to field levels and the results grouped on the cumulative PV, AC, and EV. This upper level of the study was able to efficiently answer questions regarding schedule and cost for each field.

As the results illustrated, the methodology is sufficient to provide important information of sugar cane planting operations at the field level as well as at the farm level. Not only was it possible to visualize the impact of occurrences on operational performance and on the costs, but also was possible to forecast how these occurrences would impact the funds needed to complete to work. By having these results before the project done, the managerial time would have time to find alternatives to improve the project performance. Other outcomes of adopting this methodology are the possibility of using these results to plan the next crop season and to measure the profitability of each field since the costs were elaborated per field instead for the whole farm.

## **CONCLUSIONS**

This study aimed to analyze the use of Earned Value Management methodology on sugarcane planting operations. This case study demonstrated that it is possible to apply EVM and get useful information from its performance analysis. The whole sugarcane planting operations was called as “project” and each one of its five fields called a “sub-project.” EVM was used on each field, allowing a detailed analysis of individual performance. Then, the results of each sub-project were added up, providing the project overall performance.

The dearth of scientific studies of EVM for farm management justifies the current study, which can expand the utilization of EVM in the agricultural arena and, in particular, in the crop

management area. The applicability of EVM to sugarcane production remains to be explored, and the following section introduces the specifics of this profitable agri-business.

Not only was possible to evaluate the current status of the project's activities but also to forecast the project costs' performance. Given that a new schedule baseline was not set up, the schedule performance metrics did not present the results as expected. On the other hand, cost performance metrics provided a clear view of the project progress. In conclusion, this study contributed to studies of operational performance of agricultural activities by showing that it is possible to use EVM method.

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## TABLES & FIGURES

**Table 1:** Operational Cost (CO), Effective Operational Cost (COE), and Total Cost (CT).

Description	Variable
Effective Operational Cost (COE)	Machinery, implements, inputs (seed, fertilizer, agro-toxics, fuel, lubricant, and etc.), maintenance, crop management services, and labor, and overhead costs
Total Operational Cost of Production (COT)	Depreciation, interest rate, buildings, and management fees
Total Cost (CT)	Opportunity cost of the land and opportunity cost of the capital

Sources: (Matsunaga, et al., 1976; Nachiluk & Oliveira, 2012; Moreira & Bonizio, 2012; and PECEGE, 2013)

**Table 2**

Description of EVM definitions and formulas.

Name	Description	Formula
Planned value (PV)	The sum of budgets for all authorized work. Also known as the performance measurement baseline	
Earned value (EV)	The authorized work physically accomplished	$EV = PV * \% \text{ of completed work}$
Actual cost (AC)	The total costs to achieve the actual work performed to date	
Schedule variance (SV)	Determines whether the project is ahead of or behind schedule	$SV = EV - PV$
Schedule performance index (SPI)	Indicates how efficiently the time has been used when compared to the baseline	$SPI = EV / PV$
Cost variance (CV)	Determines whether the project is under or over budget	$CV = EV - AC$
Cost performance index (CPI)	Indicates the cumulative cost efficiency of the project	$CPI = EV / AC$

Sources: Adapted from PMI (2013) and Fleming & Koppelman (2010).

**Table 3**

Description of EVM's forecasting definitions and formulas.

Name	Description	Formula
Estimate to complete	The expected cost required for completing the remaining activities	$ETC = (BAC - EV) / CPI$
Estimate to Completion	The expected total cost of the project	$EAC = AC + ETC$
Variance at Completion	It forecasts the budget results (surplus or deficit) at the end of the project	$VAC = BAC - EAC$
To-Complete Performance Index	It compares work completed to date with budget requires to complete the remaining work	$TCPI = (BAC - EV) / (EAC - AC)$

Sources: Adapted from PMI (2013) and Fleming & Koppelman (2010).

**Table 4**  
**Project Planned Schedule**

Date	17-Apr					18-Apr					20-Apr							
	Seed Fields	Field #1	Field #2	Field #3	Field #4	Field #5	Seed Fields	Field #1	Field #2	Field #3	Field #4	Field #5	Seed Fields	Field #1	Field #2	Field #3	Field #4	Field #5
<b>WBS Description</b>	8.863	11.371	6.085	9.722	8.015	8.863	17.000	6.085	9.722	8.015	8.863	17.000	6.085	9.722	8.015			
<b>1.3.1. Sugarcane seedcane Field</b>																		
1.3.1.2. Harvest Stalk Seeds	3					2	3	3	2								2	3
1.3.1.2.1. Harvest Harvesting Team (30 workers)																		
<b>1.3.1.3. Load Stalk Seeds on trucks</b>																		
1.3.1.3.1. Tractors Freight (1)	1																	
<b>1.3.1.3.2. Machinery</b>																		
1.3.1.3.2.1. Wacker Ferguson 230 Reverse Automática (2)																		
1.3.1.3.2.2. T390 (8) - NewHolland	3					3												
1.3.1.3.2.3. Wacker Agro new 180 (2)	3					3												
1.3.1.4. Stalk seeds transportation to the planting fields	3					3												
<b>1.3.2. Farming</b>																		
<b>1.3.2.1. Machinery</b>																		
1.3.2.1.2.1. T8.275 (15) - NewHolland + 82 RW Furrow Makers	3	3					3	2	3									
1.3.2.1.2.2. T8.275 (30) - NewHolland + 82 RW Furrow Makers	3	3					3	2	3									
1.3.2.1.2.3. T8.275 (45) - NewHolland + 82 RW Furrow Makers	3	3					3	2	3									
1.3.2.1.2.4. T8.275 (60) - NewHolland + 82 RW Furrow Makers	3	3					3	2	3									
1.3.2.1.2.5. Tractors Freight	1																	
1.3.2.1.2.6. Reaping																		
<b>1.3.3. Planting Multi seeds</b>																		
<b>1.3.3.1. Unload Stalk seeds through the planting field</b>																		
1.3.3.1.1. Field Worker 1	3	4					3	3	2									
1.3.3.1.2. Field Worker 2	3	4					3	3	2									
<b>1.3.3.1.3. Machinery</b>																		
1.3.3.1.3.1. Super 2000 P-050CASA T390 (20)	3	4					3	3	2									
1.3.3.1.3.2. Saital Car's M440/T390 (8)	3	4					3	3	2									
1.3.3.1.3.3. Tractors Freight	1																	
1.3.3.2. Planting Stalk seeds in the furrow (80 workers)	4						7	3										
1.3.3.3. Machine daily planted area	4						7	3										
1.3.3.4. Field Leader	4						7	3										
<b>1.3.4. Cover the seed cane</b>																		
<b>1.3.4.1. Machinery</b>																		
1.3.4.1.1. John Deere 805 (8) - 82 Rows Cover With Insecticide E later Pump	2						1	7										
1.3.4.1.2. John Deere 805 (8) - 82 Rows Cover With Insecticide E later Pump	2						1	7										
1.3.4.1.3. Valtra 805 (8) - Sprayer Tank	2						1	7										
1.3.4.1.4. Tractors Freight	1																	
<b>1.4. Planting</b>																		
<b>1.4. Management</b>																		
<b>1.4.1. Field Support</b>																		
1.4.2. Mechanic	8						8											
1.4.3. Tire Repairer	8						8											
1.4.4. Crane Truck (2)	8						8											
1.4.5. Van 290-5	8						8											
1.4.6. Caterpillar 128s (17)	8						8											
<b>1.4.3. Technical Support</b>																		
1.4.3.1. Manager	8						8											
1.4.3.2. Agonomist 1	8						8											
1.4.3.3. Agonomist 2	8						8											

**Legend** Available all day long (8hours) Distribution of the work hours One time only

**Table 5**  
Project planned costs per hectare and per field

WBS Description	Total Cost (R\$/ha)	Field #1	Fields #2	Field #3	Field #4	Field #4
	(ha)	8.683	17.001	6.085	9.722	8.015
<b>1.3. Planting Operation</b>	-	-	-	-	-	-
<b>1.3.1. Sugarcane seed-cane Field</b>	-	-	-	-	-	-
1.3.1.1. Harvest Stalk Seeds	540.00	4,688.82	9,180.54	3,285.90	5,249.88	4,328.10
1.3.1.2. Manual Haversting Team (30 workers)	1,361.56	11,822.46	23,147.95	8,285.12	13,237.12	10,912.93
1.3.1.3. Load Stalk Seeds on trucks	-	-	-	-	-	-
1.3.1.3.1. Tractors Freight (1)	5.59	48.57	95.09	34.04	54.38	44.83
<b>1.3.1.3.2. Machinery</b>	-	-	-	-	-	-
1.3.1.3.2.1. Massey Ferguson 290 Reversão Automática (35)	20.16	175.04	342.72	122.67	195.98	161.57
1.3.1.3.2.2. TS90 (98) - New Holland	20.16	175.04	342.72	122.67	195.98	161.57
1.3.1.3.2.3. Maxxum Agro new 180 (39)	7.13	61.87	121.15	43.36	69.28	57.11
1.3.1.4. Stalk seeds transportation to the planting fields	169.00	1,467.46	2,873.24	1,028.39	1,643.06	1,354.57
<b>1.3.2. Sugarcane planting field</b>	-	-	-	-	-	-
<b>1.3.2.1. Inputs</b>	-	-	-	-	-	-
1.3.2.1.1. Fertilizer MAP 11-52-0	453.00	3,933.40	7,701.45	2,756.51	4,404.07	3,630.80
1.3.2.1.2. Insecticide	-	-	-	-	-	-
1.3.2.1.2.1. Fipronil 180 g/l alfacipermetrina 120 (Regent DUO)	123.20	1,069.75	2,094.52	749.67	1,197.75	987.45
1.3.2.1.2.2. Carbofuran 350g/l (Furadan 350 SC)	189.00	1,641.09	3,213.19	1,150.07	1,837.46	1,514.84
1.3.2.1.2.3. Micronutrient	6.30	54.70	107.11	38.34	61.25	50.49
1.3.2.1.2.4. Fungicide	42.00	364.69	714.04	255.57	408.32	336.63
1.3.2.1.3. Isotonic drink	1.28	11.11	21.76	7.79	12.44	10.26
<b>1.3.3. Furrowing</b>	-	-	-	-	-	-
<b>1.3.3.1. Machinery</b>	-	-	-	-	-	-
1.3.3.1.1. T8.270 (15) - New Holland + 02 RW Furrow Makers	98.16	852.30	1,668.77	597.29	954.29	786.73
1.3.3.1.2. T8.270 (30) - New Holland + 02 RW Furrow Makers	98.16	852.30	1,668.77	597.29	954.29	786.73
1.3.3.1.3. T8.270 (45) - New Holland + 02 RW Furrow Makers	98.16	852.30	1,668.77	597.29	954.29	786.73
1.3.3.1.4. T8.270 (56) - New Holland + 02 RW Furrow Makers	98.16	852.30	1,668.77	597.29	954.29	786.73
1.3.3.1.5. Tractors Freight (2)	19.68	170.92	334.66	119.78	191.37	157.77
1.3.3.1.6. Shanks Replacement/Repair	589.00	589.00	589.00	589.00	589.00	589.00
<b>1.3.4. Planting stalk seeds</b>	-	-	-	-	-	-
<b>1.3.4.1. Unload Stalk seeds through the planting field</b>	-	-	-	-	-	-
1.3.4.1.1. Field Worker 1	3.55	30.80	60.31	21.59	34.49	28.44
1.3.4.1.2. Field Worker 2	3.55	30.80	60.31	21.59	34.49	28.44
<b>1.3.4.1.3. Machinery</b>	-	-	-	-	-	-
1.3.4.1.3.1. Super 2000 MotoCana TS90 (09)	20.16	175.04	342.72	122.67	195.98	161.57
1.3.4.1.3.2. Santal Camp MasterTS90 (99)	20.16	175.04	342.72	122.67	195.98	161.57
1.3.4.1.3.3. Tractors Freight (3)	5.43	47.14	92.30	33.04	52.78	43.52
1.3.4.2. Planting Stalk seeds in the furrows (40 workers)	1,793.15	15,569.96	30,485.41	10,911.34	17,433.04	14,372.13
1.3.4.3. Measure daily planted area	-	-	-	-	-	-
1.3.4.4. Field Leader	10.21	88.63	173.53	62.11	99.24	81.81
<b>1.3.5. Cover the seed cane</b>	-	-	-	-	-	-
<b>1.3.5.1. Machinery</b>	-	-	-	-	-	-
1.3.5.1.1. John Deere 5600 (65) + 02 Rows Cover With Insecticide Eletric	19.38	168.30	329.53	117.94	188.44	155.35
1.3.5.1.2. John Deere 5600 (67) + 02 Rows Cover With Insecticide Eletric	19.38	168.30	329.53	117.94	188.44	155.35
1.3.5.1.3. Valtra 900 (06) + Sprayer Tank	19.04	165.36	323.76	115.88	185.14	152.63
1.3.5.1.4. Tractors Freight (4)	3.37	29.27	57.31	20.51	32.77	27.02
<b>1.4. Management</b>	-	-	-	-	-	-
<b>1.4.1. Field Support</b>	-	-	-	-	-	-
1.4.1.1. Mechanic	6.13	53.21	104.18	37.29	59.57	49.11
1.4.1.2. Mechanic (2)	2.75	23.86	46.71	16.72	26.71	22.02
1.4.1.3. Tire Repairer	1.55	13.44	26.31	9.42	15.04	12.40
1.4.1.4. Crane Truck (21)	5.00	43.39	84.96	30.41	48.58	40.05
1.4.1.5. VW 790-S	6.19	53.77	105.28	37.68	60.21	49.63
1.4.1.6. Caterpillar 120b (17)	6.86	59.58	116.65	41.75	66.71	54.99
1.4.1.7. Ford C-2631 HD 6X4 (44)	1.26	10.95	21.44	7.67	12.26	10.11
<b>1.4.2. Technical Support</b>	-	-	-	-	-	-
1.4.2.1. Manager	17.81	154.63	302.77	108.37	173.14	142.74
1.4.2.2. Agronomist 1	38.48	334.11	654.17	234.14	374.09	308.40
1.4.2.3. Agronomist 2	34.26	297.50	582.50	208.49	333.10	274.61
<b>1.4.3. Project Management - Overhead Costs</b>	-	-	-	-	-	-
1.4.3.1. Office	66.90	580.90	1,137.38	407.09	650.41	536.21
1.4.3.2. Opportunity cost of the land	99.17	861.12	1,686.05	603.47	964.17	794.88
1.4.3.3. Property Taxes - ITR	6.61	57.41	112.40	40.23	64.28	52.99
<b>Total</b>	<b>6,150.05</b>	<b>48,875.63</b>	<b>95,132.47</b>	<b>34,428.01</b>	<b>54,653.56</b>	<b>45,160.84</b>

**Table 6**  
Field #1 Performance Metrics & Forecasting

Description	4/17/2015	4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015		
Cumulative Planned Value (RS) - PV	-	47,664.90	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63		
Cumulative Actual Cost (RS) - AC	-	-	-	-	-	6,221.16	28,000.74	28,000.74	30,974.70	32,639.72	60,805.83		
Cumulative Earned Value (RS) - EV	-	-	-	-	-	4,555.83	22,542.96	22,542.96	24,899.36	26,223.95	48,875.63		
<b>Field Performance Metrics</b>													
Cost Variance (RS) - CV		0.00	0.00	0.00	0.00	-1,665.33	-5,457.78	-5,457.78	-6,075.34	-6,415.77	-119,930.20		
Cost Performance Index (RS) - CPI		0.00	0.00	0.00	0.00	0.73	0.81	0.81	0.80	0.80	0.80		
Schedule Variance (RS) - SV		47,664.90	-48,875.63	-48,875.63	-48,875.63	-44,341.80	-26,332.67	-26,332.67	-29,076.26	-29,411.68	0.00		
Schedule Performance Index (RS) - SPI		0.00	0.00	0.00	0.00	0.09	0.46	0.46	0.31	0.54	1.00		
<b>Field Forecasting</b>													
Estimate to complete							60,844.25	32,707.95	32,707.95	29,826.37	28,210.76	(0.00)	
Estimate to Completion							67,065.42	60,708.69	60,708.69	60,801.06	60,870.48	60,805.83	
Variance at Completion							VAC=BAC-EAC	18,189.79	-11,833.06	-11,833.06	-11,923.44	-11,994.85	-11,990.20
To-Complete Performance Index							TCPI=(BAC-EV)/(BAC-EAC)	1.04	1.26	1.26	1.54	1.40	0.00

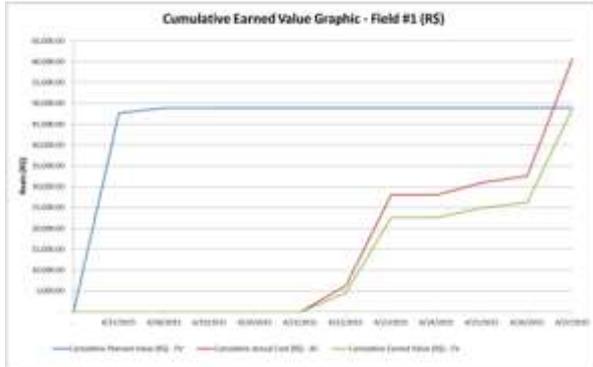


Figure 1: Field #1 Cumulative Earned Value

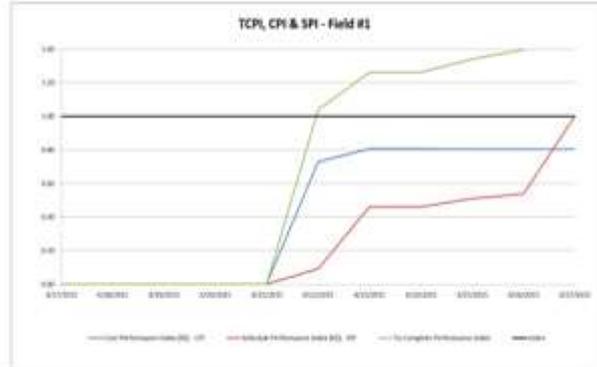


Figure 2: Field #1 CPI, SPI & TCPI

**Table 7**  
Field #2 Performance Metrics & Forecasting

Description	4/17/2015	4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015		
Cumulative Planned Value (RS) - PV	-	38,574.50	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47		
Cumulative Actual Cost (RS) - AC	-	-	-	-	-	6,476.46	84,849.37	122,279.89	123,755.99	123,755.99	123,755.99		
Cumulative Earned Value (RS) - EV	-	-	-	-	-	4,795.32	72,238.92	93,868.24	93,152.47	93,152.47	93,152.47		
<b>Field Performance Metrics</b>													
Cost Variance (RS) - CV		0.00	0.00	0.00	0.00	0.00	-1,682.89	-22,744.45	-29,471.65	-29,625.53	-29,625.53		
Cost Performance Index (RS) - CPI		0.00	0.00	0.00	0.00	0.00	0.74	0.78	0.77	0.77	0.77		
Schedule Variance (RS) - SV		-38,574.50	-95,132.47	-95,132.47	-95,132.47	-95,132.47	-60,538.95	-22,893.54	-13,042.22	0.00	0.00		
Schedule Performance Index (RS) - SPI		0.00	0.00	0.00	0.00	0.00	0.05	0.78	0.99	1.00	1.00		
<b>Field Forecasting</b>													
Estimate to complete								122,054.89	30,088.91	1,728.14	0.00	0.00	
Estimate to Completion								128,531.31	125,032.28	124,066.03	123,755.99	123,755.99	
Variance at Completion								VAC=BAC-EAC	33,998.84	-29,899.81	-28,875.56	-28,825.53	-28,825.53
To-Complete Performance Index								TCPI=(BAC-EV)/(BAC-EAC)	1.00	1.21	0.00	0.00	0.00

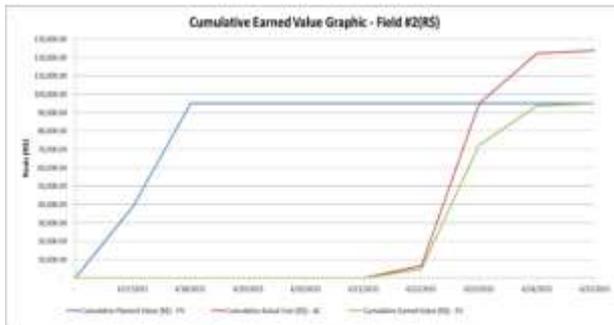


Figure 3: Field #2 Cumulative Earned Value

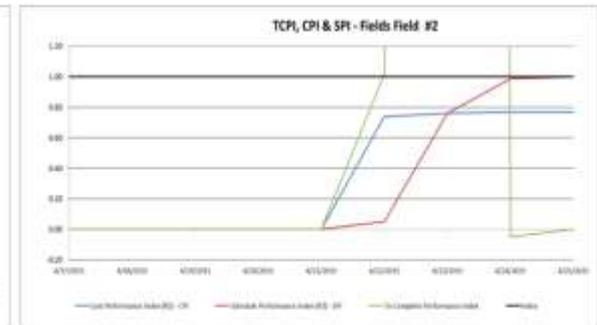


Figure 4: Field #2 CPI, SPI & TCPI

**Table 8**  
Field #3 Performance Metrics & Forecasting

Description		4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015
Cumulative Planned Value (PV) - PV			28,589.51	28,589.51	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01
Cumulative Actual Cost (AC) - AC							707.18	9,964.49	43,784.56	43,784.56	43,784.56
Cumulative Earned Value (EV) - EV							334.87	5,137.37	33,830.72	33,830.72	33,830.72
<b>Field Performance Metrics</b>											
Cost Variance (CV) - CV	0.00	0.00	0.00	0.00	0.00	0.00	-372.65	-4827.12	-9953.84	-9953.84	-9953.84
Cost Performance Index (CPI) - CPI	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.52	0.77	0.77	0.77
Schedule Variance (SV) - SV	0.00	-28589.51	-28589.51	-34428.01	-34428.01	-34428.01	-34493.44	-29296.64	-597.29	-597.29	-597.29
Schedule Performance Index (SPI) - SPI	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.15	0.98	0.98	0.98
<b>Field Forecasting</b>											
Estimate to Complete	ETC=BAC-EV/CR							73,047.08	58,812.38	773.03	773.03
Estimate to Complete	EAC=BAC+ETC							72,770.87	66,756.88	44,557.59	44,557.59
Variance at Completion	VAC=BAC-EAC	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	-38,342.86	-32,348.86	-10,129.58	-10,129.58
To-Complete Performance Index	TCR=BAC-EV/(BAC-EV)							1.01	1.38	0.06	0.06

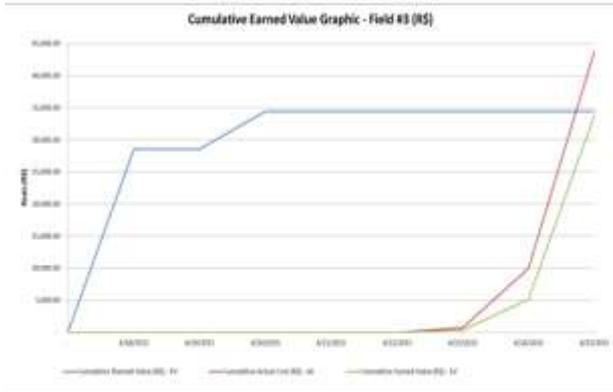


Figure 5: Field #3 Cumulative Earned Value

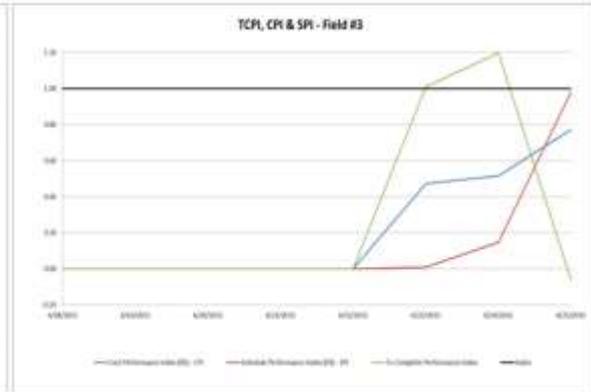


Figure 6: Field #3 CPI, SPI & TCPI

**Table 9**  
Field #4 Performance Metrics & Forecasting

Description		4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015
Cumulative Planned Value (PV) - PV			27,964.48	27,964.48	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56
Cumulative Actual Cost (AC) - AC								3,277.69	56,697.59	56,697.59	61,132.39
Cumulative Earned Value (EV) - EV								43,124.94	48,296.00	48,296.00	52,132.89
<b>Field Performance Metrics</b>											
Cost Variance (CV) - CV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-944.41	-13,698.58	-13,698.58	-10,984.41
Cost Performance Index (CPI) - CPI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.30	0.30	0.30
Schedule Variance (SV) - SV	0.00	-27964.48	-27964.48	-34653.56	-34653.56	-34653.56	-34653.56	-48340.82	-49355.56	-49355.56	-34657.57
Schedule Performance Index (SPI) - SPI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.38	0.38	0.38
<b>Field Forecasting</b>											
Estimate to Complete	ETC=BAC-EV/CR								35,729.45	7,480.98	7,480.98
Estimate to Complete	EAC=BAC+ETC								63,023.34	54,135.44	54,135.44
Variance at Completion	VAC=BAC-EAC	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	-3,449.96	-8,304.88	-8,304.88
To-Complete Performance Index	TCR=BAC-EV/(BAC-EV)								1.02	0.11	0.11

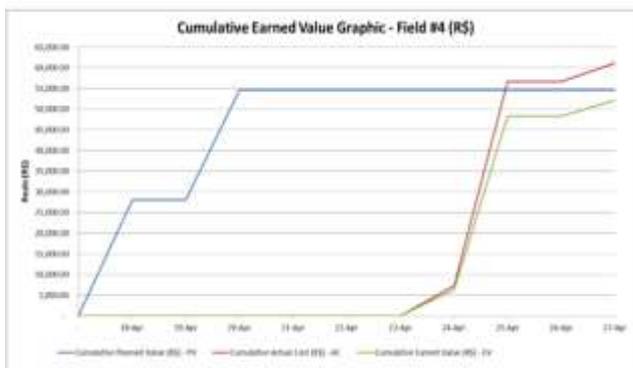


Figure 7: Field #4 Cumulative Earned Value

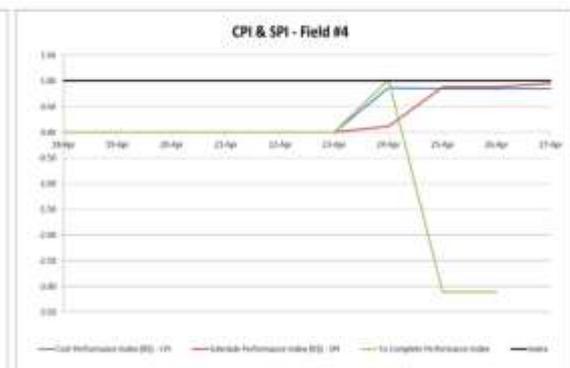


Figure 8: Field #4 CPI, SPI & TCPI

**Table 10**  
Field #5 Performance Metrics & Forecasting

Description	4/17/2015	4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015
Cumulative Planned Value (PV) - PV	-	-	-	-	-	-	-	-	-	-	-
Cumulative Actual Cost (RS) - AC	-	-	-	-	-	-	-	-	-	-	-
Cumulative Earned Value (RS) - EV	-	-	-	-	-	-	-	-	-	-	-
<b>Field Performance Metrics</b>											
Cost Variance (RS) - CV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-3429.94	-3429.94	-3254.18
Cost Performance Index (RS) - CPI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Schedule Variance (RS) - SV	0.00	0.00	0.00	-41180.94	-45180.94	-45180.94	-45180.94	-45180.94	-4247.21	-4247.21	0.00
Schedule Performance Index (RS) - SPI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
<b>Field Forecasting</b>											
Estimate to Complete	ETC=(BAC-EV)/CPI	-	-	-	-	-	-	-	77,481.00	77,481.00	-
Estimate to Complete	EAC=(AC+ETC)	-	-	-	-	-	-	-	82,624.18	82,624.18	55,482.00
Variance at Completion	VAC=BAC-EAC	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	-37,893.73	-37,893.73	-10,334.18
To-Complete Performance Index	TCPI=(BAC-EV)/(BAC-AE)	-	-	-	-	-	-	-	1.00	1.00	-

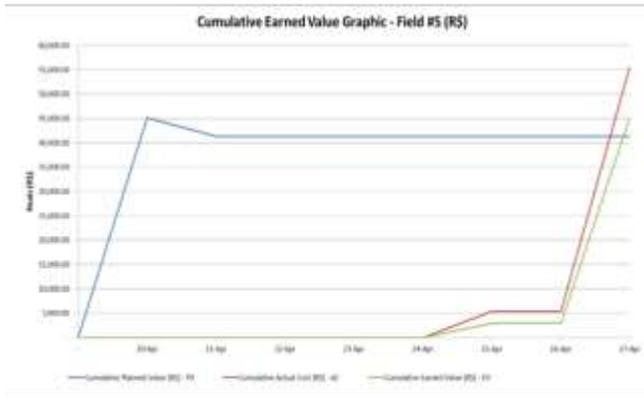


Figure 9: Field #5 Cumulative Earned Value

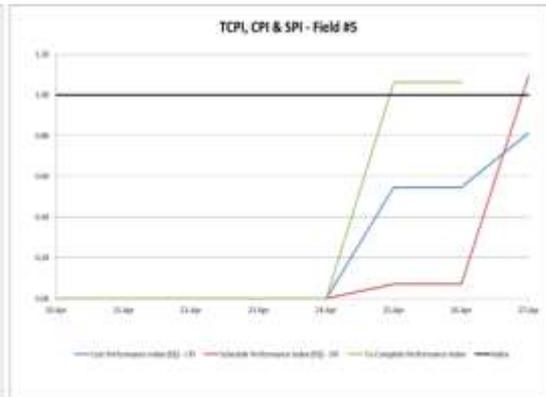


Figure 10: Field #5 CPI, SPI & TCPI

**Table 11**  
Sugar Cane Planting Project: EVM, Performance Metrics & Forecasting

Fields/Date	4/17/2015	4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015
<b>Cumulative Planned Value (RS) - PV</b>	86,239.40	200,564.09	200,564.09	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50
Field #1	47,664.90	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63	48,875.63
Field #2	38,574.50	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47	95,132.47
Field #3	-	28,589.51	28,589.51	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01	34,428.01
Field #4	-	-	-	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56	34,653.56
Field #5	-	27,966.49	27,966.49	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94	45,160.94
<b>Cumulative Actual Cost (RS) - AC</b>	-	-	-	-	-	12,697.57	123,681.30	167,522.20	260,556.41	262,241.43	344,993.81
Field #1	-	-	-	-	-	6,221.16	28,000.74	28,000.74	30,974.70	32,659.72	60,805.83
Field #2	-	-	-	-	-	6,476.41	94,943.37	122,279.89	123,755.90	123,755.90	123,755.90
Field #3	-	-	-	-	-	-	707.19	9,964.49	43,784.56	43,784.56	43,784.56
Field #4	-	-	-	-	-	-	-	7,277.09	56,697.58	56,697.58	61,152.39
Field #5	-	-	-	-	-	-	-	5,345.58	5,345.58	5,345.58	55,405.03
<b>Cumulative Earned Value (RS) - EV</b>	-	-	-	-	-	9,327.35	95,116.45	127,801.21	205,074.19	206,398.77	275,155.64
Field #1	-	-	-	-	-	4,533.83	22,542.96	22,542.96	24,899.36	26,223.95	48,875.63
Field #2	-	-	-	-	-	4,765.52	72,248.92	93,808.24	95,132.47	95,132.47	95,132.47
Field #3	-	-	-	-	-	-	334.57	5,137.37	33,800.72	33,800.72	33,800.72
Field #4	-	-	-	-	-	-	-	6,312.64	48,298.00	48,298.00	52,155.99
Field #5	-	-	-	-	-	-	-	-	2,913.63	2,913.63	45,160.94
<b>BAC (R\$)</b>	278,250.50										
<b>Description</b>	4/17/2015	4/18/2015	4/19/2015	4/20/2015	4/21/2015	4/22/2015	4/23/2015	4/24/2015	4/25/2015	4/26/2015	4/27/2015
Cumulative Planned Value (RS) - PV	86,239.40	200,564.09	200,564.09	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50	278,250.50
Cumulative Actual Cost (RS) - AC	-	-	-	-	-	12,697.57	123,681.30	167,522.20	260,556.41	262,241.43	344,993.81
Cumulative Earned Value (RS) - EV	-	-	-	-	-	9,327.35	95,116.45	127,801.21	205,074.19	206,398.77	275,155.64
<b>Field Performance Metrics</b>											
Cost Variance (RS) - CV	0.00	0.00	0.00	0.00	0.00	-3370.23	-28534.84	-30720.98	-35482.23	-35842.66	-68938.16
Cost Performance Index (RS) - CPI	0.00	0.00	0.00	0.00	0.00	0.73	0.77	0.76	0.79	0.79	0.80
Schedule Variance (RS) - SV	-86239.40	-200564.09	-200564.09	-278250.50	-278250.50	-288923.16	-183134.05	-130449.29	-73176.32	-71851.73	-30948.86
Schedule Performance Index (RS) - SPI	0.00	0.00	0.00	0.00	0.00	0.03	0.34	0.46	0.74	0.74	0.99
<b>Field Forecasting</b>											
Estimate to Complete	ETC=(BAC-EV)/CPI	-	-	-	-	306,082.48	238,074.08	197,209.36	92,973.96	91,291.74	3,880.38
Estimate to Complete	EAC=(AC+ETC)	-	-	-	-	378,790.05	361,723.37	364,731.36	353,530.37	353,531.17	348,874.18
Variance at Completion	VAC=BAC-EAC	278,250.50	278,250.50	278,250.50	278,250.50	-100,539.55	-83,474.87	-86,481.06	-75,279.87	-75,280.66	-70,623.68
To-Complete Performance Index	TCPI=(BAC-EV)/(BAC-AE)	-	-	-	-	1.00	1.18	1.36	4.14	4.40	0.05

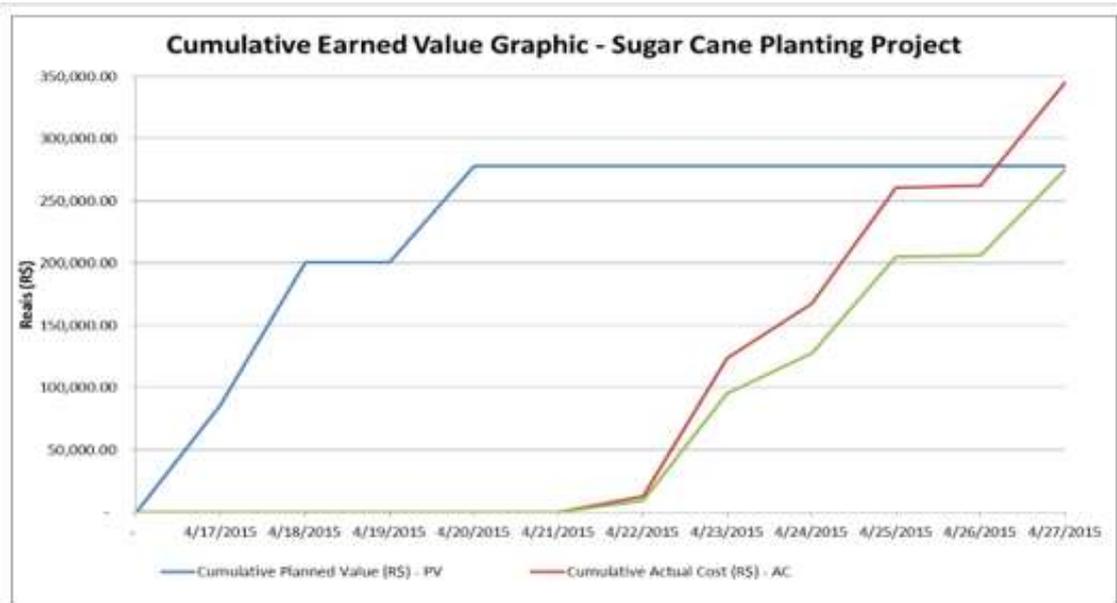


Figure 11: Sugar Cane Planting Project “S-Curve”

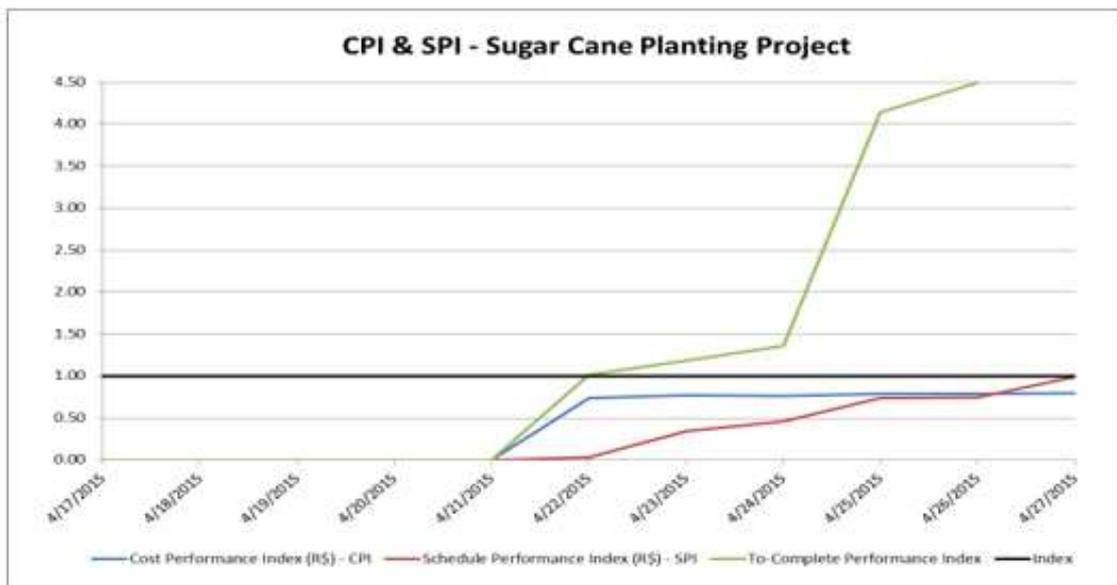


Figure 12: Sugar Cane Planting costs per hectare

*Track 11 Agribusiness and Food Management*

**ID #722**

## **The Role of Logistic and Infrastructure Management Over Competitiveness Building by Domestic Soybean Agro-Industries in Brazilian Midwest**

Rafael Pastre (Hamburg Universität, Germany)

### **Abstract**

*In the last two decades, despite a strong movement of concentration and capital denationalization in soybean processing industry in Brazil, we watched the rising of economic and political power of some domestic soybean corporations over some specific areas of the country. More than just survive against an avalanche of foreign capital, they expanded their businesses beyond the traditional activities in which they were specialized, adopting pioneering strategies in terms of opening new logistical, commercial and mainly territorial options, rising to condition of international players. For this reason, the main objective of this work is to analyze the growth trajectories of three of the main Brazilian corporations in soybean complex: Amaggi, Caramuru and Fiagril Groups in their respective influential regions. In recovering the trajectory of these groups, three sets of fundamental factors for their performance were identified: i) political-institutional influence; ii) financing and credit control; iii) differentiated access to infrastructure and logistical options compatible with the nature of the product; In this work the first two will be just pointed out, whereas the analysis rests on the third one, since it was the one that conferred the objective conditions to these companies to coexist with a differential cost structure regarding the other competitors, allowing a rise in their profitability rates, the main driver of the expansion and diversification of investments. Twenty-six semi-structured interviews were conducted in the states of Mato Grosso, Goiás, and the Federal District with business and government representatives. It was concluded throughout the research that the strategies adopted by the multinationals to expand their presence in the Midwest were dependent on the association with these domestic companies, which idealized and concretized the majority of them.*

**Keywords:** Competitiveness Differentials; Large Enterprises; Regional Productive Transformations; Agroindustrial Complexes.

### **INTRODUCTION**

According to Macedo (2010), the Midwest is the Brazilian region that best synthesizes the country's commercial insertion effort, based on of agricultural commodities, and the way modern activities have modified the territory, even more rapidly when controlled by large global companies, adapting it to their accumulation needs. Within a decade, Midwest has redefined its insertion in economic geography (internal and external). Its participation in Brazilian exports multiplied by five between 1998 and 2018, from 2.38% to 12.12 %. In 2018, only exports of soybeans complex (beans, oil and cake), corresponds to 54,6% of total (SECEX,

2019). If includes maize and meats accounted grows for more than 77,6% of the region's export. Thus, a complete redefinition of land use and occupation (rural and urban) was promoted and, consequently, a reorientation of its spatial organization.

Similarly, the agroindustry complex of grains, especially soybean, has gained increasing relevance over the last two decades because it is one of the largest crops of the national agribusiness, either because of its productive dimension (114,5 million Tons produced in 2017), territorial (34 million hectares planted in 2017) or commercial. Since 2014, with the fall in the value of iron ore, the soybean complex (grain, bran and oil) became the main product of Brazilian exports, accounting for 14% of total value. In that same year, the country took the lead in world trade in the oilseed.

Looking back to the performance of the main agro-exporting companies, especially those of soybeans and derivatives, it can be said that Brazil was able to expand its insertion in agrifood chains and face the boom in external demand caused by the profound changes in the agrifood market, mainly driven by Asia, thanks, in great part, to the enormous success of the subsidiaries of the leading multinational companies of the sector, which came to play a strong role in Brazil after 1994. There is a vast literature about the role played by this of four foreign business group, commonly known as the ABCD group (ADM, Bunge, Cargill and Dreyfus) in the context of the globalization of agrifood markets. Wezs Junior (2014) argues that they could establish favorable governance arrangements throughout the chain, minimizing their transaction costs and strengthening their hierarchical positions, while at the same time subsidizing the enormous expansion of Brazilian agribusiness.

However, despite a strong movement of concentration and denationalization of capital in the soybean-processing sector during the last two decades, the economic and political power of large Brazilian corporations of the sector increased over many specific areas of the national territory. More than just surviving amid the avalanche of foreign capital, these corporations expanded their businesses beyond the traditional activities in which they were specialized, adopting pioneering strategies in terms of opening new logistical, commercial and territorial options, rising to condition of International players. It was verified that its importance goes beyond its weights as buyers and sellers in the market, having been responsible for the elaboration of a series of arrangements and strategies both business and spacial, decisive for the Brazilian soy to reach the projection it has today.

It was identified throughout this research that the strategies adopted by the multinationals' subsidiaries to expand their presence in the Midwest were dependent on the association with the national companies based in that territory, pioneers of these strategies. Secondly, they were replicated on a larger scale by the subsidiaries of the ABCD group (ADM, Bunge, Cargill and Dreyfus), mainly based on the capacity to leverage from their matrices.

For the above-mentioned reasons, the main objective of this work was to analyze the growth trajectories of the main Brazilian corporations of soybean complex based in the Midwest: Amaggi, Caramuru and Fiagril Groups in their respective regions. Recovering the trajectory of these groups, it was identified three fundamental sets of factors for their great performance: i) political-institutional influence; ii) financing and control of credit; iii) differentiated access to infrastructure and logistics compatible with the nature of the product; In this work the first two will be just pointed out, whereas the analysis rests on the third one, since it was the one that conferred the objective conditions to these companies to coexist with a cost structure more favorable than the other competitors, allowing the rise of their profitability rates, the main driver of the expansion and diversification of investments (Steindl, 1952).

This research was guided by the principle that a trajectory involves inner factors specific to the companies and external factors that, together, define the pace and intensity of their growth. In this way, it was identified, transversely, a high capacity by the national groups to exercise control over use and occupation not only of the soil, but also of the institutions, mainly in Mato Grosso, making it possible to relate the spatial trajectories, in which infrastructure construction is included (transportation, storage, energy and communications), to the historical process of organization and reorganization of these groups, insofar as concludes that the monopoly exercised by these corporations, centered on specific portions of the central-western territory, was decisive in raising these Companies to the condition of international players. In order to demonstrate the trajectories described above, this article is divided into three sections, in addition to this introduction. Section two presents some of the theoretical and methodological references adopted in this work. The following section recovers the growth trajectory of the selected companies considering the territory where they locate their activities as an integral part of the analysis. Emphasis was placed on infrastructural conditions, which would impose a set of conditionalities on the performance of these companies. The analysis rest mainly on logistics solutions and infrastructure investments made by them, to which we credit much of the success of these groups in the face of the competitive pressure imposed by multinationals. Finally, section four brings some conclusions of this paper.

## **THEORETICAL-METHODOLOGICAL PROCEDURES**

For this work the elaboration a wide set of qualitative and quantitative research procedures and techniques were used. This paper, in turn, is part of a larger research about the reprimarization of Brazilian development and the role of the major Brazilian Soya Agro-Industries in the Midwest Region. A specific clipping was made emphasizing the role that logistics control played in building the competitive advantages developed by national grain agroindustry. The research path developed starts with a bibliographical review of documents, books, theses and dissertations that discuss agriculture, the soybean market, the infrastructure and the urbanization of the Midwest. Documentary analysis was also carried out periodically in the reports, newsletters and publications of the companies involved with the soybean production chain, as well as the organizations representing the firms (Brazilian Association of Vegetable Oil Industries / Abiove), farmers (Association of Producers (Mato Grosso / Mato Grosso / Aprosoja-MT, Federation of Agriculture and Livestock of the State of Mato Grosso / Famato, National Confederation of Agriculture / CNA, Mato Grosso Foundation) and Conveyors (National Confederation of Transport / CNT). In addition to obtaining data on the functioning structure of the soybean market and the strategies developed by the agents, this instrument made it possible to understand the types of interaction between the different links in the production chain and the interests defended from the one part to the other.

From the theoretical point of view, the work is guided by the Classical Works of Industrial Organization, Competition in conditions of Oligopoly, Theories of Firm Growth, Transaction Cost Economics (ECT), New Institutional Economics (NEI) and New Economic Sociology). In relation to the local dimension of these companies, the Agroindustrial Complex Approach (CAIS) and the Governance and Coordination Structures in Agribusiness were used. To complement the bibliographical information, media materials, especially newspapers (Valor Econômico, Folha de São Paulo and Estadão, besides the Mato Grosso) and magazines (Anuário Exame, Globo Rural, Agroanalysis and Dinheiro Rural) were analyzed. Another important methodological resource used to expand the understanding and to obtain a sizing of the analyzed processes was the statistical data, which presents the general panorama of the

productive chain, of the studied area, the producers and the companies. The data were collected, mainly, in the Census of Agriculture / IBGE, Demographic Census / IBGE, PAM / IBGE (Municipal Agricultural Production), Safras Series and storage statistics of Conab (National Supply Company), Secex IMEA (Instituto Mato Grossense de Economia Agropecuária), Abiove (Brazilian Association of Vegetable Oil Industries), and FAOSTAT (Statistics Division of the United Nations Food and Agriculture Organization).

Finally, semi-structured interviews were carried out with a series of agents involved in the public management and production, handling and commercialization of soybeans in the Midwest, carried out in the Alto Teles Pires and Sinop Microregions in the southern Goian mesoregion, And in the capitals of the Federal District, Mato Grosso and Goiás. The two field surveys provided access to a wide range of information with farmers, farm managers, truck drivers, members of the executive, representatives of companies, public authorities, trade unions, associations and cooperatives. Some of this information was used in this paper.

### ***The absence of Economic Infrastructure and the Protagonism of the Large Regional Private Capital in the Midwest.***

The beginning of the 1990s was a period favorable to the expansion of soybean crushing infrastructure in Brazil. Economic policy was favorable to the export of primary and semi-finished goods, since the strategy of generating trade balances for the country persisted. The companies, in turn, had an interest in soybean oil and bran for the aggregation of value in relation to commercialization in grain. The fiscal regulatory framework prior to the Kandir Act, not yet presenting disparities between *in natura* and the processed products in exports, made crushing more attractive to agroindustries because of the greater profitability provided. On the external front the conditions were also favorable. Global exports of the soybean complex (grain, oil and meal) in the period 1991-2001 grew by 70% (volume), in which *in natura* grains accounted for 81% of the growth (Faostat, 2014). Even so, Brazilian exports of unprocessed grains suffered only a slight reduction until 1994, only relative, from 32% to 29.3%, due to a small growth of the volume of grains exported *in natura* over the verified in the derivate products.

Facing the positive scenario, the more capitalized producers, in search of appropriating ever larger portions of the surplus, began a movement of geographic expansion and productive verticalization, starting to invest in activities complementary to agriculture, such as seed production, inputs, infrastructure for storage, transportation and logistics. New cultivars developed by the MT Foundation (A Public-Private Research Center on which Ammgi was a partner and idealizer), initially in partnership with EMBRAPA's National Soya Research Center, and later independently, allowed for the overcoming of diseases that affected crops in the Midwest and expansion to new cultivated areas in Cerrado and tropical forest transition areas. Far from the consumer market and tax-related, the growing soybean production in the Midwest region was mostly sent to the southern and southeastern states where the crushing capacity inherited from previous decades was much more developed and the availability of warehouses, including public property or cooperatives was much higher, reducing the costs of this stage. Then came the aggregation of value and the surplus directed to the external market. According to Costa & Tosta (1995), in 1995 the Midwest had a static bulk storage capacity of 17.4 million tons, with around 80% private ownership, around 12.5% Cooperatives and the rest of public entities. In the South Region, the capacity was 27.9 million tons, 44.5% belonging to cooperatives, 6.5% of official entities and the remaining 49% of private entities. Among the UF's, Mato Grosso had static capacity of 5.8, Goiás 7.5 and Mato Grosso do Sul 4.1 million t. In that year, only the Mato Grosso Soybean Crop reached 5.4 million tons. If combined with

corn and rice, it reaches 7.1 million tons, a production 30% higher than the static capacity. In the Southern states, the production of these grains reached 31.6 million tons, 13% higher than the harvest of these selected grains.

This shows that logistics has always played a relevant role in the Central West grain sector, since production regions were increasingly distant from storage and consumption regions. In terms of chain governance, the trading actors find themselves stronger in the regions of agricultural frontier, by the possibility of captive the production dispersed territorially with to circumstantial instruments: i) the credit operations with liquidation in products, once grain production in Midwest starts to grow at the same time as Official Rural Credit was highly decreasing (Pastre, 2016) ii) and the coordination of logistics, including the possibility to integrate in the same logistic operation the supply of inputs coming from South Center, where the fertilizers and defensives factories are located, with the flow of the grains to the ports.

Due to this series of reasons, large private capital, mainly national and regional, emerges more prominently in the marginal areas of more recent occupation, between the late 1980s and early 1990s. Castro & Fonseca (1995) concentrated the analysis of the main agroindustries and Market structures in the Midwest in the early 1990s through paid ICMS. In the case of Mato Grosso, the author pointed out that 61% of the largest agribusiness paying companies were national capital, 20% regional capital, and only 11% of cooperatives and 8% of international capitals. Ceval, until that moment, the main company with national capital in the soybean crushing sector, lead the raking of soybean agroindustries in the State in 1991, behind only Sadia, also overwhelming, followed by the Maggi Seeds (Castro & Fonseca, 1995), reflecting the importance of the crushing sector until then, but revealing the beginning movement of rising of the companies organized as trading, like Maggi Seeds.

In Goiás case, where investments in agro industrialization predated 1985 and received state incentive programs, the presence of foreign capital companies represented 21% and the cooperatives 25%, while those of regional and national capitals were 34% and 20%, respectively, of which 85% are linked to the grains-meat complex. The presence of cooperatives makes grain availability more uncertain, since some of them can count on adequate financing to diversify their investments towards soy processing and integration with refrigerators (Castro & Fonseca, 1995). The regional arrangements were more complex and the size of the enterprises and degree of verticalization presented greater variation.

The multinationals, which directed their products primarily to the international markets, did not move their plants to the regions with the greatest agricultural potential of the cerrado, due basically to a conservative strategy, trying to keep a good part of their activities in the traditional areas. Large domestic players such as Ceval and Sadia did not appear among the main agribusinesses in Goiás in 1991, and Sadia did not even operate in the State, despite the importance of refrigerators at that time (45% of the main ICMS paying companies in Goiás in 1991 were refrigerators). This is explained by the fact that at the same time that the regional arrangements compete with each other more intensely, restricting their scope of action, the demands in terms of leverage and coordination for capitals that intend to act on a large scale were higher in the State when compared To Mato Grosso.

Ammagi, called Maggi Group at that time, began its activities in Mato Grosso in the late 1970s, at the height of the national government's policies of national integration, which opened up the agricultural frontier toward the north of the Central West. Of acquisition of extensive and cheaper agricultural areas. But it was around 1986 that the Group saw the opportunity for growth by directing activities to the Chapada dos Parecis, located in the northwest of Mato

Grosso, which had extremely flat and deep soils and a very regular but practically unexplored pluviometric regime due to the Precarious infrastructure of transportation (distant 2500 km from the port of Paranaguá), which isolated it from other regions. The Maggi Group's interest in the Cerrado region was the result of three basic factors enumerated by LAZARRINI & FAVERET (1997):

*“A) favorable soil and climatic aspects (flat topography, regularity of rains, high temperature and soil depth); B) the search for cheaper land, aiming to increase the profitability of the farm (profit on assets) and also the scale of operation, since, with the same equity value, it was possible to increase the number of hectares cultivated and still On the other hand, to gain, in the majority of the cases, gains with the valorization of the land capital; C) the search to explore economies of scale: estimates of the University of Brasilia indicate that the cost of production per sack of soybeans is reduced by about 40-45% when the operational scale increases from 50 to 1,000 hectares”.* (LAZARRINI & FAVERET, 1997, p.7)

The authors' statement reveals one of the facets that characterize the capitalist occupation of the border areas of Mato Grosso, the need to operate on a large scale, that is, to promote land concentration in the countryside, but not only. Agropecuária Maggi acquired a strong spatial expression, as it was directly involved in the cultivation. In the 1996/97 crop, it produced around 98.2 thousand tons of soybeans, 66% of which came from the Sapezal plant, 14,000 t of "maize", 5 thousand T of cotton and 1 thousand t of rice. However, its influence on the development of soybean cultivation in the Parecis region goes far beyond these numbers. According to Lazzarini & Filho (2000), in 1996, Sementes Maggi, the seed division of the group, represented the Group's main company in terms of revenues. It had an important warehouse structure at grain producing poles, with a total static storage capacity of 509 thousand tons. Since they are real vacuums, from the point of view of the infrastructure necessary for capitalist agriculture that happens to be practiced on a large scale in these regions, capitals such as Amaggi had to diversify their activities in order to structure a whole range of support services required by the core activity, including with regard to basic public services. Such investments impelled the company to seek to internalize the various steps up to the realization, in order to achieve enough scale to obtain the desired profit rate, even in the face of high production costs, reflecting the logistical isolation.

*"Seeds Maggi also acts in the commercialization of inputs, notably fertilizers and agricultural pesticides. Such products are usually tied to producer financing operations, with no retail sales. Another activity carried out by the company, more as an adjunct to its core business, is the coordination of the transportation of grains and agricultural inputs, using third-party fleets."*(Lazari & Faveret, 1997, p.7)

The Maggi group, from the beginning of its activities in Mato Grosso, had the perception of how fundamental would be the construction of storage units, for its own use and of third parties. Faced with a scenario of scarcity of supply of this service, the still incipient non-existence of overwhelming soy industries in the region and the unpredictability of the conditions of crop displacement, starting to offer storage services would be the first step in opening up opportunities for expansion of the Cultivation and advantages in obtaining the grain, going against the scale desired by the company, even allowing it to act as logistics coordinator

The expansion of the gains of scale and productivity developed by the Maggi Group opened the possibility of the company launching itself in the export business. It is worth mentioning that at that time Maggi had not yet made direct deliveries to other countries, having to rely on the intermediation of specialized trading, such as Cargill, Grupo Sumitomo (Japan) and the Swiss

company André. However, these companies did not have at that time the physical structure and degree of verticalization needed to exercise the coordination power in the soybean chain. They did not have the inputs or logistical infrastructure needed to subordinate production. Therefore, what is verified is that the strategies adopted by the Maggi group until that moment represented the formation of a real monopoly based on the control of the territory. By monopolizing the storage system, it obtains an advantage in grain origination, by coordinating logistics, appropriates part of the reduction of transport costs, by working on the financing, appropriates the financial income.

Added to these factors are the profits from the grain production and marketing activity. Of course, the capitalization and set of strategies adopted early by the company allowed it to move around 589 thousand tons of soybeans in 1996, 10% of the total produced in the State, with an internal rate of profit above the average rate of competitors.

To this set of strategies to obtain extraordinary profits, will be added the opening of a new logistics option in the following years, confirming the preponderant role that territorial control plays in the evolution of the company.

In 1993 André Maggi Group created the Madeira Waterway through Hermasa Navegação da Amazônia, which is fully controlled by the André Maggi Group, formed through the association with Ciamapar Investimentos e Participações S/A, a company created to enable the participation of the Government of Amazonas in Private enterprises. Considering all the investments for the installation of the waterway, from the ports to the trains, the sources of resources used were Seeds Maggi (with 37.2%), Government of Amazonas (with 27.8%) and BNDES (with 23.1%).

Hermasa, on the other hand, received BNDES financing, under the following loan conditions: 18 months grace period and 144 months amortization (total term: 13.5 years), interest of 4% per annum on credit updated by the variation of Dollar. The credit participation reached 85% of the value of the investment. The waterway starts operating in 1997, when the company becomes an exporter through the northern ports, representing an absurd advantage in terms of logistics costs. According to Lazzarini & Faveret (1997), with the opening of the exit to the north Maggi obtains an advantage in terms of logistics costs of 20% in relation to its competitors that flow through the port of Santos and Paranaguá:

*The advantages of the waterway in front of the traditional corridor are the economy of freight, of port costs and of time. In the final analysis, the economy of freight and port costs should be around US \$ 24 / t during the year, that is, 22% less than Paranaguá. In addition, the total course will require 23 days until Rotterdam (for Madeira), when today it takes at least 30 days for Paranaguá. (LAZARRINI & FAVERET, 1997, p.10)*

This will further expand its differential in terms of internal rates of profit. In practice, this meant the creation of one of the most important intermodal logistics corridors in the country, formed by the BR-163 and the Tapajós-Amazonas waterway, based on a specific private demand of this agroindustry and its strategic partners. Specifically, the combined result of strategies is an explosive growth in soybean production in the Parecis microregion throughout the 1990s. It was the microregion that added more area to the soy crop, no less than 1.6 million hectares, Of a share of 20% to 30% in the total area of cultivation of the State. Maggi would reach the year 2003 (oldest data obtained) as the second largest exporter in Mato Grosso. In 2004, with a share of 17.47% in total state exports, it was behind only Bunge, which led the ranking with a minimum difference (17.93%), well ahead from companies coming behind - ADM, With 11.5%, Coimbra-dreyfus (6.42%) and Cargill (4.78%).

The implementation of the Real Plan will have a double impact on the soybean market. While currency overvaluation hampered exports and cheapened domestic food prices, pushing farm incomes, domestic market competition increased by the entry of multinationals in the crushing and food production business. Reduced margins would make scale-up, technology optimization, and large-volume trading to reduce costs and increase profitability critical, have favored a growing market concentration not only in large soybeans, but also in large producers. Against this backdrop, while the difficulty of competing in the domestic market is widening and the valued exchange rate narrows the exporter's margins, the ability to establish efficient cargo handling logistics, linking the Minimally adequate costs, it becomes an extremely valuable competitive tool. This is because they open marketing alternatives at the same time in the company if it accredits to compete for the origination in better conditions, without it being impossible to export.

At the moment when it becomes disadvantageous to process the grain internally and the competition of the multinationals advances on this sector, having operations consolidated and directed to move the production was fundamental for the survival of the Brazilian companies. That was the reality of Amaggi. In 1996 the company handled 590 thousand tons of soybeans, of which 25% were exported and the static capacity of its warehouses was 509 thousand tons. In 2004 there were already 2.4 million tons of soybeans traded, of which 57% of this volume exported (1.37 million tons), 60% of which through the Madeira River. Static storage capacity amounted to 2.1 million tonnes (Amaggi, 2005).

In the city of Sapezal the Maggi Group maintains static storage capacity of 283,000 t, compared to 69,000 t of Bunge and 105,000 t of Cargill. In the municipality stands out the ownership capacity of Bom Futuro Group, belonging to the other part of the Maggi family and headed by Blairo's cousin, Eraí Maggi. The Good Future Group has the capacity to store 410 thousand tons of grains, 23% of the total capacity of the municipality.

In Campos de Júlio it has capacity for 110 thousand t, 14% of the total, against 48 thousand t of Bunge. In Campo Novo do Parecis, the Group concentrates 18% of the total capacity, 330 thousand tons, account 80 of ADM, 45 of Bunge and 43 of Cargill. In Diamantino, in addition to Amaggi, only Louis Dreyfus, among the big traders, owns warehouses with capacity for 35 thousand t, against 68 of the first. Again, the Good Future Group stands out, with 244 thousand.

Such a structure, operating in a sector where profit margins are reduced and a tightening of competitiveness can jeopardize the profitability of the whole, certainly inhibited the progress of the multinationals over the spaces where Amaggi exercised its monopoly. When they decided to do so, instead of waging a competitive war, they eventually opted for an association strategy, giving indications that multinationals may have identified Amaggi as a company with sufficiently structured activities to resist its advance, Of expedients that would certainly result in non-absorbable losses within the strategies of these companies. The companies Bunge and Amaggi signed a contract in 2003 whereby Amaggi leases part of its capacity in the port of Itacoatiara / AM to Bunge, opening the possibility for this transnational to sell its products in the north of the country.

At least two other regional private equity companies, which today appear among the leaders of the grain sector, Caramuru Alimentos and Fiagril also had privileged logistical operations, which prompted the multinationals' interest in establishing strategic partnerships. In 1986, Caramuru Alimentos had a soybean crushing plant in Itumbiara-GO, on the banks of the BR-153 and Paranaíba River, with a crushing capacity of 1,000 tons / day and a strategic positioning in relation to the main consumer markets in the country. The plant was considered large by the

standards of the time. As found in Castro (1995) processing capacity in Goiás in 1992 was 5,200 tons / day, divided into 10 manufacturing units, this means that only Caramuru had 20% of the state's total processing capacity in a single plant.

Since the entry into force of the Kandir Act in 1996, it has become more costly to sell products processed outside the State where the raw material were produced. For this reason, the crushing sector, having a near plant producing regions with efficient exit to the ports becomes an even more decisive competitive advantage. This allows the company to continue the aggregation of value and, consequently, to increase the profit margin. Few companies, such as Caramuru, were able to use this alternative, through intermodality, combining low cost of raw materials (the more distant from ports, the lower the value paid for the grains due to the deductions related to freight cost), costs of Logistics (transport and storage) and operate and large-scale.

Caramuru, since its debut, was the main cargo mover in the North Section of the Tiete-Paraná waterway. At that time, the value added to soybeans within the country was still relevant, with 77.5% of exports coming in the form of bran and oil in 1996, which gave Caramuru an early cost advantage. In an interview with representatives of the company, besides emphasizing the coordination of logistics as the main competitive differential of the company. Caramuru Alimentos has been using the Tietê-Paraná Waterway since 1996, in Anhembi-SP, and since 2001 in Pederneiras-SP. It has 65 warehouses and silos and three industrialists in regions served by the waterway: São Simão-GO, Itumbiara-GO (group headquarters) and Ipameri. The interconnection of the grain producing areas with the São Simão-GO intermodal port is carried out via highway (transportation in trucks), where, afterwards, the transformation of soybean bulk into bran (from 2006 onwards the Biodiesel). Its goods sold by the Tietê-Paraná system, with emphasis on soybean meal and soybean meal, are destined for the foreign market (Europe and Asia). Of the total cargo leaving the tri-modal terminal of Pederneiras-SP and reaching the port of Santos-SP, 98% follow via railroad and 2% via highway.

Moreover, between 1980 and 1990, aware of this condition and the time lag between the supply of agricultural raw materials, concentrated in the harvesting periods, and the demand by industry, distributed throughout the year, the company invested heavily in Storage capacity. Even today, the storage infrastructure at the disposal of the company stands out among the region's major retailers, with 65 warehouses only in the southeastern region of the State of Goiás, with a storage capacity of 2.174 million tons (Caramuru 20015). Caramuru stands out for its installed storage capacity in Rio Verde, Jataí, Chapadão do Céu, Catalão, Montividiu, Mineiros and Ipameri, the largest producing municipalities in the State of Goiás, and is always between the two companies with the largest capacity supply (CONAB 2015 ), And none of the multinationals has a relevant presence in the region as a whole.

The multinationals did not invested in storage capacity in the Goiás, due to their operations focused primarily on exports, using other mechanisms to obtain grains, such as credit supply, via technological package and logistics coordination, using third parties fleet, once the availability of the service in Goiás growing, being another strongly encouraged sector, which attracted a large number of companies (Macedo & Angelis, 2013).

In any case, the lack of physical structure would eventually lead to inefficiencies in the multinationals' operations, given the increasing volume of grain to be disposed of and the congestion caused in the ports of Santos and Paranaguá due to the "loose" strategy adopted by these companies. In the absence of warehouses and silos, the companies often used the trucks practically as walking silos, sending grain from the farm to their warehouses in ports, without any kind of scheduling. The storage capacity of these companies in the ports of Santos and

Paranaguá is quite high, since it is more advantageous to concentrate all grains purchased in a single place, ensuring the scale for shipments on large ships, with logistical gains.

This strategy transfers to the transporter the burden of possible delays in the queues for landing in the port, a common situation during harvest periods, since the harvest is concentrated in time, most of which is directed directly to the port because of the strategy developed by the companies themselves (Valente, 2013). But depending on the size of the delay and the conditions of the freight market, this can mean losses for the companies themselves. A day of delay of this type of ship generates a high loss, this time belonging to the exporter. The delay between the grain's arrivals to the transshipment station, caused by the lines of trucks that going all at the same time to the ports could cause damages of hundreds of thousands dollars to the exporters of commodities, an activity that offers narrow profit margins, so, highly vulnerable to small increases in transaction costs.

The possibility of an alternative way to reach the port, bypassing these problems, would certainly give the exporter a cost advantage. It was exactly this alternative that Caramuru opened with the multimodal operations structured within the waterway and the MRS railway line. In addition to the supply of warehouses distributed by the main producing municipalities in Goiás, Caramuru had an extremely favorable structure from the point of view of cargo moving optimization, increasing the efficiency in goods distribution, with higher security along the routes, control and reduction of inventories and delivering of orders within the deadlines established in the contract.

The company entered the XXI century exercising the leadership in the state exports, having ascended to this condition in a short time. With a high installed capacity of soybean storage and processing, in one of the most productive regions of the state, with multimodal logistic integration and privileged location in terms of access to the external market, the company concentrated 17.39% of state exports in 2003 and 20.74% in 2004.

According to CEPEA (2011), 40% of the value added in the soybean complex concerns in transportation, storage and marketing activities. According to Ballan (2009), multimodality resulted in a reduction of up to 50% in transport costs compared to competitors, which represents a reduction of 15% to 20% in final costs, an important contribution to the final profit margin from the company.

An advantage based on the opportunity to be part of the oligopoly that dominates the transportation of cargoes by the Tietê-Paraná waterway, which also includes Dreyfus and ADM through Sartico. Cargill, in turn, has contracts with Torque, the same company that has a partnership and moves cargoes with Caramuru. Bunge was excluded from this alternative, being the company with greater financial capacity, which originates moves and exports soy in Goiás. It would not take Bunge to seek Caramuru for the establishment of a partnership.

Santos (2011) found that Bunge bought from the farmers and delivered to Caramuru (silo or warehouse). Caramuru gives the destination it needs to grains, whether transgenic or non-transgenic, usually crushing soy and corn in the units it owns in the southeast of Goiás. In contrast, Caramuru, since it operates in several regions of the country, returns The grain taken from Bunge in the Port of Santos.

Among the motivations for partnership, in addition to the infrastructure of cargo handling in the waterway, thought in favor of Caramuru its structure of warehouses and silos. Although Bunge is the largest grain originator in Goiás, exerting a strong influence on the producers of the entire South Goian territory, the physical presence in the territory is Caramuru. With

strategically distributed warehouses and silos, the average distance from their warehouses to producers is always less than that of competitors. Bunge, which buys in virtually all localities, can with the partnership move its grain to one of Caramuru's closest warehouses, but continued to pass on to the producer the cost of transporting the grain to one of its warehouses, obtaining a differential between what it charges and what it disburses with this freight, increasing its margin of profitability.

Caramuru, for its part, can separate the best quality grains, including non-GMOs, since Bunge does not distinguish between GMO and non-GMO grains. Thus, the company supplies its raw material demand for its high value-added derivatives factories, such as non-GM oils, margarines and flours. Even multinationals with greater financial capacity and domination over the fate that producers give to their grain, because of the logistical advantage built early by the company, it still has a privileged position in obtaining raw materials, and can select them from the largest buyer of State. Thus, even with the multinationals having greater financial capacity and dominating the destiny that the producers give to their grains, due to the logistic advantage built early by Caramuru, Caramuru continues having a privileged position in the obtaining of raw materials, being able to select them together the largest buyer in the state.

The development of Fiagril's business model followed a similar path with regard to logistics, although it is a smaller company with less geographic reach. According to the institutional website, since 1997 Fiagril invests in the improvement of its grain storage units and in the product marketing process. The strategy of expanding the physical structure of static storage capacity, which allowed a jump from 13,000 tons to more than 700,000 tons. With a strong presence in the Mid-North region of Mato Grosso, on the BR-163 axis, the company organized a logistics infrastructure that guarantees the continuous flow of production to the main Brazilian ports.

Fiagril quickly designed a business package that provided the producer with technical assistance for planting choices, sold the necessary inputs, often structured in a financing operation, and closed the cycle with the storage and commercialization of grain with the processing and processing industries. Tradings through the BR-163. At the same time, he began to coordinate logistics, arranging the best time to marry the freight of the grains with the inputs that came to meet the producers. The assets acquired by the multinationals, in turn, were concentrated mainly in Rondonópolis and Cuiabá, where the grains were stored and processed to serve the markets of the South Center and the largest local consumer markets.

The multinationals did not immediately have infrastructure in the Alto do Teles Pires region, whose share in soybean production rose from 19% to 25% between 1990 and 1999. An increase of 1.4 million tons, equivalent to a growth of 213 %. Therefore, the tradings saw in Fiagril a strategic partner to start their activities in that space. The company started to intermediate barter operations between the multinationals and the producers - being shared the rates levied on the financing, in addition to the storage fees.

According to data from CONAB, ADM, Amaggi, Bunge, Cargill and Fiagril account for 40% of the 1.9 million tons of static storage capacity in Lucas do Rio Verde. Fiagril and Amaggi have the highest capacities, the first with 217 and the second 215 thousand tons of capacity. At Nova Mutum, the state's second largest soybean producer, only 90 km from Lucas do Rio Verde, only the four multinationals had storage capacity, accounting for 31% of a total of 1.43 million tons. Bunge leads with a capacity of 195 thousand tons. This demonstrates the influence of Fiagril in Lucas do Rio Verde, and on the other hand, the strategic importance of the municipality to the company.

Still in 2003, concentrating its investments in the axis of the BR-163, it builds a Storage Unit in Smile and I acquired one in Sinop. In 2005 it signed a logistics agreement with Ferronorte to increase exports through the Port of Santos and finally in 2006 doubles its total storage capacity to 349,000 tons, consolidating its operations in the logistics and commercialization segments.

In 2011, it was reported that Fiagril advanced its positions in storage and origination mainly in the settlement areas. According to the administrative report, the company maintains investments in grain origination activities with the acquisition of new storage units located in Itanhangá, São Luiz Gonzaga and Mercedes, which increased its static storage capacity to 581,000 tons, of which 551,000 are owned and only 30,000 tonnes leased from third parties. (Fiagril, 2012).

It is observed here the consolidation of a niche strategy that had been adopted by Fiagril. The company reinforced its positions in areas where land and environmental regulation presents some complications, making it less attractive for companies that have less capacity to deal with these producers in conditions of legal uncertainty regarding land ownership. It should be expected that farmers in these areas would also be less familiar with business farming, since they are based on agrarian reform programs.

With a view to exports, once again the company began to seek regional diversification, inaugurating its first receiving unit in Tocantins, in the municipality of Silvanópolis, with a static capacity of 60 thousand tons. "Tocantins has a much better logistics than Mato Grosso. It is cut by the North-South railroad, with access to the port of Itaqui (MA)". In common in these strategies is the control of infrastructure and logistics in regions lacking economic and social infrastructure, a striking feature of the strategy of the three companies since the beginning of their activities in the border regions.

Another striking feature, valid for the three companies analyzed is the state presence endorsing the logistical investments of these companies, be it heading the large interstate infrastructure projects, or through financing heavily subsidized by the BNDES. It is possible to make an analogy, stating that the developmental pattern of intervention in the economy that drove Brazilian growth between the 1930s and 1980s continued to function for these groups throughout the 1990s and 2000s, given the political-institutional arrangements that were able of sewing.

## **CONCLUSIONS**

It can be concluded that when foreign competitors entered the Brazilian soybean processing and export market, three elements proved to be absolutely essential for national capitals to be able to face the increase in competition. The first one is a vertical structure, or at least the existence of an arrangement of partnerships that would allow the grain buyer to provide the "technological package" the producer needed to be able to produce in the field.

The second is the control or access to a logistical infrastructure that allows distant consumers to be reached with adequate transport costs while at the same time giving security to the producer regarding the acquisition of production, whose supply is concentrated and demand is dispersed over time. For this was the fundamental possession of storage capacity, which in turn, allows to organize the logistics of movement more efficiently.

A third, related to the condition of concentrated supply and demand dispersed over time, is the need for credit, to which the Midwest producers had less access through official routes,

generating the need for alternative sources and opening up opportunities for private agents to increase their power over producers.

Only the second condition were demonstrated in details in this paper, however, it is reiterated that the national companies listed in this paper disposed of those three sets of advantages and could use them in favor of its growth and the development of the entire sector. It was not the multinationals that introduced large-scale soy production in the country or made it feasible to expand to regions with less fertile soils and weak infrastructure. The trajectory of the national companies and their institutional alliances shows that what happened was a facilitation to take-overs by multinationals hegemonic of the sector starting with the economic opening in the mid-1990s, conquered from its financial power.

It was identified throughout the research that the strategies adopted by the multinationals to expand their presence in the Midwest were much more dependent on the association with regional companies. Unlike in the South and Southeast states, the complexity of the land issue, the arrangements around the land income (illegal grillage and financing) and the political control of logistics, with a strong presence of the State and subnational entities involved in setting up the strategies, forced the multinational corporations to choose for strategic partnerships establishment within national capitals that were acting in that areas, until being possible to establish their own individual strategies, which was not always an option, since the associations between these companies continues to grow over the last 15 years.

The governance arrangements developed by the multinationals to operate in Brazil had the participation or even been idealized and concretized initially by the national groups, later surpassed by the capacity of leverage of the subsidiaries of the ABCD group (ADM, Bunge, Cargill and Dreyfus). The association with multinational companies, despite had being favorable, would have been unnecessary, given the degree of technological and organizational advance reached by Brazilian industry in the mid-1990s. Finally, it is concluded that a macroeconomic and agricultural policy which favors the internal construction of synergies, as well as a budget that is less plastered and more committed to investments in infrastructure, and a greater concern about the environmental issue, could have allowed Brazilian agribusiness to make a similar contribution to the growth and modernization effort of the economy in the 2000s without having promoted such a devastation of natural resources and small and medium farms and agroindustries displacement.

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*Track 11 Agribusiness and Food Management*

**ID #751**

**Revealed Comparative Advantage (VCR) analysis of main fresh fruits exported by Brazil**

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**Abstract**

*In 10 years (2007 to 2016), revenue obtained from fresh fruits export increased considerably. Brazil ranked 139th (2007) in the world's largest exporters to 55th at the end of the period (2016), according to the Food and Agriculture Organization (FAO). However, even with such prominence, Brazilian revenue was still much lower than the main world exporters. Therefore, the present study has objective to analyze which, among the most exported fruits (mango, melon, Tahiti lime, grape, papaya, watermelon, banana and apple), have a greater comparative advantage – that is, it has greater efficiency in global trade. So that, Revealed Comparative Advantage (VCR) index was applied, which measures the product performance on a country's export and against world performance. As a result, it was found that, between 1995 and 2016, Brazil had a more comparative advantage in fruits of niche markets in the European Union and the United States, such as papaya and mango. Or those who explore windows of market opportunity, such as melon, which caters to the EU in its off-season. In segments of greater world consumption, such as grapes, apples and bananas, Brazil presented a comparative disadvantage. With this profile, Brazil has greater potential to grow in niche markets or EU and US fresh fruit off-season than year-round supply.*

**Keywords:** Brazilian fruits; fruits exports; comparative advantage; revealed comparative advantage (VCR); fruit competitiveness.

## **Track 12**

# ***Public-Private Partnerships in Infrastructure***

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #554**

**Surety bond of infrastructure projects in emerging markets: Risk mitigation at what cost?**

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**Abstract**

*Ex-ante incentives to contract surety bond tend to be reduced in presence of high transaction costs. Given that this instrument is a traditional form of risk mitigation in infrastructure projects, the incompleteness in protection markets may affect their development, depriving the country of socially valuable projects. This article deals with the use of the surety bonds in the Brazilian electricity sector. We take the transaction costs theory to assess qualitatively the effectiveness of this instrument in an emerging market as compared to a more developed jurisdiction. The methodology is based on the analysis of thermoelectric plants cases in which significant project delays enacted penalties applied by local regulator and in a claim on the respective surety policies. We had explored this case with interviews with experienced professionals in insurance market of Brazil and United States. The propositions to be tested will be considered validated if, from the perception of these professionals, relevant differences between these two jurisdictions are identified in terms of the capacity of surety bond runs as a risk mitigator. We have validated the proposition that make surety bond an effective risk mitigation tool with lower transaction costs in mature markets as well as identify the transaction costs in the Brazilian surety bond market in infrastructure projects. We also found evidence that the Brazilian surety bond market in infrastructure projects contains dissonances that reflect low coordination among the participating agents, as well as regulatory impulses insufficiency that could enhance the use of the instrument.*

**Keywords:** transaction costs; surety bond, insurance; emerging markets; infrastructure..

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## **INTRODUCTION**

Institutions are the limitations developed by society to structure political, economic and social interactions, such as legal systems, cultural norms and traditions of a society. They provide the basis of balance for the establishment of order and security in a society or a market. They respond to the challenge of minimizing transaction costs for life in society, as North (1990) states: "When it is expensive to transact, institutions matter."

Under normal market conditions, the risks arising from the activities therein can be mapped and, depending on this predictability, it is possible to adopt instruments aimed at eliminating or reducing these risks so that such threats become more palatable from the point of view of the one who, at the time of misfortune, would be the most harmed. In this respect, risk transfer is one of the solutions used in the markets in general.

There are several forms of risk mitigation in long-term infrastructure contracts. Among these, stand out the surety bond mechanisms, whose purpose is to guarantee to the insured the payment of indemnity for the damages that he will suffer because of the contractual default of the principal, debtor of the obligation in the guaranteed contract (Carneiro, 2004). This is a type of insurance with peculiar characteristics, because despite presenting the formal elements typical of the insurance market (policy, claim and premium), the risk is analyzed in the context of the project itself and with great emphasis on the principal in financing specific project environment,, while in conventional insurance there is a statistical calculation based on the general behavior of insured (Hoffmann and Di Girolamo Filho, 2017), and tends to behave more like credit insurance than with traditional lines of damage to tangible physical property and civil liability (known in the market jargon as P&C- Property and Casualty).

In the presence of institutional voids, the ex-ante incentive to contract surety bond tends to be reduced and transaction costs high. Given that this instrument is a traditional form of risk mitigation in infrastructure projects, the incompleteness of protection markets can affect the development of the market for infrastructure projects, depriving the country of projects of high economic and social value. It is, therefore, a matter of great importance for the country, both for strategies of companies in the insurance market and for companies operating infrastructure, as well as for public policies, insofar as dichotomies and market incompleteness are associated to market failures that lead to State action.

This article, which is under development, evaluates transaction costs in the electric power generation market in Brazil, related to the problems in the surety bond contracts that should mitigate the risk of this type of enterprise. The article is based on the analysis of a case of thermoelectric generation plants, complemented by interviews with sector actors.

## **RESEARCH AND OBJECTIVE PROBLEM**

How do the transaction costs of risk transfer through surety bond in infrastructure projects within emerging markets interfere with its development relative to a mature market?

The present study has the general objective of evaluating the transaction costs present in the mitigation of infrastructure project risks in the emerging market, through the surety bond instrument, compared to a developed market.

The expected results are that the high transaction costs present in the Brazilian market relative to a mature market prevent the development of this market for risks coverage, leading to targeted public policies.

## **THEORETICAL FOUNDATION**

This paper is based on transaction cost theory and observes the surety bond contracts as a device that offers governance to the markets, but which in emerging economies is characterized by dichotomies that reduce its effectiveness and generate high transaction costs compared to jurisdictions more developed.

### ***Transaction costs and risk mitigation in infrastructure projects***

Coase (1937) established the basic guidelines for the study and development of transaction cost theory, analyzing market relations through firms and the regulatory role that institutions play in this relationship. Williamson (1985) invokes the behavioral assumptions of bounded rationality and opportunism as guiding frameworks of contract and governance structures, and the relevant attributes to describe the transactions are uncertainty, asset specificity, and frequency (Williamson, 2012, p. 64). Transaction costs arise because of the difficulties of (i) measuring the multiple valuable dimensions involved in the exchange and (ii) meeting the agreements - the information is not only expensive but incomplete, and execution is not only costly, but also imperfect (North, 1992).

Several academic journals have been produced in the field of social sciences on TCT (Macher and Richman, 2008), but their essence is the minimization of costs (Williamson, 2012), and the quest for governance is its great strength, where well-being and balance take shape and form.

The institutional environment has a strong influence on transactional arrangements (Macher and Richman, 2008), and regulation plays an important role in the presence of a natural monopoly (Joskow, 2005). According to Dumez and Jeunemaitre (1999), regulation is a response to the problems created by the spontaneous play of markets in the production of goods or services, while Gentot (1994, pp. 41 and 42) indicates that regulation presupposes a certain balance between the interests of the various social forces involved (Cassagne, 1994, p.166, 2002) and does not necessarily operate through judicial channels, but rather through the extrajudicial pathway of independent authorities, thus obtaining better results, stimulating and protecting free competition in benefit of consumers (Cassagne, 1994, p. 167, apud Medauar). If the proposed mode is imperfect in similar or different contexts, the alleged advantages of abandoning regulation may be illusory (Williamson, 2012, p299).

Coase admits that rights affect wealth if contracts cannot anticipate all contingencies (Schwab, 1989). Even though there is planning (ex-ante), parties involved in a transaction cannot limit, for example, abuse on one side or the other by specific clauses (Bolton and Dewatripont, 2005: 39). Contracts are incomplete, since both the project and the negotiation are costly and these costs influence the choice of contingencies explicitly contemplated (Kornhauser, 2004). Several studies on transaction costs address trust relationships between trading partners (Dyer and Chu, 2003, Beccerra and Gupta, 1999, Dyer, 1997, Chiles and McMackin, 1996).

The preference for contract transactions increases when there is conviction on the legal system (Zhou and Poppo, 2010), and the exchange ratio by means of contracts presupposes the transfer of responsibilities of supply to another party, through determination of prices, incentives, controls and penalties (Barthélemy and Quélin, 2006), assuming low trust and interdependence, and transactions that may not occur in the future (Bunduchi, 2008). Williamson (2012) defines (i) ex-ante costs as those incurred in the negotiation and formatting of agreements and (ii) ex-post costs such as those involving configuration and functioning of the governance structure - including costs of non-adaptation, (Williamson, 2012, p.353) - both of which are interdependent and must be analyzed simultaneously (Williamson, 2012, p.18). Chiles and McMackin (1996)

state that the advantage of contract relations is the propensity to anticipate how the other party will behave within a context of limited rationality, opportunistic incentives, and a desire to mitigate risks. Uncertainty influences both ex ante and ex post costs (Williamson, 2012) either because of the partner's possible wrong choice or because of a failure in contractual design (Marques and Berg, 2010 and 2011).

There are two dimensions of uncertainty: (i) that arising from the transaction itself that originates from institutional voids and increases transaction costs; and (ii) the economic uncertainty arising from the business environment (Smit et al, 2017). The effects of one and the other are not necessarily the same and, while in the first, the absence of effective mechanisms can, for example, be corrected through some regulatory mechanism, the second is based on a sectoral macroeconomic context, whose analysis must be via rule within broader conjecture.

Among the transaction costs, there are those related to reputation, control, surveillance and financing (Hennart, 2010), which are of great relevance in the insurance market. Macher and Richman (2008), Contractor (2007), Tan & Mahoney (2006) Andersen (1997) have addressed International Business (IB) through literature review, discussion of internationalization by crossing evolutionary and transaction cost theories, implementation of managerial resources of multinational companies substantiated on theories based on resources, agencies and transactions, as well as the internationalization and modes of entry into the lenses of TCT and eclectic paradigm, that have direct applicability in the insurance activity, due to the massive presence of players such as Allianz, Swiss Re, Mapfre, Liberty, AIG, Zurich, Axa, Chubb, Tokio Marine, Travelers, among others, which reflects a need for insurance / reinsurance activity itself: risk dispersion in different markets.

### **Market Failures**

The Arrow-Debreu paradigm is a benchmark in the full-market literature, where all risks are hedged in a liquid and efficient market (Arrow; Debreu, 1954). Arrow (1969, p.48) indicates that market failures and externalities originate in transaction costs and that in specific cases may even prevent the formation of markets (Williamson, 2012, p. 298). Kirkpatrick et al (2006) identify that where regulatory institutions are weak and vulnerable to "capture" by the government (or the private sector), FDI tends to be reduced in large-scale infrastructure projects in developing countries. Governments, as well as markets, are imperfect (Krueger, 1990), especially in developing economies, where state-owned infrastructure monopolies have often resulted in poor service performance, with reduced productivity, high costs, poor quality, poor investment, suggesting reform and restructuring programs with private sector participation based on the reality of each sector, as well as the economic, institutional, social and political characteristics of the country (Kessides, 2004.)

In the insurance literature, adverse selection and moral hazard are ex-ante and ex-post opportunism, respectively (Williamson, 2012). Adverse selection occurs when one of the parties has asymmetric information on the ex-ante risk conditions (Reis, 2012), because of the insurers' inability to make an adequate selection of risks, thus prevailing acceptance of bad risk to the detriment of the good (Williamson, 2012). Moral risk is characterized when the insured acts idiosyncratically by failing to be prudent and avoiding any loss during the performance of the contract (Williamson, 2012) and is not directly observable by the insurer (Reis, 2012). Opportunism can be originated by both insured and insurer - for example, insurer has more in-depth knowledge about contractual clauses - which can generate externalities such as the costs of losing confidence in the insurance instrument (Baker and Logue, 2017). Katz (1999) asserts that guarantees are a response to potential problems of moral hazard and adverse selection.

The objective in non-life insurance is to restore the property in the state in which it was before the accident, in surety bond, the objective is broader: "to comply the obligation assumed by the principal through the main contract" that is, a market failure in the contracting structure has also broader consequences (Marques and Turolla, 2017). There are markets where those who decide to hire do not bear the cost of it. This is the case of the prescription drug market, where the doctor decides, on behalf of the patient, the brand that the latter will acquire (Baker and Logue, 2017). In the surety bond market, there is also a dissociation between those who decide to take out the insurance (insured), and who pay the premium (principal) - see topic Surety Bond - the latter having the prerogative of choosing the surety co., whose covered risks may differ from insurer to insurer. In principle, the principal is better able to assess his own risk than the insured. However, the perception of risk by the principal, in the case of the surety bond, tends to be underestimated, which is reflected in the price of the insurance (premium) and the breadth of coverage contracted (Justen Filho, 2013). market failure. In other words, the informational asymmetry in the surety bond market tends to encourage the principal of lower quality insurers and / or insurers that in practice may not bring the risk coverage desired by the insured (Justen Filho, 2013).

It should be noted that in several infrastructure markets the insured (beneficiary) is the government itself, which aggravates the social impacts of this market failure. In response to this market failure, governments, in the role of policyholders, could offer restrictions on the choice of insurers. An example of such a practice would be the restriction of the principal's choice to a class of insurers (e.g. only insured with a certain minimum rating). However, there is a legal restriction here: in some jurisdictions, such as in Brazil, this restriction of choice can be considered by courts, such as violations of free competition in the insurance market, thus prohibiting practice (Portugal Ribeiro, 2011). A second element of informational asymmetry present in the surety bond is the participation of the insurance broker who, in a highly technical decision environment, assumes a privileged informational role as advisor. This agent, who legally represents the principal and not the insured (Pereira, 2017), can make opportunistic use of the information available to him to the detriment of the interests of the insured.

The use of the existing arrangements in the market is the standard institutional choice, which allows its actors to obtain cooperation benefits without being involved in more risky or costly forms of institutional choice (Jupille et al, 2017, p.118). When the market is not able to allocate resources in a socially efficient way, without for example state regulation, market failure is characterized. The concept is based on the search of its actors for their own interests whose results are inefficient.

### ***Risks in Large Infrastructure Projects***

Flyvbjerg (2007), Flyvbjerg and Garbuio (2009) indicate that the main problem in this segment is misinformation about (overestimated) benefits, costs and risks (underestimates), which entails not only transaction costs, but the emergence of externalities such as reduction of benefits and waste. The reason for such disinformation would be the misrepresentation by planners and promoters of this information in order to increase the likelihood that their projects will be theirs, not the projects of their competence, which gain approval and funding, thus resulting in "the survival of the unfit, "in that they are often not the best projects that are built, but the most misrepresented. Governance structures reduce risks and favor the efficiency of project analysis and feasibility at a lower cost (Williamson, 2012), through the participation of other interested organizations such as banks and insurance companies. These organizations carry out due diligences (ex-ante) that produce effects on compliance (ex-post), reducing information asymmetry by being efficient in risk selection and monitoring (Amit et al., 1998).

## ***Project Finance***

According to Grimsey and Lewis (2007), partnership agreements such as Project Finance, where there is greater enforcement, are particularly good vehicles in pursuit of higher Value for Money with quantitative and qualitative efficiency. Unlike traditional public contracts, these structures integrate the construction, financing, operation and maintenance arrangements into a single contract, providing incentives for the entrepreneur to think beyond the design and construction stage, by reducing costs throughout the life of the project.

Capital investment works in conjunction with high indebtedness ratios and the network of contractual arrangements to reduce the problems of agency in managing large projects (Connor et al., 2008; Brealey et al., 1996). These authors also show how contracts transfer the various project risks to the parties most capable of evaluating and controlling them. Finally, they discuss why most of the project financing takes the form of bank loans with limited resources to the project company, rather than public bonds with full recourse to the sponsors.

In infrastructure projects, assets have special characteristics of high fixed costs in highly specific capital forms with strong externalities (Turolla, Gabrielli and Gondim, 2013), and the projects are typically organized under project finance, with design and modeling complex and likely sophisticated (Sawant, 2010; De Marco et al, 2016).

Estache et al (2015) argue that the institutional environment determines the model of public and / or private financing for infrastructure. The lack of state resources is the main reason for opening opportunities to the private sector (Ashuri and Mostaan, 2015), and the reasons that make public financing difficult are disadvantageous to the private, as the economy of public resources, transferred to the private initiative, can mean higher tariffs for citizens (Estache et al, 2015).

Project financing has specificities with higher transaction costs than ordinary financing, since the modality is related to the viability of new projects and not to existing ones, not to mention that they usually involve high leverage (Esty, 2004). The number of financial institutions involved in this type of structure is greater than in other projects, whose objective is to make possible new and complex investments (Kleinmeier and Megginson, 2000). Such projects have distinct characteristics such as long duration and complex management, difficult evaluation, illiquidity, indivisibility, contemplating large amounts of capital (Visconti, 2010).

Monitoring, even if costly due to the long life of the project, is among the highlights (Visconti, 2010) and the specificity is reflected in the extension of the contracts (Esty, 2004). Comer (2001) considers the costs of information, establishment and monitoring of contracts costlier in project finance than in other financial possibilities. Esty (2003) indicates that one of the incentives to use project finance is to reduce the potential collateral damage that a high-risk project can impose on a sponsoring company. A failed project can cause a healthy sponsoring company to fail. This phenomenon, known as risk contamination, must be balanced with risk mitigation instruments as insurance (Esty, 2003).

Often, there are few coverage or insurance options available to cover large risks. Although companies may purchase insurance against political or catastrophic risks, these options are scarce and expensive, especially when exposures involve uncertain or ambiguous results (Kunreuther et al., 1993).

It is important to highlight that the perception of risk by financial institutions differs from project finance, due to the specific nature of the project (Esty, 2004), thus raising transaction costs (Cole, 1995; Ogawa et al., 2010). Woodward (1998) suggests that borrowers will strive

to portray a more attractive risk image, whether by lawful means or not. The search for cost reduction may lead to self-financing or self-insurance, which are more common when it comes to R & D (Balakrishnan and Fox, 1993).

The choice of project finance structure is usual in new and complex investments with large risks and massive informational asymmetries (Kleimeier and Versteeg, 2009), but it is not so evident because of the higher transaction costs related to project analysis, contracting and monitoring (Esty, 2003). However, the indication that the highest transaction costs benefit governance is precisely in the fact that the contracts establish more extensive rules, for example reducing agency risks and deviations from purpose (Esty, 2003). There are also other advantages such as shielding against government expropriation (Kleimeier and Versteeg, 2009) and greater bargaining power among project stakeholders (Sawant, 2009). The attempt to make the contracts more complete entails higher transaction costs, which are not always compensated (Marty and Voisin, 2008), doubts exist as to whether these would not be excessive in the face of all the analytical apparatus required to reach the pre-agreed premises and, consequently, the formalization of the contract (Klein et al, 1996). Chan et al (2009) indicate that the price for the use of this type of structure can mean delays and high interest rates, as well as excessive observance (Jean Tirole, 2007). Cost efficiency may even take second place to risk reduction (Mullner, 2017).

Law and finance theory holds that (i) historically determined differences in legal tradition influence national approaches to the protection of private property rights, support for private contractual arrangements, and the enactment and enforcement of investor protection laws, as well as (ii) the willingness of savers to invest in companies, the effectiveness of corporate governance, and the degree of financial market development (Beck and Levine, 2005). Mahoney (2001) indicates that the design of governmental institutions, based on constitutional and administrative law, influences the returns related to productive activity and the search for income and, consequently, the rate of growth. The common law legal system has a greater focus on private economic activity, with legal enforcement of property and contract rights establishing a positive scenario for investment and economic development, while civil law provides a guideline for government intervention in the economy (Mahoney, 2001). Contracting parties cannot easily undo the deficiencies of the law through private transactions if the legal system does not enforce certain types of contracts (Lerner and Schoar, 2005). External or internal factors, with or without institutional limitations (Estache et al., 2015), as an inefficient legal system or the poor contract structure, reduce the propensity of principal to honor their commitments, increasing also the perception of risk by the financial institutions involved (Pinheiro and Cabral, 1999) and, consequently, transaction costs. However, contract enforcement would compensate for legal and creditor protection deficits in more peripheral countries (Esty and Megginson, 2003). Due to the participation of several financial institutions, such as banks, insurance companies, pension funds and multilateral credit institutions (Finnerty, 2013), any opportunistic attitude that could jeopardize project finance, including by governments, becomes more difficult for reputational reasons (Sawant, 2008). Loan banks typically require deep due diligence, a large package of guarantees and insurance, close and constant monitoring of contracts, a growing number of clauses (especially in public-private partnership projects), which is usually quite costly, and requires time and even delays between the commercial agreement, the closing of the business and its implementation (Garcia-Kilroy, 2017). In one sentence: the costs of observing, or monitoring, are considerable (Basílio, 2011).

### ***Insurance and bonds in infrastructure projects in emerging countries***

The issue of surety bond relates primarily to the analytical level corresponding to infrastructure or construction projects, as such insurance is typically issued in the name of an organization or a special purpose vehicle (SPV) or project company and can be designated to the project lender as part of project collaterals (Hoffman, 2008). The contractual nature of infrastructure projects such as energy generation from thermal sources is even more complex because it involves long-term contracts with important transaction costs issues involved in a public-private partnership and public regulation environment (Joskow, 1985; Williamson, 2012). In addition, the assets have special characteristics of high fixed costs in highly specific capital forms with strong externalities (Turolla, Gabrielli and Gondim, 2013) and the projects are typically organized under project finance, with complex design and modeling and eventually (Sawant, 2010, De Marco et al, 2016).

The structure of a public-private partnership or concession project typically involves the requirement for insurance and bonds provided by both parties. This set, which depends on the type of project, offers safeguards to the interests of both the public partner and the private partners. Insurance is preferred in this package, according to Gatti (2008), "when the cost of mitigation by the SPV using insurance policies is lower than the risk premium expressed in the interbank interest rates required by the banks if there was no coverage", or when the insurance is the most cost-effective way to achieve desirable risk mitigation. Even when the surety bond instrument is preferred, there is the question of defining the levels to be guaranteed and other aspects of the contract, as discussed by Portugal Ribeiro (2011).

Insurance and bonds work to align the underlying incentives to produce a jointly favorable outcome for both public and private partners from the project. The relationship between cost and effectiveness in ensuring an infrastructure project is a typically significant risk (Hardcastle and Boothroyd, 2003; Chinyio and Fergusson, 2003). However, this alignment of incentives does not always occur in a reasonable way, since in many cases there are gaps or incompleteness that prevent the achievement of a contract with powerful incentives in the desired sense. This is the importance of institutional voids, which, by preventing the development of contractual incentive systems adequate to infrastructure projects, also impede the development of infrastructure projects of high economic and social value.

On the other hand, there is a line of literature that attributes the development of the market to its legal tradition, and that in this sense common law countries would have a more developed market than civil law or other legal traditions such as religious or the socialist right, as defended by La Porta et al (1998). Based on this analysis, two propositions are made to be tested in this article. The first concerns the institutional gaps that condition the development of the surety bond market as a risk mitigation instrument in electric energy generation projects as well as infrastructure in general.

***PI:** In developed countries markets, such as the United States, the surety bond market offers an effective instrument for risk mitigation in long-term infrastructure projects. In emerging economies such as Brazil, the surety bond market is subject to institutional voids, which increase transaction costs, inhibiting the development of the market itself.*

The insurance market may, under market conditions, develop its own mechanisms for risk mitigation in infrastructure projects. However, there are cognitive dissonances and difficulties in understanding the instrument in the market (Hoffmann and Di Girolamo Filho, 2017) that eventually affect the development of the instrument.

*P2: The Brazilian surety bond market for infrastructure projects presents developmental failures that must be remedied through significant institutional changes.*

## **METODOLOGY**

The methodology of this article is based on an analysis of the case of a project involving surety bond in Brazil and interviews with professionals with experience in the surety bonds in the Brazilian and United States markets. The propositions to be tested will be considered validated if it is identified, from the perception of these professionals, sensitive differences in the ability of the safe instrument to guarantee that it works as a risk mitigator in infrastructure projects. The interviews were based on the case under analysis.

The project considered consists of the Thermoelectric Power Plants (TPPs) foreseen in the New Energy Auctions (NEA) of A-3 and A-5 in 2007 and 2008. In these projects, the Specific Purpose Company called MC2, owned by the CIBE Participações Group (controlled by Bertin and Equipav) was victorious and made a commitment that the projects would have to be ready between 2010 and 2013. The non-development of the projects implies fines imposed by the sector regulatory agency (ANEEL, Agência Nacional de Energia Elétrica) and the obligation to buy energy in the free market (Castro et al, 2010).

Initially, three professionals were interviewed. In order to preserve the identity of the interviewees, we will refer to them as E1 and E3 in relation to the two interviewees in Brazil and E2 in relation to the interviewee from the United States. It is important to note that both are senior professionals with more than 20 years of experience in their respective markets. The characteristics of the interviewees are presented in the following table.

**Table 1 – Characteristics of interviewees**

<b>Interviewee</b>	<b>Position</b>	<b>Country</b>	<b>Experience</b>
E1	Claims Manager	Brazil	23 years
E2	Claims Manager	United States	24 years
E3	Partner in attorney's office	Brazil	21 years

Resource: researchers' elaboration

## **RESULT ANALYSIS**

This section presents the analysis of the case of thermoelectric plants and the interviews carried out.

### ***Analysis of the case of thermoelectric plants***

According to Castro et al. (2010), the resumption of rapid economic growth observed in 2010 resulted in an increase in the consumption of electric energy. This economic scenario has reinstated the issue of the balance between the expansion of consumption and the generation of electric energy in the "order of the day". This question required an analysis of the situation of the new generation projects contracted in the New Energy Auctions (LEN) of A-3 and A-5 in 2007 and 2008, as they would have to be ready between 2011 and 2013.

Still according to Castro et al. (2010), SPE –Specific Purpose Vehicle - MC2, owned by the CIBE Participações Group, was the owner of most of the projects in arrears with contracts for the 2008 auctions. They were twenty-one thermoelectric plants - six of the A-3 auction (delivery in 2011) and fifteen of the A-5 auction (delivery in 2013). These projects totaled an installed

capacity of over 4,500 MW, requiring estimated investments of around BRL 10 billion. However, the CIBE Group was not able to continue with the project as contracted:

*"Aside from the transfer of business location, the delays in the construction of the CIBE Group's plants are possibly related to a capital need that is disproportionate to its financial capacity. The viability of such investments should involve raising third party risk capital, whether in the form of launching shares on the Stock Exchange or in private placement of shares. However, the economic crisis of 2008-2009 closed the market for venture capital funding, frustrating the CIBE Group's plans "(Castro, Brandao and Avila, 2010, p.9).*

In addition to the specific issues of the contracted CIBE Group, Castro et al (2010) point out three general issues in the contracting of thermoelectric power plants:

1. Absence of a mechanism that makes the national planning process compatible with the geographical distribution of the enterprises in the Brazilian regional space, generating unplanned concentration in the Northeast region of the country.
2. Fuel logistics due to unplanned concentration of new customers in the same region without infrastructure capable of supporting such investments.
3. Bias in favor of contracts with fully flexible thermoelectric plants with high variable costs and greater idle time of difficult profitability.

The process design of these plants was also questioned by Castro et al (2010), as follows:

*"Ultimately, one hundred percent flexible and low-probability dispatching thermo contracts imply a too erratic fuel consumption pattern to enable investments in the oil and gas infrastructure. The problems of the 2008 A-3 and A5 auction projects to ensure the supply of fuels indicate that the mass hiring of power plants with occasional dispatch is not a good strategy "(Castro, Brandao and Avila, 2010, p.16).*

## **INTERVIEW ANALYSIS**

In order to make the interview analysis clearer, we structured this topic based on the identification of the most characteristic elements of each commented segment. We clarify, however, that faced with the reality of interviewees' responses, we had to aggregate some variables that somehow show some correlation or dependence.

### ***Product Unfamiliarity and Professional Unpreparedness***

E1 indicated that "although the insurance guarantee has existed for a few decades in the Brazilian market, there is still a great lack of understanding about its rules, especially on the part of the public entity, where, not infrequently, the presentation of the policy is only intended to comply with a bidding requirement, without at least considering its terms and clauses and verifying that the policy, in fact, corresponds to the expectations of the insured and the beneficiary in the event of a claim."

Also, according to E1, "this lack of interest also occurs with other types of insurance and could be considered somewhat symptomatic, because even among people in general there are many who do not even read their policies of automobile, residence or health. For these consumers, the responsibility to understand the policy clause is transferred to the insurance broker who, in turn, may not be so familiar with the product that the policy is adequate to the expectations of the insured, although there is less flexibility on the market in products."

In the case of surety bond, the situation is even more serious, not only because of the figures involved, but because the Insurer's client is the Principle (represented by its respective insurance broker) and not the beneficiary of the policy. In the words of E1, "if the Insured is not advised by a duly authorized professional when the policy is contracted (or not to act diligently in the search to clarify any doubts), the major interested party may receive a paper with a promise of compensation of the losses that the Principle causes, within certain limitations and provided that ... - and there may be surprises. This lack of interest (which in some cases can be considered even negligence) is one of the reasons why many claims processes become litigious."

E1 goes on to point out that "One of the basic principles of insurance is to repair a foreseen contract disturbance, occurred at some point during the the policy term, making the identical conditions immediately preceding the harmful event, and unjust enrichment is forbidden. In damage insurance, the objective is to restore the property as it was before the accident. In the surety bond, the objective is broader, it aims to satisfy the fulfillment of the obligation assumed by the Principle through the main contract."

### ***Bidding Modeling and Regulation***

Based on Girardi and Tisi (2017), for the public service concession contracts, the Fulfillment Guarantee Contract (GFC) is required by express legal provision, provided in arts. 18, item XV, and 23, paragraph one, item II, both of Law No. 8,987 / 95. According to art. 56, § 1 and 2, of Law 8,666 / 93, GFC may be presented in the following modalities: (i) cash collateral, (ii) public debt securities, (iii) surety and (iv) letter of guarantee.

In general, options (i), (ii) and (iv) prove costly in relation to the Surety and this was the option adopted by CIBE when winning the auctions. It is important to stress that, although the choice of the GFC modality is a prerogative of the contractor (CIBE), it is evidently that it is (and was) accepted by ANEEL.

However, CIBE, linked to the Bertin group, was unable to develop its projects, thus being subject to ANEEL fines and the obligation to buy energy in the free market to honor the contracts, previously signed at the auctions, during the delay.

According to Girardi and Tisi (2017), the Agency, through Normative Resolution No. 673/2015, vetoed the acceptability of surety, since the modalities of the Financial Guarantees dealt with in Law 8,666 / 93 apply only to concessions. The motivation, it is known, was that the Agency was having problems with the insurers to receive the amounts when the GFC enforcement.

As mentioned by Girardi and Tisi (2017), the refusal of surety bond acceptance has made it difficult or impossible for small investors to participate, thus harming free competition, which is the general principle of economic activity set forth in art. 170, item IV, of the Federal Constitution of 1988, since other accepted guarantees, such as bank guarantee, require a significant flow of bank capital and bonds to be provided to the financial agent, which is only possible for larger companies.

Girardi and Tisi (2017) continue the subject stating that, with a view to resolving this deadlock, Law 13,360 / 2016 inserted § 11 to art. 26 of Law 9,427 / 96, providing that "in the processes of granting authorization, including in carrying out studies and projects, the agent concerned is allowed to submit any of the forms of bond provided in § 1 of art. 56 of Law No. 8,666 of June 21, 1993.

Unlike other modalities of GFC, the Surety Bond is a different institute, where the Insured (in the ANEEL case) must prove its losses.

In the cases of public procurement, E1 indicates that "in Brazil governments have been demanded faithful guarantees contracts (GFCs) that represent a percentage of the value of the contract (usually 5%, 10% - there are discussions to increase to 30 %) and, generally, the policies cover the fines imposed by the public administration. "

Analyzing all of these points within a mature market such as the US, E2 indicates "that the warranties expressed in the policies can reach 100% of the contract value" (this may vary, since the competence of this subject there depends on each State), which makes project completeness more feasible.

Still in the ambit of the Brazilian public procurement procedure for infrastructure, and specifically in the energy sector, E1 emphasizes that "ANEEL has the role of establishing the respective rules, aiming at a future supply of energy. That is, ANEEL does not buy plants, it does not own the project - investment and risk are transferred to private initiative. "

Asked if this type of surety guarantees the completion of an infrastructure project, E1 ponders that "it depends on contractual formatting and probably not only one, but a set of policies can offer at least the restoration of the disruption arising from the non-realization of the enterprise, if it does not offer the finalization of the project. In this aspect, in addition to involving other types of insurance, such as engineering risks, it is important to note that in the surety bond there may be several impaired people in a claim and not all of them, affected by a delay, default or insolvency of principle are covered by the policy. "

Similarly to E1, E3 understands that "insurance, if not the main, is one of the main risk mitigation tools, and in a project finance there is a set of policies that can provide the completeness of the project: beyond engineering risk insurance, bond performance and credit insurance (which guarantees the receivables that will be generated after project completion) - not that they are tools that will solve 100% of the problem, but in large part they can allow an financial agent feels more comfortable in participating in the project because it knows that there are certain risks covered by third parties. "

However, in the new energy bidding model, the objective is the future supply of energy to the market - the construction of the plants is the responsibility of the winning bidder. That is, the execution of the work itself is guaranteed by the entrepreneur himself - it is the risk assumed by the latter, which, as a rule, is not transferable if the resources used are proper. However, if there is any financing, it is legitimate for the lending agent to require a completion bond.

Another important aspect to mention is the fact that the winning bidder still signs future energy supply contracts with the concessionaires. At the moment the plant does not start up, as planned, the concessionaires may suffer losses, as they will not have (promised) energy available. For these dealers, it is also licit the requirement of surety bond. As E1 explains, "for each contract where there is some type of risk (the contractor does not perform or perform the agreed upon) it is possible to contract a surety policy, and the losses covered are those experienced by the obligee (insured) himself, it is not licit to claim losses suffered by others. "

Asked what would be the factors that caused the non-efficiency of insurance in the Bertin case, E3 indicated that "the problem is conceptual, and this is valid for other cases in the market: how to set up a concession structure or authorization compatible with the insurance structure. The granting power, or the power that gives authorization, is unaware of the insurance tool. It does not make your product that is the bid compatible with the insurance instrument, so it requires

(the guarantee) but does not suit your needs. "And continues:" It's all a matter of modeling, the person should know what he is doing. Apparently, some notices issued by ANEEL came out with the expectation that the bond was to pay what would be a contractual fine already known (or quantifiable) on the public procurement itself - would be like pre-agreed damages different from the regulatory fine. "

Asked that this contractual fine was not reversed to the project, E3 explained that "there are two regimes: [1o] in the concession regime that fine could be destined to the finalization of the project, since the granting authority has an interest in that the highway or hydroelectric , for example, is finalized; [2o] in the authorization regime, what happens is the loss of the authorization, the State loses interest in that asset, nor it is a good returned to society - often the asset belongs to the private entity. However, such a fine (contractual) could be used to cover, for example, the surcharge of the 2nd place bidder if it is still interested in the project. "

E2 explains that "bond surety in the US is quite widespread, and that both private and government entities know how the product works, and the Bertin case, within a US reality, could possibly be settled administratively, responsibility could be tied to collateral policies, making a kind of network around the project. However, the construction of the plants could not be solved in a simple way, since Bertin used only equity for the execution of the works, and there was no agent financing the project that could require, for example, a completion bond with an expressive percentage in relation to the project. "

When we asked E2 to list the elements that, in his opinion, make the surety bond in US an effective risk mitigation instrument, he listed:

- "1) it actually guarantees the completion of the work rather than just the cash payment;*
- 2) it guarantees the payment of subcontractors and suppliers in the sense that, for the project owner, it maintains the continuity of work and the flow of materials.*
- 3) covers the guarantee obligations of a contractor. Consequently, if the contractor fails, the bond will cover the guarantee.*
- 4) The surety bond is independent of the request for judicial recovery of the contractor. Consequently, if the contractor joins a request for judicial recovery, the bond is still responsible for compliance with the contract.*
- 5) In the United States, the sum of our securities starts at 100% of the underlying obligation. This contrasts with other countries, where they do not reach that level.*
- 6) In the event of a delay, surety bond professionals get involved to help solve the problem, so it's more than just paying cash damages, it's troubleshooting and mitigation services".*

### ***Juridical uncertainty***

However, for all this gear to work, E1 stresses that "it is necessary to make effective the credit recovery instruments used by the Insurers, in the sense of having a better balance between indemnities paid and the amounts reimbursed. Currently, counter-guarantee contracts (CCGs) are not considered as executive bonds and force the Companies to file "monitória" lawsuits in court to try to recover the amounts disbursed. This step, plus the execution action, can cause the final sentence to take more than a decade to be taken. In the meantime, the principal may even cease to exist, and it is not an easy task to deconstitute legal personality. It is not too much to mention the fact that it is very common in Brazil for debtors to use the slowness of justice and all their subterfuges as a shield to manage their debts. "

An important piece of evidence presented by E2 relates to "indemnity agreements" ("CCGs") which "have weight and force in the US Court, and the final decision can be obtained in a maximum of 1-2 years, by simple action in Justice, in addition to not being difficult to reach the personal patrimony of the partners."

E2 emphasizes another instrument that, "while not so common at the time of US underwriting, is the request for real guarantees, which likewise to CCGs are legally simple to be reached."

Asked whether he sees judicial discussions as hindering or delaying the completion of projects, E3 stated that "an infrastructure project cannot wait 10-15 years to be finalized because of a loophole for legal discussion and that it can lead to 10 years. Everyone has to work to ensure that the product is adequate and, at the moment it is activated, to fulfill the function it proposes. Legal discussions draw the appeal of the project. In Brazil, there is no guarantor instrument that works to the full. Banks look at the guarantees knowing they cannot count on them. When guarantees do not work, spreads increase. There is even a case of two Brazilian companies that made a guarantee abroad because in Brazil they concluded that they would not have the desired liquidity locally."

Table 1 – Elements that make transaction costs high, according to their nature, timing and attribute:

NATURE	TIMING		Consequence
	Ex-ante	Ex-post	
ESTRUCTURAL	Product concept		UNCERTAINTY (Transactional)
	Time of existence of the product, its diffusion and knowledge of the same		
	Professional unpreparedness		
LEGAL, REGULATORY e JURIDICAL	Legal structure	Juridical uncertainty	UNCERTAINTY (Transactional)
	Regulation		
	Bid modeling		
TEMPORAL	Contractual longevity		UNCERTAINTY (Economic scenario)

**Table 2 – Lashing Matrix** (it is under development and needs contributions)

Objectives	Theoretical Foundation	P	Variables
Identify the elements that make surety bond an effective risk mitigation tool with lower transaction costs in mature markets	Law and Finance (Lerner e Schoar, 2005; Beck e Levine, 2005; Mahoney, 2001)	P1	<ol style="list-style-type: none"> <li>1. Time of existence of the product and its diffusion / knowledge;</li> <li>2. Product Design;</li> <li>3. Legal Structure.</li> </ol>
Identify the transaction costs in the Brazilian surety bond market in infrastructure projects	Literatura de Teoria dos Custos de Transação (Williamson, 2012; Marques e Berg, 2010 e 2011; Zhou e Poppo, 2010; Macher e Richman, 2008)	P2	<ol style="list-style-type: none"> <li>4. Product unawareness;</li> <li>5. Professional Unpreparedness;</li> <li>6. Bidding Modeling;</li> <li>7. Regulation;</li> <li>8. Legal insecurity</li> </ol> <p>8.1. CCG legally ineffective;</p> <p>8.2. Judiciary slowness;</p> <p>8.3. Difficulty in achieving disregard of legal personality.</p>

## CONCLUSION

This article, through an analysis of a project with a judicial outcome and interviews with professionals from surety bond market in Brazil and the United States, has qualitatively identified that the attributes involved in the transactions invariably offer a low frequency and high specificity of the asset that, for alone, already make transaction costs high.

On the other hand, the uncertainty observed in emerging markets such as Brazil is quite significant, and there are several factors that contribute to this, whether structural, legal, regulatory or juridical, or even the long-term transactions in infrastructure markets.

The present paper also validated the proposition that the dissonances present in emerging economies raise the transaction costs involved in the surety bond market. Firstly, by validating P1, judicial risk plays a significant role in the legal certainty of the use of the instrument in Brazilian jurisdiction. Specifically, the US equivalents to Brazilian counter-guarantee contracts have weight and force in the US Court, of 1-2 years, without affecting the personal patrimony of the members.

In contrast, in Brazil, credit recovery instruments used by insurers are not effective and counter-guarantee contracts (CCGs) are not considered as executive bonds and force the companies to file monetary actions to recover amounts, with the slowness of justice Brazilian

In the case of the Brazilian thermoelectric plants analyzed, the discussions that take place in court are the result of the lack of knowledge and adequate use of the lack of product adequacy.

Thus, the high transaction costs can be a result of the low development of the respective market. Such development may depend on the accumulation of experience of its actors or the entry of new international players that are familiar with similar instruments already implemented (and adapted) to different markets, especially in the developed countries.

It was also evaluated in this article that the Brazilian surety bond market in infrastructure projects contains cognitive dissonances that reflect the low coordination among the participating agents, as well as the lack of legal, regulatory and juridical impulses that could enhance the use of the instrument. This preliminary finding, which to be validated depends on more interviews, reflects what was tested in proposition P2.

The article presents preliminary conclusions, since the research is in progress. The main weaknesses are the limited number of interviews and the existence of a single case available for analysis. The next steps of the research include the interview with a broader base of sector actors and the more rigorous methodological treatment of the interviews using specific software.

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*Track 12 Public-Private Partnerships in Infrastructure*

**ID #588**

**International Experience of Public-Private Partnership in  
Urban Infrastructure**

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**Abstract**

*Public-Private Partnerships have been proven successful in supporting the development of infrastructures around the world. However, many projects remain challenging, mainly because despite the support of the private initiative, local authorities continue to have limited availability of resources to implement urban projects. What have cities achieved? In any case, have impact projects been made feasible? Which international experiences are relevant? The debate should bring information from four different perspectives: legal-institutional, economic, urban-social, and engineering. Among the suggestions to the panelists are cases of success and failure, with explanations, as well as new alternatives of business mobilities that can leverage projects so that real estate valuation can be captured.*

**Keywords:** Public-Private Partnership; Urban Infrastructure; International Experience.

**Acknowledgments**

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*Track 12 Public-Private Partnerships in Infrastructure*

**ID #605**

**Determinants of private sector participation in water and sewage in Brazil: the role of concentration and regulation**

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**Abstract**

*This article aims to analyze the issue of market concentration and regulation in private investment in operations of the basic sanitation sector in the Brazilian states. Econometrics with a logistic regression model with logit connection applied to panel data were used as methodology. For the data collection, the National Information System on Sanitation (SNIS) was used, as well as data provided by Pezco Economics. The results indicate that the existence of a functioning regulatory agency is relevant to private sector investment, while the concentration of the destination state market is negatively related to private capital investment.*

**Keywords:** Brazil; Infrastructure; Water And Sewage; Private Sector Participation; Concentration; Regulation..

**Acknowledgments**

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## **INTRODUCTION**

The determinants of private sector participation (PSP) in infrastructure sectors are idiosyncratic in relation to sectors not subject to the intense market failures that characterize them, both in the case of entry into the international environment (Sarkar et al, 1995; Doh et al, 2004) and investment object of this article. Particularly noteworthy are discrete entry opportunities (*windows of opportunity*) and an important role for elements such as regulation (Ramamurti, 2004; Kirkpatrick, 2006) and concentration (Dikova, 2007; Ito, 2002).

The Brazilian federative environment presents a good scenario to put the theory to test, in the context of a varied national market in regional submarkets with relatively autonomous jurisdiction, in a federative configuration. In the Brazilian market the configuration is very particular, with 27 State Basic Sanitation Companies (CESBs), occupying the provision of services in most major municipalities, more attractive to private sector investment. Thus, the opportunities of entry, that is, "windows of opportunity" as defined by Sarkar (1995) in the analogous context of foreign investments, are also limited in domestic investments. In "markets" with less weight of CESBs the windows of opportunity would be more frequent.

## **LITERATURE REVIEW AND HYPOTHESES**

This section discusses the literature that relates concentration, regulation and entry, defining characteristics of the markets for public infrastructure services, particularly water and sewage markets.

### ***Economic characteristics of the water and sewage business***

Differently from most sectors, infrastructure is marked by very high fixed costs, and its capital is highly specific. Investments are of a very complex nature particularly those of greenfield type (Sader, 1999). Those characteristics lead to relatively low ex ante incentive to investment, demanding regulatory action by the governments. Against that background, the typical infrastructure company bears risks that are different and often higher than those born by average corporations.

### ***Regulation***

Within the natural monopoly context, an efficient producer will have power to set prices above the marginal cost of production, a penalty to consumers that will distort allocative efficiency. To preserve efficiency, countries often concede monopoly rights to a producer, either a State-owned company, or a private sector operator, in the latter case the operator being subject to strict price or rate-of-return regulation (Braeutigam, 1999; Viscusi et al, 2005). Regulation is in itself a complex world to deal with and may involve a set of different actors with which the firm will have a relationship, and other government players in a complex set of multiple regulators and relevant actors (Viscusi et al, 2005; Sampaio, 2009).

### ***Concentration and entry***

The studies that relate concentration and entry refer mainly to entry into foreign markets. These include Dikova (2007) who connected in his study the question of establishing the input mode by analyzing the choice between an acquisition and a greenfield investment, with studies on the choice of input mode that could be the total participation in the investment or the establishment of a subsidiary, the author argues that the arguments that led to the introduction of the concentration of the host market, as well as growth as controls, are derived from the logic of

transaction costs, among its conclusions the author pointed out that in of the transaction costs domain there are certain factors that influence both the decision to establish a new company and an acquisition. The choice between total control and shared ownership, multinational technological intensity and international strategy influence the decision of foreign investment regarding the mode of entry and provided empirical support to show that investment decisions, typically explained by transaction costs, are in fact influenced by institutions, and acquisitions are desirable only in very advanced institutional settings. Caves (1974, p.176) studied FDI in the manufacturing sector in two host countries - Canada and Australia and argues that the search for evidence of the effects of multinational corporations needs little defense at a time when host countries and countries of origin are inclined to restrict their activities and stresses that the gains obtained by the host country are derived from the income tax charged by the subsidiaries as well as the value generated by the productivity resulting from the research carried out in the country.

Other studies related to destination concentration were carried out, such as Xie (2011), who addressed the issue of positioning after the entry of foreign companies into host markets, stating that market concentration affects the strategic positioning of foreign companies and institutional distance between countries of origin and destination has moderating effects, Gama et al (2016), who analyzed the extent to which the commitment of resources in the internationalization of the family business group is associated with the institutional distance of the country of destination, Silva (2005), which examined the internationalization of Portuguese companies in Brazil, particularly in light of the contributions of the Nordic school and the OLI - Ownership, Location, Internalisation paradigm – Arregle (2007), which pointed out that there are costs and risks associated with the concentration of activities in a particular country or region, and this can create competition intense and inefficient in companies with many subsidiaries exposing companies to unnecessary political and economic risks.

The authors also focused on the study of destination concentration: Ito (2002, p.593), who analyzed the nature of the international competition among multinational firms in the tire industry using, among several structures, the question of the characteristics of the destination country, McDermott (2008), which studied what types of relational and institutional mechanisms shape the knowledge flows and modernization capacities of emerging market firms in economic liberalization by analyzing the Argentine auto parts industry to investigate the impact of reforms on a host country, Sawant (2008) who developed a theoretical framework to explain why multinational corporations invest in infrastructure through Project Finance mode and comment on the effect of debt in the host country, Goerzen (2013) addressed the issue of liability of foreignness in the markets of the host country, or Braunerhjelm (2010) on the influence of the characteristics of the host country on locating foreign production.

### ***Investments in domestic water infrastructure markets: hypotheses***

Private sector investments in domestic infrastructure markets are not as straightforward as in other sectors that are not subject to strong market failures such as natural monopoly characteristics. Against that background, the hypotheses are:

*H1: Concentration in the target market hinders entry of new private sector players.*

*H2: Regulation favors entry of new private sector players.*

Concentration here is measured by municipal operations in each Brazilian State. The centrality of the state sanitation companies was derived from the National Sanitation Plan - Planasa, which was implemented in the military government by the National Housing Bank experimentally in

1968 and formally in 1971. According to Souza (2016, p.6) the rise of the military to power ended up with the political mobilization capacity of the Ministry of Health in relation to the establishment of sector priorities. The author argues that the progressive adoption of a concept based on the individualization of the disease has opened space for assistance models to be adopted in the case of public health, leaving the sanitation actions to the burden of the construction and housing sector, a process that culminated in the creation of the Planasa. According to Souza (2016, p. 2) state enterprises were run by their own executives and would act for almost two decades according to the guidelines imposed by the Union for the sector. Even after the military dictatorship, the institutional and technological structure created by Planasa survived practically unchanged through the operation of state sanitation companies.

## **METHODOLOGY**

### ***Data collection***

The database used in this work was obtained through the National Information System on Sanitation (SNIS), which was conceived and developed by the Sanitation Sector Modernization Program (PMSS), linked to the National Secretariat of Environmental Sanitation (SNSA) of the Cities - MCIDADES, as well as information provided by Pezco Economics. The variables considered in this article were: (a) the total resident population of the municipality (s) with water supply, which refers to the sum of the total resident population (urban and rural) of the municipalities where the services work with water supply services. It includes both the beneficiary population and those who do not benefit from the services. For each municipality is adopted in the SNIS the estimate made annually by the IBGE, or the populations obtained by means of Demographic Censuses or Population Counts also of the IBGE; (b) the density of water savings per link, which refers to the relationship between the number of active water connections and the number of active water savings and represents the number of active water savings to the public network, which were in full operation on the last day of the year; (c) the average water tariff (R\$ / m<sup>3</sup>); (d) the productivity index given by the relation between active and total personnel; (e) the urban water supply index; (f) the Herfindahl Hirschman index (HHI), which presents the concentration of the sanitation market in the municipalities analyzed and is calculated as the sum of the squares of the market shares of the companies operating in the sector and varies between zero (no concentration) and 10,000 (monopoly) and (g) regulation, an explanatory dummy variable that shows the municipalities that have or do not have a functioning regulatory agency.

### ***Data Analyses***

A linear regression is the study of a variable to be studied, called a dependent variable, in function of other variables that should help to understand the behavior of this variable, called independent variables. In some cases, the explanatory variables have a binary nature (presence or absence, positive or negative, etc.). For Wooldridge (2016: 647), a binary dependent variable is an example of a bounded dependent variable, which is defined as a dependent variable where the range of values is substantially restricted.

Although the linear probability model is easy to use and estimable, it has disadvantages, according to Wooldridge (2016), the most relevant are the possibility that the adjusted probabilities are smaller than zero or greater than one and the partial effect of the explanatory variable is constant. More sophisticated models can serve as balances to such disadvantages as

in those models the focus is on the probability of response  $P(y = 1|x) = P(y = 1|x_1, x_2, \dots, x_k)$ , where  $x$  represents the whole set of explanatory variables.

Binary response models present the following form:

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \dots + \beta_k x_k) = G(\beta_0 + x\beta) \quad (1)$$

where  $G$  is a function that assumes values between zero and one for all real  $z$  numbers. In the Probit Model,  $G$  is the standard normal cumulative distribution function, given by the expression:

$$G(z) = \Phi(z) = \int_{-\infty}^z \Phi(v)dv \quad (2)$$

In the Logit Model,  $G$  is the standard normal cumulative distribution function, given by the expression: where  $\Phi(v)$  is the standard normal density given by  $\Phi(v) = (2\pi)^{-1/2} \exp(-z^2/2)$ . The advantage of using Probit lies in the fact that the model can be derived from an unobserved variable, called latent variable, in conjunction with the standard normal distribution function. The result of this model is given by the values of  $\beta$  and can be understood as the signal of the impact that an explanatory variable has on the explained variable, therefore of  $\beta$  is negative the variation of the explanatory variable will reduce the probability that the explained variable is equal to one, if it is positive, the variation of the explanatory variable will increase the probability that the explained variable equals one (IICA, 2018).

In the Logit Model,  $G$  is the standard normal cumulative distribution function, given by the expression:

$$G(z) = \exp(z)/[1 + \exp(z)] = \Lambda(z) \quad (3)$$

and is between zero and one for all real  $z$  numbers, this being the cumulative distribution function of a standard logistic random variable. According to Lindner (2016) logistic regression is characterized by the quantity of values to be discretized. If there are only two options, logistic regression is called binomial, also called Binomial Logit Model, if there are more options, the regression is generalized and named multinomial, also called the Multinomial Logit Model. Lindner (2016) points out that Logistic Regression allows the use of a model (curve in S) to predict the probability  $\pi$  of a categorical event, and the modeling of the S curve is given by a logistic transformation of the probability  $\pi$ , according to equation (4):

$$g(x) = \ln(\pi / (1 - \pi)) \quad (4)$$

from this being derived the calibration equation  $g(x) = \beta_0 + \beta_1 x_1 + \dots + \beta_k x_k$ , (5)

where betas are the coefficients of the calibration equation and  $k$  is the number of independent variables.

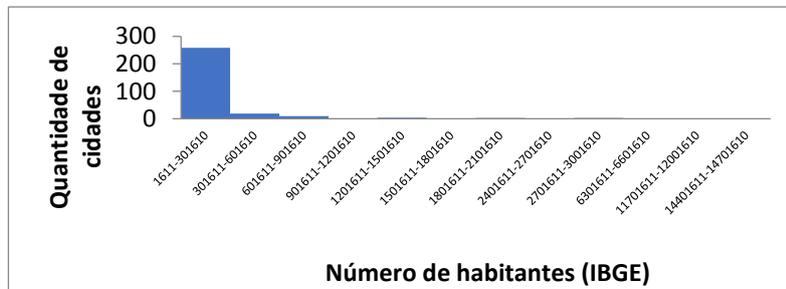
For Wooldridge (2016) the most difficult aspect of logit and probit models is the presentation and interpretation of results, according to the author: the coefficient estimates, their standard errors and the log-likelihood function value are described by all programs running logit and probit, and this information must be described in any application. The coefficients give the signs of the partial effects of each  $x_j$  on the probability of response, and the statistical significance of  $x_j$  is determined by the condition that we can reject  $H_0: \beta_j = 0$  at a sufficiently small significance level (WOOLDRIDGE 2016, p.654).

To interpret the results, we must define a binary predictor of  $y_i$  as being equal to one if the expected probability is at least 0.5 and zero in the inverse situation, that is:

$\bar{y}_i = 1$  se  $G(\beta_0 + x_i\beta) \geq 0,5$  e  $y_i = 0$  se  $G(\beta_0 + x_i\beta) < 0,5$ . With  $i$  varying from 1 to  $n$ , one can verify the degree of perfection with which  $\bar{y}_i$  predicts  $y_i$  throughout all observations. Four possible outcomes are possible for each pair  $(y_i, \bar{y}_i)$ , when both are equal to zero or equal to one, the prediction is correct, in cases where one of the pairs is equal to zero and another pair is equal to one, the prediction is incorrect. The percentage correctly predicted is the percentage of times  $y_i = \bar{y}_i$  (WOOLDRIDGE, 2016).

The model used in this paper studies the propensity of municipalities to receive private investment based on market concentration (HHI) and other elements, ie  $PRIVATE = f(X_i)$  and the logit regression model with logit linkage was used (PAULA, 2013), since we have all covariables and seek to understand the odds ratio associated with the private investment decision. In the computational implementation of the model studied was used the program RealStats which is an EXCEL supplement.

The predictor variables were: dummy variables for the identification of the years 2014, 2015 and 2016, with 2014 being the reference year; population (pop); density of water savings per connection (densid); average water tariff (R \$ / m<sup>3</sup>); productivity index (produit); index of urban



service (attend); HHI and regulation.

The total population (pop) resident population of the municipality with water supply had to be transformed, via natural logarithm, to fit the scale of the other variables, since it presented a lot of asymmetry, as shown in the picture below.

**Picture: Asymmetry of the variable total resident population of the municipality with water supply (IBGE)**

## ANALYSIS OF RESULTS

The response variable was the propensity to receive private investment based on the concentration of the state market and other elements. Thus, the result of the following Table was obtained.

**Table: Model PRIVADO = f(X<sub>i</sub>)**

	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>
Intercept	-10,744	5,047	4,531	0,033	0,000		
2015	-0,072	0,266	0,073	0,787	0,931	0,553	1,567
2016	-0,378	0,272	1,931	0,165	0,685	0,402	1,168
ln(pop)	-0,400	0,092	18,756	0,000	0,670	0,559	0,803
densid	0,932	0,574	2,635	0,105	2,539	0,824	7,825

	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>
tarifa	0,635	0,098	41,868	0,000	1,888	1,557	2,288
produit	0,005	0,001	53,070	0,000	1,005	1,003	1,006
atend	0,101	0,049	4,310	0,038	1,106	1,006	1,217
Hhi	-3,154	0,561	31,552	0,000	0,043	0,014	0,128
Regulacao	0,998	0,273	13,408	0,000	2,713	1,590	4,629

The effect of time on the propensity for private investment has not been found out here. However, variables such as the logarithm of the population and the index of urban service remained in the model. On the other hand, the density variable presented p-value greater than 5%. And therefore, it was excluded from the next step.

**Table: Model PRIVADO = f(Xi), excluding non-relevant covariates**

	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>
Intercept	-10,5423	5,0560	4,3475	0,0371	0,0000		
ln(pop)	-0,3441	0,0864	15,8764	0,0001	0,7088	0,5984	0,8396
tarifa	0,6453	0,0936	47,4962	0,0000	1,9065	1,5869	2,2906
produit	0,0047	0,0007	52,3133	0,0000	1,0047	1,0035	1,0060
atend	0,1022	0,0487	4,4117	0,0357	1,1076	1,0069	1,2185
hhi	-3,1291	0,5566	31,6102	0,0000	0,0438	0,0147	0,1303
regulacao	0,9735	0,2700	12,9963	0,0003	2,6473	1,5593	4,4944

The previous table presented the solution of the logistic regression model for the propensity of private investment. Thus, it can be seen that:

- Population: the increase of the population in 100% reduces the chance of the private investment in 29.12%, keeping the other constant variables;
- Tariff: The increase of the tariff in one unit increases the chance of private investment in 90.65%, keeping the other variables constant;
- Productivity: increasing the productivity index by one unit increases the chance of private investment by 0.47%, keeping other variables constant;
- Attendance: the increase in the attendance rate in one unit increases the chance of private investment in 10.76%, while other variables remain constant;
- HHI: the increase of HHI in one unit decreases the chance of private investment in 95.62%, keeping the other variables constant;
- Regulation: The fact that a municipality has a functioning regulatory agency increases the chance of private investment by 164.73%, while the other variables remain constant.

## DISCUSSION

The cut-off point of 0.5 was used to obtain the classification matrix. Receiver Operating Characteristic (ROC) curves can be used to study the sensitivity and specificity of the model for different cutoff points.

Picture: ROC curve for the PRIVATE investment model



Table: Gain of classification in modifying the cut-off point for the model

Cut-off point = 0.5			
	Success-Obs	Failure-Obs	
Success-Pred	28	16	44
Failure-Pred	101	758	859
	129	774	903
Cut-off point = 0,20			
	Success-Obs	Failure-Obs	
Success-Pred	92	116	208
Failure-Pred	37	658	695
	129	774	903

In doing an exercise, in relation to the modification of the cut-off point for prediction, however, it was chosen to modify it to the value 0.2, an accuracy of 71.32 % in the number of prediction hits of a municipality that received private investment. Another relevant feature is that time has not shown to be a relevant variable in either model. It should also be noted that the variable density was not relevant in explaining the investment.

The main factor for private investment inflows is the need for the municipality to have a functioning regulatory agency, since this variable is the one that maximizes the acquisition of capital. Last but not least, the role of the HHI variable stands out because its increase is the indicator that most distances private capital investment.

We then conclude that both measures introduced in this paper, namely market concentration and presence of regulation are relevant for private investment in operations of the water sector in the Brazilian states. The results indicate that the existence of a functioning regulatory agency is increases private sector investment, while the concentration of the destination state market is negatively related to private capital investment.

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*Track 12 Public-Private Partnerships in Infrastructure*

**ID #606**

**The market concentration and its impacts on the internationalization of companies in the basic sanitation sector**

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**Abstract**

*This article aims to analyze the issue of market concentration in the internationalization of companies in the basic sanitation sector. The choice for this theme is justified by the gap in the literature regarding the entry of infrastructure companies into emerging markets, particularly in the topic that involves the concentration of destination markets. The methodology used was based on the quantitative, using econometrics in a logit regression model with logit link applied to panel data. Data were collected using the National Sanitation Information System (SNIS) and data provided by Pezco Economics and Business Intelligence. The period analyzed was from 2014 to 2016 and covered 301 municipalities in Brazil. As a result, it was found that the existence of a regulatory agency in operation in the municipality and the increase of the tariff in one unit increase the chances of foreign direct investment and that the increase of the HHI and the density of economies per connection in a unit decrease the chances foreign direct investment. It is relevant to point out that, from the perspective of the researched literature, concepts are presented from a theoretical framework that was developed based on reflections presented by authors like Doh and Teegen (2000), Dunning (2009), Ramamurti (2000), Sarkar, Cavusgil and Aulakh (1999), among others. This study hopes to contribute knowledge related to the internationalization of companies in emerging countries.*

**Keywords:** Basic Sanitation; Internationalization; Market Concentration; Regulation.

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## **INTRODUCTION**

The current economic scenario is increasingly characterized by the interdependence between countries creating opportunities for companies to operate in other markets, not only through exports, but in a more comprehensive way, effectively acting in the international market through investment direct, joint venture, license and franchise. For Root (1994) the mode of entry into an international market is an institutional arrangement that allows the entry of the products, technology, human skills, management or other resources of a company in the international markets. According to Garrido (2006, p.3) entry strategies in an international market include objectives, goals, resources and policies that will guide the international business of a company until it can achieve sustainable growth in the foreign market.

With regard to the literature on the internationalization of companies, several authors have contributed with different perspectives, and the most recent reviews of the literature classify them in two lines of research: internationalization approaches based on economic criteria where (pseudo-) rational solutions for the issues arising from the internationalization process, oriented towards a decision-making path that would bring the maximization of economic returns and internationalization approaches based on the evolution where the internationalization process would depend on the attitudes, perceptions and behavior of decision makers that would be guided by reduction in decisions about where and how to expand. (Anderson, 2002; Räisänen, 2003).

The sanitation sector, according to Souza and Turolla (2010), presented in the last decades of the twentieth century an intensification in the internationalization process, giving rise to multinational companies in the infrastructure sector. Despite this, Souza and Turolla (2010, p. 1) point out that "[the] literature has practically no relevant studies on the internationalization of the sanitation sector, a service segment of vital importance for all countries", which corroborates the importance of this study.

Basic sanitation consists of an activity that mainly manages the supply of drinking water, sewage collection and treatment, among other activities of similar relevance and its importance is linked to the implementation of public or private systems and models that promote water supply of water and sanitary sewage, aiming at the prevention and control of diseases, the promotion of healthy and hygienic habits, improvements in basic public cleaning and, consequently, the quality of life of the population. Concern about the efficiency, quality and universality of basic sanitation services is justified, since these aspects are fundamental to the quality of life of the population since this sector has direct impacts on public health, the environment and development the country.

The problem that this article seeks to address is whether market concentration affects internationalization in the destination for the sanitation sector, that is to say - to verify if there is a greater propensity to enter foreign companies in more concentrated markets, with few operators or in more decentralized markets, with more operators. For this purpose, 301 municipalities of the 27 Federative Units of Brazil were analyzed in the period from 2014 to 2016.

This study is justified by the gap in the literature regarding the entry of infrastructure companies in emerging markets, particularly in the topic that involves the concentration of destination markets. Ramamurti and Doh (2004) point out that increased foreign direct investment (FDI) in developing countries in the 1990s resulted in a sharp increase in demand for such investments in host countries, which courted foreign investors as a last resort to meet their huge repressed demand for roads, telephone lines, ports and electricity.

The Brazilian federal environment presents the ideal scenario to test this theory in infrastructure sectors. In the Brazilian market the configuration is very particular, with 27 CESBs - State Utilities of Basic Sanitation, occupying the provision of services in most of the larger municipalities, more attractive to FDI. Thus, the opportunities of entry, that is, "windows of opportunity" as defined by Sarkar (1995), are limited. In "markets" with less weight of CESBs the windows of opportunity would be more frequent. This is an institutional aspect of infrastructure markets that is relevant to FDI. The remainder of this article proceeds as follows, literature review and hypothesis development, then the methodology used and finally the discussion and conclusion of the article are presented.

## **LITERATURE REVIEW AND HYPOTHESES**

Studies on destination concentration were carried out by several authors, among them, Dikova (2007, p.1023) connected in his study the question of establishing the mode of entry, analyzing the choice between an acquisition and a greenfield investment, with studies on the choice of the mode of entry that could be the total participation in the investment or the establishment of a subsidiary, the author argues that the arguments that led to the introduction of the concentration of the host market, as well as the growth as controls, are derived from the logic of the transaction costs, among its conclusions the author pointed out that within the domain of transaction costs there are certain factors that influence both the decision to establish a new company as an acquisition. The choice between total control and shared ownership, multinational technological intensity and international strategy influence the decision of foreign investment regarding the mode of entry and provided empirical support to show that investment decisions, typically explained by transaction costs, are in fact influenced by institutions, and acquisitions are desirable only in very advanced institutional settings. Caves (1974, p.176) studied FDI in the manufacturing sector in two host countries - Canada and Australia and argues that the search for evidence of the effects of multinational corporations needs little defense at a time when host countries and countries of origin are inclined to restrict their activities and stresses that the gains obtained by the host country are derived from the income tax charged by the subsidiaries as well as the value generated by the productivity resulting from the research conducted in the country.

Other studies related to destination concentration were carried out, such as Xie (2011), who addressed the issue of positioning after the entry of foreign companies into host markets, stating that market concentration affects the strategic positioning of foreign companies and institutional distance between countries of origin and destination has moderating effects, Gama et al (2016, p.328), who analyzed the extent to which the commitment of resources in the internationalization of the family business group is associated with the institutional distance of the country of destination, Silva (2005, p. .103), which examined the internationalization of Portuguese companies in Brazil, particularly in light of the contributions of the Nordic school and the OLI - Ownership, Location, Internalisation, Arregle (2007, p.102) paradigm, which pointed out that there are costs and risks associated with the concentration of activities in a particular country or region, and this can create competition intense and inefficient in companies with many subsidiaries exposing companies to unnecessary political and economic risks.

Others authors also focused on the study of destination concentration: Ito (2002, p.593), who analyzed the nature of the international competition among multinational firms in the tire industry using, among several structures, the question of the characteristics of the destination

country, McDermott (2008), which studied what types of relational and institutional mechanisms shape the knowledge flows and modernization capacities of emerging market firms in economic liberalization by analyzing the Argentine auto parts industry to investigate the impact of reforms on a host country, Sawant (2008, p.1036) who developed a theoretical framework to explain why multinational corporations invest in infrastructure through Project Finance mode and comment on the effect of debt in the host country, Goerzen (2013, p. addressed the issue of liability of foreignness in the markets of the host country, or Braunerhjelm (2010, p.833) which addressed the influence of the characteristics of the host country on locating foreign production.

The locational preferences of foreign direct investors have been the object of study in the internationalization of companies, Dunning (2008, p.9) states that the literature has long recognized that this will not depend on the types of activities in which they are engaged, but on the motives of investment and whether this investment is new or sequential. The author argues that different types of investment incentives are needed to attract the entry of multinationals seeking natural resources, while export-oriented firms are less influenced by the size of the local market than FDI seeking to replace imports.

With respect to public infrastructure services, Turolla (2005, p.2) points out that these services are subject to the market failure known as natural monopoly, where the presence of high fixed costs in highly specific capital generates a dilemma between productive efficiency and efficiency as well as an ex ante sub-investment incentive. The author also emphasizes the uncertainty associated with the long maturation of projects and the possibility of changing conditions over time, factors that reduce incentives for private capital investment. Due to the high initial fixed costs for the construction of the minimum infrastructure being much higher than the marginal cost for the provision of one or more service units, the entry of a second competitor into the market would be economically inefficient, which is why this sector has its services rendered by public authorities or through public-private partnerships involving a single service provider.

In the sanitation sector, the fixed costs arising from the construction and maintenance of reservoirs, water treatment plants and distribution networks are more significant than short-term incremental costs represented by marginal opportunity costs such as depreciation of facilities, According to Sampaio (2009, p. 673), which means that the average cost is declining, so for a single producer in that market, there will be economies of scale when a unit of production cost decreases according to the increase in the level of production, which means that the only producer is more productive, since it operates at a minimum cost or maximum net revenue.

In order to guarantee the efficiency of the operators in the presence of the subadditives of costs, they are the franchise auctions that are auctions by the market and present contracts that foresee periods of protection that reach several decades. Williamson (1985) examines the contractual details related to the implementation of the franchise auction and states that the effectiveness of this type of auction when used as an organizational response to the problems arising from the natural monopoly varies from According to the circumstances, the main one being asset specificity, the author emphasizes that the literature for natural monopolies recognizes the limits of regulation, but deals with contractual issues in a very incomplete way because it does not examine how alternative arrangements will effectively work in practice, which makes franchise auction enthusiasts claim too much for the effectiveness of that organizational alternative, even though the limits of regulation are multiple, the mere proof that regulation is imperfect would not establish that it is a lower form of organization of economic activity.

Infrastructure FDI in developing countries grew in the 1990s, Ramamurti and Dohb (2004) examined the reasons for this growth and were surprised by this fact for basically two reasons: first, the infrastructure sector, unlike the manufacturing sector, suffers from the problem of market failure and the solution to this is regulation through the State bringing with it the risk of obsolescence bargaining which, according to Vernon (1971) is the critical component of the strategy of multinationals, whose formulation is complicated by the erosion over time of the bargaining power of multinationals over the host government. The second reason is that such investments are even more risky when carried out in developing countries characterized by weak institutional relations and political instability.

The model of obsolescence developed by Vernon explains the change in the nature of the bargaining relationships between a multinational company and the host country's government in terms of goals, resources and restrictions on both sides. In this model, the initial bargain favors the multinational company, but the relative bargaining power of the host country's government changes over time as the assets of the multinational corporation are turned into hostages. As bargaining power shifts from the company to the host country, the government imposes more conditions on companies, ranging from higher taxes to full ownership of their assets. Thus, the original negotiation suffers the effect of obsolescence.

Dunning (1998) argues that relations between MNEs and host countries changed in the 1990s from a predominantly adverse relationship and confrontation to a non-adversarial and cooperative relationship. This change in the attitude of the host government was accompanied by economic liberalization, deregulation, privatization and loosening of rules governing foreign investment. The FDI flows in question present two types of risk: industry or industry risk, which is higher in the infrastructure sector than in the manufacturing sector; and country risk, which is higher in developing countries than in developed countries.

Despite the observed risks to FDI, Ramamurti and Doh (2004) considered five trends that may have attenuated these risks in the minds of foreign investors and generated the observed growth: (a) the belief that the infrastructure sectors were losing their characteristics natural monopoly, and therefore the need for government regulation; (b) the early movements would generously benefit the resulting globalization of the infrastructure sectors; (c) new financing techniques would limit the risks of the multinational enterprise; (d) the climate for FDI infrastructures in developing countries changed qualitatively for the better in the 1990s and (e) developing host countries were no longer able to expropriate foreign infrastructure resources as they had in the past. The authors' conclusion is that Dunning's characterization of the host country government relations of multinational enterprises as non-adversarial and cooperative may have been true for manufacturing IDE, but does not apply to infrastructure IDE.

In the infrastructure sector the first participants gain important advantages, Sarkar et al. (1999) justify this fact, firstly because of the transitory nature of windows of market opportunity and the potential to influence the regulatory process as incumbent. To capture these strategic and economic advantages, companies follow an early buying strategy, both in markets and partners. The authors argue for the need to augment the prevailing theory with contextual idiosyncrasies that characterize specific industries and argue that while technological advances rapidly erode the monopoly advantage of incumbent monopoly operators, market reforms are creating new opportunities in the old protected markets. The article examines how, within a globalized environment, several structural market failures acting in conjunction with unnatural market imperfections created by governmental interventions are creating various strategic stimuli related to the scale of internationalization of telecommunications companies.

Still in relation to internationalization in the infrastructure sector, Jory and Ngo (2014) examined the decision to acquire state-owned enterprises abroad and emphasize that state-owned companies engaged in business and commerce adopt practices that would be widely considered anti-competitive, such as receiving government subsidies and benefit from other protective measures. In countries characterized by strong government control, foreign corporations often join forces with state-owned enterprises to participate in the local market or obtain preferential treatment. The key finding of the survey conducted with US companies between 1987 and 2009 was that state-owned company auctions are often worse than non-state companies, both in terms of share prices and operational performance. The authors argue that this does not mean that acquisitions of state-owned enterprises are destructive of value, but rather that there is an opportunity cost to buy a state-owned versus non-state-owned enterprise. However, the results suggest that the most viable way for foreigners to conduct business with more opportunities to improve the target company's performance in less open economies with low economic freedom is through the acquisition or merger with state-owned enterprises.

Another key finding is that this result is locally specific. Bidders from target state companies perform better in more restrictive business environments, where the target country government strongly influences firms, where the legal framework is weak, where financial markets are underdeveloped, where there are barriers to trade and precarious employment practices. This finding influences the way of entry, that is, despite the obstacles, there are opportunities to improve performance by acquiring state-owned enterprises in countries that are lagging in terms of economic freedom.

In Brazil, government-linked entities together with local economic groups have increased their importance in ownership networks in local economic activity, Lazzarini (2011), which defines capitalism as a tangle of contacts, alliances and support strategies gravitating around political and economic interests, stresses that this strategy can be recognized as a model based on the use of relationships to exploit market opportunities or to influence certain decisions of interest, which reinforces the existence of a regulatory framework protecting the agents involved in granted.

Another aspect related to renegotiations is the issue of the departure of international private operators in the water and sanitation sector in the Latin American region. De-internationalization as a concept was introduced by Benito and Welch (1997) who postulate that once a company has started the internationalization process, there is no inevitability about its continuity. According to Nunes (2018), the departure of a multinational company from an ongoing public private partnership (PPP) contract may be termed Foreign Direct Inward Disinvestment (DDE), which may be defined as the firm's decision to dispose of a significant portion of its assets abroad.

The company divestment results in a significant reduction of the assets of a company in subsidiaries, business units or divisions (Duhaimé and Grant, 1984; BURGELMAN, 1996) and can be realized through its sale, dissolution (MITCHEL 1994, CHANG and SINGH, 1999) or restructuring (BERGH and LAWLESS, 1998). Ducci (2007) points out that in the early 1990s, significant deficiencies in the provision of drinking water and sanitation services in Latin America led many countries to implement institutional reforms leading to greater efficiency in this area. Ducci (2007) states that among other things, the participation of experienced international private operators, who would provide financing and knowledge of management and technology management, was facilitated and promoted to resolve deficiencies in services rendered by public entities until then.

The participation of these international operators in the sector was a significant development in Latin America in the late 1990s, and prospects indicated that participation would continue to grow. However, in the middle of the first decade of the new century, there has been a radical change in their presence, with many of them already retiring while others are in the process of doing so or announced their intention to leave. Most services have returned to state control. Regarding the cases of divestment in Brazil, Nunes (2018) affirms that there are aspects of agreement among players in the sector, the first aspect refers to the opening of the sector market in South America, the second aspect is that this opening occurred in consonance with the multinationals' strategy to grow through new markets and the third aspect is that there was international investors' expectation that Latin American programs would resemble Europeans, which did not happen in practice, finally global macroeconomic changes also contributed to the decision to divest.

As central causes of the departure of international operators Berg and Lawless (1998) have studied the influence of environmental uncertainty on the propensity to divest, and Chang and Singh (1999) point out that when the resource profiles between the investing company and the subsidiary are not and there is no clear development of assets, the probability of divestment is greater. For Ducci (2007) there is not always a single easily identifiable reason to explain the departure of international operators, since, in general, behind the exit of the operators there are a number of appreciable factors that contribute to the economic-financial balance of contracts. However, the cases studied can be grouped under four general causes: (a) strategic decisions at a global level; (b) changes in national policy; (c) social and political conflicts and (d) the economic-financial balance of the concession.

Based on the literature review, this article seeks to verify, mainly, how the concentration in the market affects the internationalization in the destination for the basic sanitation sector, besides will be verified the impact of the regulation on these investments, causing the formulation of hypotheses that relate the foreign direct investment to the market concentration in the destination and that are:

***H1:** Market concentration affects the internationalization in the destination for the sector of basic sanitation;*

***H2:** More regulated environments favor the entry of Foreign Direct Investment.*

## **METHODOLOGY**

### ***Data Collection***

The database used in this work was obtained through the National Information System on Sanitation (SNIS), which was conceived and developed by the Sanitation Sector Modernization Program (PMSS), linked to the National Secretariat of Environmental Sanitation (SNSA) of the Cities - as well as information provided by Pezco - Economics and Business Intelligence economic consulting that elaborates economic and political scenarios applied to various sectors of the economy, studies market regulation and competition, offers economic support in litigation and does modeling of large projects including PPPs and concessions.

The variables considered in this article were: (a) the total resident population of the municipality (s) with water supply, which refers to the sum of the total resident populations (urban and rural) of the municipalities in which the provider services with water services. It includes both the beneficiary population and those who do not benefit from the services. For each municipality is adopted in the SNIS the estimate made annually by the IBGE, or the

populations obtained by means of Demographic Censuses or Population Counts also of the IBGE; (b) the density of water savings per link, which refers to the relationship between the number of active water connections and the number of active water savings and represents the number of active water savings to the public network, which were in full operation on the last day of the year; (c) the average water tariff (R \$ / m<sup>3</sup>); (d) the productivity index given by the relation between active and total personnel; (e) the urban water supply index; (f) the Herfindahl Hirschman index (HHI), which presents the concentration of the sanitation market in the municipalities analyzed and is calculated as the sum of the squares of the market shares of the companies operating in the sector and varies between zero (no company) and 10,000 (monopoly) and (g) regulation, an explanatory dummy variable that shows the municipalities that have or do not have a functioning regulatory agency.

### **Data analysis**

A linear regression is the study of a variable to be studied, called a dependent variable, in function of other variables that should help to understand the behavior of this variable, called independent variables. In some cases the explanatory variables have a binary nature (presence or absence, positive or negative, etc.). For Wooldridge (2016, page 647), a binary dependent variable is an example of a bounded dependent variable, which is defined as a dependent variable where the range of values is substantially restricted.

Although the linear probability model is easy to use and estimable, it has disadvantages, according to Wooldridge (2016), the most relevant are the possibility that the adjusted probabilities are smaller than zero or greater than one and the partial effect of the explanatory variable is constant, models (b) =  $P(y = 1 | x_1, x_2, \dots, x_k)$ , and the probability of a response to a given binary response where  $x$  represents the whole set of explanatory variables.

Binary response models present the following form:

$P(y = 1|x) = G(\beta_0 + \beta_1x_1 + \dots + \beta_kx_k) = G(\beta_0 + x\beta)$  (1) where  $G$  is a function that assumes values between zero and one for all numbers (1, 2, ...)  $z$  real. In the Probit Model,  $G$  is the standard normal cumulative distribution function, given by the expression:

$G(z) = \Phi(z) = \int_{-\infty}^z \Phi(v) dv$  (2) where  $\Phi(v)$  is the standard normal density given by  $\Phi(v) = (2\pi)^{-1/2} \exp(-z^2/2)$ . The advantage of using Probit lies in the fact that the model can be derived from an unobserved variable, called latent variable, in conjunction with the standard normal distribution function. The result of this model is given by the values of  $\beta$  and can be understood as the signal of the impact that an explanatory variable has on the explained variable, therefore of  $\beta$  is negative the variation of the explanatory variable will reduce the probability that the explained variable is equal to one, if it is positive, the variation of the explanatory variable will increase the probability that the explained variable equals one (IICA, 2018).

In the Logit Model,  $G$  is the standard normal cumulative distribution function, given by the expression:  $G(z) = \exp(z) / [1 + \exp(z)] = \Lambda(z)$  (3) and lies between zero and one for all real  $z$  numbers, this being the cumulative distribution function of a standard logistic random variable. According to Lindner (2016) logistic regression is characterized by the quantity of values to be discretized. If there are only two options, logistic regression is called binomial, also called Binomial Logit Model, if there are more options, the regression is generalized and named multinomial, also called the Multinomial Logit Model. Lindner (2016) points out that Logistic Regression allows the use of a model (curve in  $S$ ) to predict the probability  $\pi$  of a categorical event, and the modeling of the  $S$  curve is given by a logistic transformation of the probability  $\pi$ , according to equation (x) =  $\ln(\pi / (1 - \pi))$  (4) where from this we derive the

calibration equation  $g(x) = \beta_0 + \beta_1x_1 + \dots + \beta_kx_k$ , (5) where betas are the coefficients of the calibration equation and  $k$  is the number of independent variables.

For Wooldridge (2016) the most difficult aspect of logit and probit models is the presentation and interpretation of results, according to the author:

*the coefficient estimates, their standard errors and the log-likelihood function value are described by all programs running logit and probit, and this information must be described in any application. The coefficients give the signs of the partial effects of each  $x_j$  on the probability of response, and the statistical significance of  $x_j$  is determined by the condition that we can reject  $H_0: \beta_j = 0$  at a sufficiently small significance level. (WOOLDRIDGE 2016, p.654).*

To interpret the results, one must define a binary predictor of  $y_i$  as being equal to one, if the expected probability is at least 0.5, and zero in the inverse situation, ie:  $\bar{y}_i = 1$  if  $G(\beta_0 + x_i\beta) \geq 0.5$  and  $y_i = 0$  if  $G(\beta_0 + x_i\beta) < 0.5$ . With  $i$  varying from 1 to  $n$ , one can verify the degree of perfection with which  $\bar{y}_i$  predicts  $y_i$  throughout all observations. Four possible outcomes are possible for each pair  $(y_i, \bar{y}_i)$ , when both are equal to zero or equal to one, the prediction is correct, in cases where one of the pairs is equal to zero and another pair is equal to one, the prediction is incorrect. The percentage correctly predicted is the percentage of times  $y_i = \bar{y}_i$  (WOOLDRIDGE, 2016).

The model used in this article studies the propensity of municipalities to receive foreign direct investment based on market concentration (HHI) and other elements, ie  $IDE = f(X_i)$  and the logit regression model with logit linkage (PAULA, 2013), since all the covariables are available and the reason for the associated foreign direct investment (FDI) decision is understood. In the computational implementation of the model studied was used the program RealStats which is an EXCEL supplement.

The predictor variables were: dummy variables for the identification of the years 2014, 2015 and 2016, with 2014 being the reference year; population (pop); density of water savings per connection (densid); average water tariff (R\$/m<sup>3</sup>); productivity index (produit); index of urban service (attend); HHI and regulation.

The variable population (pop) total resident population of the municipality with water supply had to be transformed, via natural logarithm, to fit the scale of the other variables, since it presented a lot of asymmetry, as shown in Figure 1 at the end of this article.

### **Findings**

The logistic regression model obtained is presented in Table 1, which is found at the end of this article. It can be undertaken from this first modeling that the time (given by the years 2014, 2015 and 2016), the natural logarithm of the population and the urban service index are not variables with predictive capacity on foreign direct investment decision, since they are covariables that presented p-values greater than 5%, which makes them irrelevant. On the other hand, the density of economies, tariff, productivity index, HHI and the presence of regulation are predictive variables of the foreign direct investment decision.

After excluding the irrelevant variables, a new logistic model was obtained and the solution appears in Table 2, located at the end of this article. Note that the estimate of the intercept approximately equal to 1, automatically generated a column with the odds ratios in column exp (b) of Table 2. The logit link makes it possible to observe the foreign direct investment for each of the predictors. The model's odds ratios are: increasing the density of savings per bond in one

unit decreases the chance of foreign direct investment by 95.98%, keeping the other variables constant; the increase in the tariff in one unit increases the chance of foreign direct investment by 44.57%, while the other variables remain constant; the increase in the productivity index in one unit increases the chance of foreign direct investment by 0.22%, while the other variables remain constant; the increase in HHI in one unit decreases the chance of foreign direct investment by 99.74%, the other variables constant, and the fact that a municipality has a functioning regulatory agency increases the chance of foreign direct investment by 150.20% the other constant variables.

## **DISCUSSION AND CONCLUSION**

In the analyzed model, the cut-off point, namely 0.5, was used to obtain the classification matrix. Receiver Operating Characteristic (ROC) curves can be used to study the sensitivity and specificity of the model for different cutoff points. The ROC curve was developed during World War II with the purpose of quantifying the ability of radar operators to detect enemy aircraft from the noise of other flying objects.

According to Martinez (2003) the ROC curve is a graph, where the vertical axis shows the sensitivity, that is, true positive rate and the horizontal axis has the complement of the specificity, that is, the false positive rate. In a ROC curve, the true positive rate (Sensitivity) is plotted against the false positive rate (specificity of 100) for different cut-off points of a parameter. Each point on the ROC curve represents a sensitivity / specificity pair corresponding to a given decision threshold. The area under the ROC curve (area under the curve) is a measure of how well a parameter can distinguish between two groups of variables. The higher the AUC the curve approaches the upper left corner of the graph, indicating the ability of the model to correctly classify the analyzed variable. In a model unable to properly classify the analyzed variable the ROC curve would be superimposed on the diagonal that crosses the coordinates (0,0) and (1,1) and consequently its AUC would be equal to 0.5. (Martinez et al., 2003). The ROC Curve for the IDE Model is presented in figure 2 located at the end of this article.

It was not the objective of this article to use the model with a predictive character, but it is perceived that the logistics model for foreign direct investment, with a cutoff of 0.5, does not hit an event that has received foreign direct investment, which implies that, for prediction, this point must be changed, as can be seen in Table 3, which is located at the end of this article and presents the classification gain in modifying the cut-off point for the IDE model.

For the cutoff point of 0.5, no municipality that received foreign direct investment is correctly classified according to the model, however, when the cutoff value is changed to 0.05, there is a substantive increase (91, 18%) of the accuracy of classification of the model in correctly classifying the municipalities that received foreign direct investment, as shown in Figure 02 and Table 03.

Thus, the model maintains its specificities, not in the statistical sense, but in the sense of presenting specific modeling that allows analyzing the relationship between the predictor variables and the responses variables, as well as evaluating its prediction potentials.

Another relevant characteristic is that time has not shown to be a relevant variable in the model. It should also be noted that the variable density was relevant in explaining foreign direct investment.

As the main factor for the inflow of foreign investment, it is necessary to emphasize the need for the municipality to have a functioning regulatory agency, since this variable is the one that maximizes capital capitation.

Last but not least, the role of the HHI variable, which should be controlled as closely as possible by the municipalities, should be highlighted, since its increase is the indicator that most distances foreign capital investment.

This study assists in understanding the attraction of FDI in infrastructure in emerging countries, particularly in the topic that involves the concentration of destination markets. The assumptions raised that market concentration affects internationalization in the destination for the basic sanitation sector that more regulated environments favor the entry of FDI were statistically significant and not rejected.

## **FUTURE STUDIES**

This work sought to understand issues related to the attraction of FDI in the basic sanitation sector in Brazil, verifying the impact of market concentration and regulation in this market. For future studies, we recommend that a continuous variable of FDI be constructed, identifying the percentages of foreign capital participation in each of the basic sanitation companies operating in Brazilian municipalities, as well as the origin of this capital, again the model used in this article and again verify the impact of HHI on the decision of FDI in this sector in Brazil. We also believe that an analysis with an extended period for at least five years can bring interesting results.

We also recommend that it be verified whether the relationship found in the Brazilian market, in relation to concentration and market regulation, is based on other markets, both emerging and developed.

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FIGURES

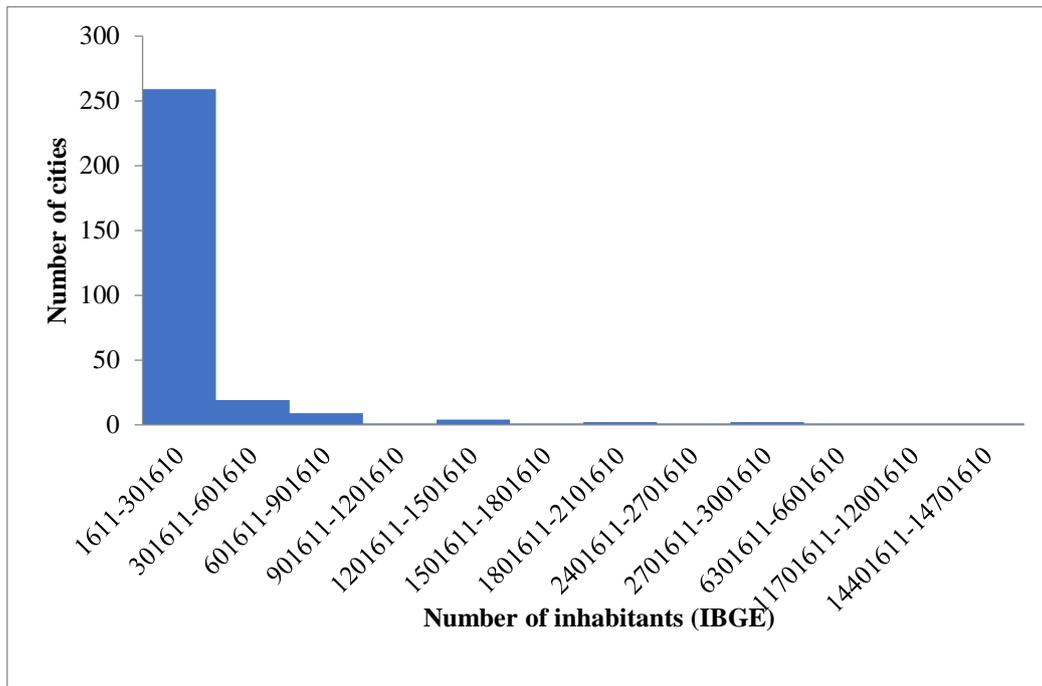
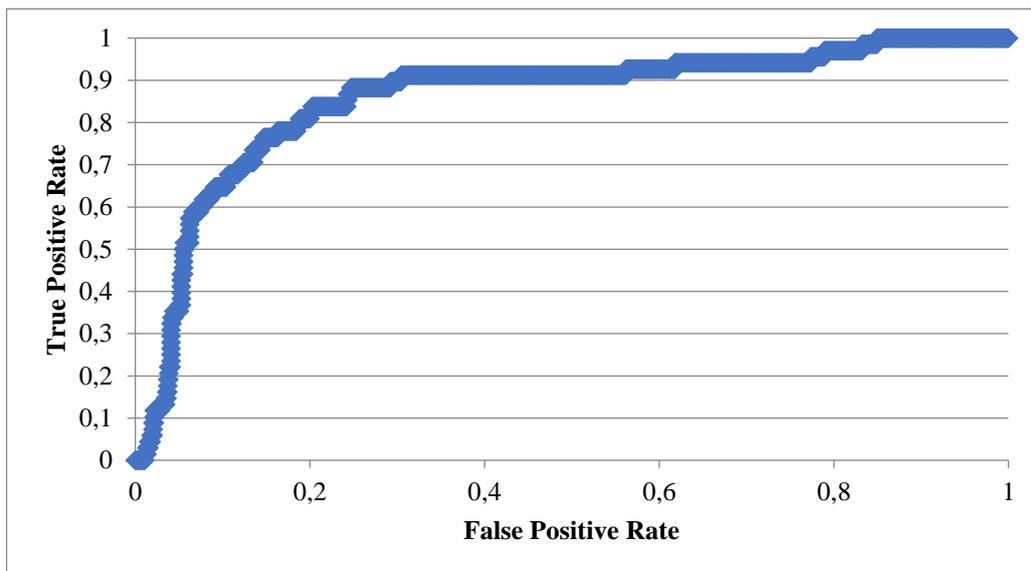


Figure 1: Asymmetry of the variable total resident population of the municipality with water supply (IBGE)

Figure 2: ROC curve for the IDE model



## TABLES

Table 1: Model 01 – IDE = f(Xi)

	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>lower</i>	<i>upper</i>
Intercept	-0,3901	1,4909	0,0685	0,7936	-3,3122	2,5320
2015	-0,0171	0,1751	0,0095	0,9223	-0,3603	0,3261
2016	-0,1111	0,1781	0,3893	0,5327	-0,4601	0,2379
ln(pop)	0,0348	0,0621	0,3152	0,5745	-0,0868	0,1565
Densidade	-1,8205	0,7025	6,7160	0,0096	-3,1974	-0,4437
Tarifa	0,1952	0,0461	17,9034	0,0000	0,1048	0,2857
Produtividade	0,0011	0,0004	7,3688	0,0066	0,0003	0,0019
Atendimento	0,0070	0,0128	0,3049	0,5808	-0,0180	0,0321
HHI	-3,0789	0,4209	53,5132	0,0000	-3,9039	-2,2540
Regulação	0,4191	0,1917	4,7795	0,0288	0,0434	0,7947

Table 2: Model 02 – IDE = f(Xi), excluding non-relevant covariates.

	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>
Intercept	1,0574	1,2611	0,7030	0,4018	2,8788		
densidade	-3,2140	1,2229	6,9077	0,0086	0,0402	0,0037	0,4417
tarifa	0,3686	0,0978	14,1898	0,0002	1,4457	1,1934	1,7513
produtividade	0,0022	0,0007	9,3970	0,0022	1,0022	1,0008	1,0036
HHI	-5,9700	0,8230	52,6194	0,0000	0,0026	0,0005	0,0128
regulação	0,9171	0,3422	7,1836	0,0074	2,5020	1,2795	4,8926

Table 3: Gain of classification in if modify the cut-off point for the IDE model.

Cutoff = 0,5			
	Success-Obs	Failure-Obs	
Success-Pred	0	9	9
Failure-Pred	68	826	894
	68	835	903
Cutoff = 0,05			
	Success-Obs	Failure-Obs	
Success-Pred	62	270	332
Failure-Pred	6	565	571
	68	835	903

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #607**

**The role of public banks in the structuring of infrastructure projects:  
A case study of the Project Structuring Fund - FEP**

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Jonatas Mendonça dos Santos (University of São Paulo (USP), Brazil)

**Abstract**

*The national average of infrastructure investments in recent years, about 2% of GDP, has proved to be insufficient for the country's needs, given the size of its territory and the complexities involved in its development. The participation of the private sector, considering structuring, construction, administration and financing, has been far below what is necessary for the country in order to provide the basic infrastructures. The public sector has been hit by difficulties in planning, structuring, in the technical and administrative management of concession projects and Public-Private Partnership. The Fiscal Responsibility Law and the crisis of tax collection of the public entities have limited the public capacity of investment in infrastructure. Currently, Brazil does not have an institution focused on supporting and assess good projects and technical studies. Public banks are presented as an alternative to meet this need, due to technical qualification and experience carried out in the infrastructure sector. In order to address these issues and improve the environment for structuring the projects, the Federal Government approved Law 13.529/2017, which established the “Fund for the Structuring of public-private partnerships and concessions projects” and assigned to Caixa Econômica Federal the administration of its resources. The organization of the fund and the participation of public banks, especially Caixa Econômica, suggest a change in the project structuring scenario, given that for the first time public financial resources can subsidize all stages of project preparation through intermediation of a financial agent. This paper, carried out with the methodology of the single case study, with elements of Participant Observation, seeks to assess the development of the Fund and analyze issues of implementation of this mechanism in the promotion of project structuring and in the relationship between public and private entities.*

**Keywords:** infrastructure; concessions; public-private partnership; project structuring; public banks;.

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #634**

**Economic viability analysis of a wind project**

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**Abstract**

*Renewable energy is not a shadow of a doubt a world tendency and the last decade statistics show a transition for its expansion based on this kind of generation. In Brazil, the wind source is the one which reached more success in its development up to date, excluding the hydroelectric structural source. In search of following the international guidelines and advance in feasibility of wind energy projects, this paper brings about an empirical study of economic-financial feasibility of a wind park to verify the main key factors of the value of the business. In all, the project reaches positive perspectives for the achieving of investments in wind energy projects, from the point of view of the returned value to the shareholder.*

**Keywords:** Infrastructure; Wind Energy; Project Finance; New Energy Auction; Financing..

**Acknowledgments**

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## **INTRODUCTION**

The wind energy, in Brazil, has an exponential curve of growth and it also has a very positive trajectory, which follows the world tendency. Excluding the hydroelectric, the wind energy was the one which reached the most success in its development and, for this reason, it is nowadays ranked as the second source of energy best hired and the second most competitive in the country (CCEE, 2018<sup>a</sup>).

Considering a significant expansion in the next decade and a natural trajectory of fusions and acquisitions beyond the buying and selling of assets in the wind sector, an analysis of business feasibility in the industry, can be the highest demand, in a short period of time.

The wind energy is a clean energy, renewable, extremely technological and it contributes socially and environmentally with Brazil. Fostering this kind of initiative, therefore, is to leverage its growth in search of enhancement and new opportunities of development of this industry, raising the participation of wind energy in the Brazilian electric matrix.

For this reason, this project has as its main goal to analyze the economic and financial feasibility of a infrastructural project to generate wind energy. As its second goal to check the most relevant factors of value of the business, including the evaluation of different energy hiring scenarios setting a portfolio of trading in the regulated market and in the free market of energy, measuring the strengths of the market and the governmental policies which influence these projects.

The present study discusses aspects of an economic financial feasibility analysis, arguing about its analysis methods, financial methods for financial structure evaluation and, finally, the analysis applied to a wind project.

## **ANALYSIS OF ECONOMIC FINANCIAL FEASIBILITY**

This session is going to discuss about method of analysis of economic and financial feasibility for decision making in an investment in stock and will also bring about the discussion of valuation of the projects in search of presenting the possibilities of financing structure for a shareholder.

Within its proposal it is going to be done an analysis of feasibility and decision of investment for a wind project.

### ***Methods for Analysis of Economic Financial Feasibility***

The analysis of future rentability perspectives of a project is fundamental for the shareholders to have a glimpse of its return throughout the expectations of value creation and that its creditors receive the expected compensation. According to Ross (1995), the investment should be compared to a relevant alternative available in the financial market and if it is not so attractive it is best to recur to the market instead of carrying out the project.

So, when in search of rentability, the analysis of financial feasibility will focus in estimates for the future cash flow of the project, obtained from previsions to a series of variables through representative values, allowing the calculation of financial indicators. The variables cited cover revenue data, costs and investments.

However, for the own nature of its financial projections which involve uncertainty about the real values which are going to prevail in the future, the variables cannot be predicted with 100%

precision, which indicates an importance in consideration, in a lower or higher degree, of the risk associated to financial return obtained for the investment (BREALEY; MYERS and ALLEN, 2018).

Objectively, Brandão (2010) establishes that the traditional model of project decision can be summarized according to the following:

1. Net Present Value; NPV: criteria of investment decision which recognizes the value of money in time; not affected by accounting techniques; it reflects the increasing of wealth to the shareholder; considers all the cash flow of the project; and it depends one and only of the cash flow and cost of opportunity. Bruni (1998) highlights that the NPV in its positive is the indication that the stock invested is going to be recovered and remunerated in the interest fee which measures the cost of stock of the project, generating an exceeding return equal to the NPV, in day zero, indicating the project must be accepted.
2. Internal Rate of Return – IRR: it is defined as the discount rate which makes the NPV be zero. If the IRR is bigger than the cost of opportunity of the stock in consideration, the project will have an NPV in its positive and, therefore, representing a bigger cost of opportunity that it can sustain. The criteria of decision are that a project is accepted if its IRR is bigger than its stock opportunity cost. However, the evaluation of IRR must have some precautions since it leads a conventional cash flow, in other words, with investment (negative flow) on the initial date and return (positive flow) on the sequential dates until the end of the project.
3. Modified Internal Rate of Return – MIRR: it is an adaptation of the IRR which was created to solve the problems of calculation and interpretation when presented a different cash flow out of the conventional. The modification consists in taking on the negative flow to a present value, while the positive flows are taken to a future value in the last flow period. After the creation of these virtual flows, the MIRR must take the same decision criteria of the IRR and, furthermore, doing a comparison with the rate of reinvestment, while this also considers the economic scenery in which the project is inserted and not only to the company, comparing it with other opportunities of application existent in the market.
4. *Payback*: method which shows the time the company is going to need to recover the invested stock through the earnings the investment will provide. To Samanez (2007), this method has some limitations, being one of them not to consider the money value in time and the other one to consider the cash flow only during the period of payback and not before, which means, to ignore the foreseen flow after the return being reached, which can lead a company to accept many of its short term projects, but which do not maximize its wealth. The criteria of decision for the payback depends if a goal of the own investing company is reached.
5. *Deducted Payback*: it is a perfecting of the simple payback, while bringing the concept of money value in time, because it brings the cash flow earned by the investment at the same moment of time. Concluded the present value, the analysis and the decision of the deducted payback it becomes exactly the same as the payback.

Out of the diversity of methods and tools to help the decision making of investment, the NPV is the most used and spread out nowadays. Nevertheless, this method of evaluation also has some limitations which can lead to a misunderstood analysis of the investment. The most important refers to the fact that the method is static, which means, only consider a scenery for the model variables and, not allowing to incorporate eventual flexibilities that the project may have throughout its lifespan. According to Rodrigues (2017), the analysis of flawed feasibility can harm the development of the project and, thus, it is indicated to consider an alternative method of evaluation, but not excluding, based on the existence of managing flexibilities and the evaluation of a typical project.

The tool for application of the NPV is the evaluation of the Discounted Cash Flow – DCF, which evaluates the value of a company or project relating the operational value to the present value of the future cash flows, through a rate of common discount also known as Weighted Average Capital Cost – WACC. According to Damodaran (1997), the DCF has an easier application approach to assets whose cash flows can be estimated to a future period with some degree of reliability.

The WACC grasps the cost of the own capital (equity) and the cost of thirds (debt) and its wonders about the amount of each capital. The weight of each amount can vary from 0 to 100 percent. Usually, both ways of capital are used and should notice the related fair pay, which represents the cost of opportunity of resources.

Bringing the analysis to the energy sector, according to Rocha (2012), the international experience, indicates that the weighted average capital cost model is being highly applied for the academy and by a series of international regulating agencies in the process of taxes revision. Some examples are the Agência Nacional de Energia Elétrica – ANEEL, in Brazil, Australian Energy Regulator – AER and Electricity National Regulatory Entity – ENRE, in Argentina.

In its usual form, the capital cost is expressed in nominal terms and after taxes, as it follows:

$$WACC = Ke \left( \frac{E}{D + E} \right) + Kd(1 - T) \left( \frac{D}{D + E} \right)$$

Where:

*Ke* = total cost of equity

*Kd* = total cost of debt

*T* = income tax rate

*E* = Equity

*D* = Debt

$$\left( \frac{E}{D + E} \right) \text{ ou } \left( \frac{D}{D + E} \right) = \text{equity or debt portion of total financing}$$

The compensation of the equity capital should observe a series of parameters that consider properly the relation of risk and return of the shareholder. Such a relation started to formalize through the study about portfolio diversification from Harry Markowitz, but it was presented by Sharpe, Lintner and Mossin, who developed the Capital Asset Pricing Model – CAPM, a unifactorial model and of an only period, consisting of a linear relationship between the expected refund of the asset and one of a market portfolio. According to Damodaran (1997), the model measures a variation of non-diversified refund using a beta estimate, and relates the expected returns to this beta.

$$Ke = r_f + \beta(E_{[r_m]} - r_f)$$

Where:

*Ke* = total cost of equity

*r<sub>f</sub>* = Risk – Free Rate

*β* = Beta

*E<sub>[r<sub>m</sub>]</sub>* = Expected Return

*E<sub>[r<sub>m</sub>]</sub>* – r<sub>f</sub> = Market Premium

The CAPM Model can be dismembered in three components, described by Endler (2004): (i) Free Risk Asset, represented by the free risk return rate, in other words, demanded return with

no risk assumed; (ii) Risk level of the systemic asset, measured by  $\beta$ , which represents the systemic risk level present in an asset; and (iii) Risk prize of the market portfolio in relation to the free risk asset, measured by the risk prize of the market, that is to say, it is a reward of the market for assuming a systemic risk.

In search for the best estimate possible, the traditional CAPM is boosted and becomes the model also known as Country Spread Model, or Global CAPM with risk country adjustments, from the bank of investment Goldman Sachs, which considers that all companies in an emerging market are equally exposed to the country risk.

This way, adjustments ad hoc are made for the country risk and the beta parameter, aiming to catch the asset structure of the sector of interest and the tax advantages of the country in analysis.

$$Ke = r_f + \beta^{Adjusted}(E_{[r_m]} - r_f) + r_p$$

Where:

$Ke$  = total cost of equity

$r_f$  = Risk – Free Rate

$\beta^{Adjusted}$  = Adjusted Beta

$E_{[r_m]}$  = Expected Return

$E_{[r_m]} - r_f$  = Market Premium

$r_p$  = country risk

This model corresponds to the current model adopted for the definition of the asset cost to be used in the calculation of the refunding of the accomplished investments by the distribution concessionaires in the tax reviewing process of the Brazilian electrical sector (ANEEL, 2017a).

With the methods indicated it is up to the analyst to search for the data base and information of the project for company structuration, calculation of the possible indicators, analysis of these projects, and then, reaching a decision of choosing or not to invest in the business.

### **Financial Methods for Evaluation of Structure of Financing**

Besides the feasibility of the project it is necessary to evaluate the feasibility of project financing, this analysis can occur after the decision of investing in an asset, but it can also occur together, because it is possible that the availability of resources and the structuration of the financing motivate the decision to invest.

According to Mota (2015), there are two sources of funds to finance the projects: third party capital, and equity capital. In the obtaining of resources through a third-party capital, in general, it is found the following modeling: debentures, bridge loan, Corporate Finance and Project Finance.

The debentures are debt securities to obtain resources of long and average term, usually destined to financing of investment projects or longing of the passive profile. These securities offer their holders the right of credit against the emitting company. The bridge loan, in turn, it is a resource provided by the commercial banks, which is widely used in the projects while the long-term financing is structured. Both modalities, however, are used to be accessories or complements to the models of Corporate Finance and Project Finance.

The Corporate Finance is the conventional direct financing, as described by Santiago (2002), in which not only the analysis of the payment capacity for credit concession, but also the risk evaluation and the warranty structuring are imbued upon the company, and not about the project

that is intended to be invested on. It is about a modality of credit concession with a more traditional analysis approach, considering the evaluation of the taking company background, its balance sheet beyond the reputation.

The main advantages of the Corporate Finance are the rapid term for financing concession since, in general lines, all the analysis is based only in the credit taking company and the decreasing intermediation costs, also depending on the evaluation and the size of the taking company. On the other hand, there are disadvantages like the reducing of additional debting capacity of the shareholder considering the leverage of the company, the association of credit concession to *rating*<sup>18</sup> of the taking company and possibility of contamination of other profitable projects in the portfolio of the shareholder for the failure of the project itself.

The Project Finance doesn't find an only definition in literature, but the main authors recognize its conceptual representatives, the limited character and the debts nonrecourse, and also its segregation in a legally independent entity of the sponsorship, the Special Purpose Entity – SPE.

The characterizing of the concepts of limited and nonrecourse refers to the degree of guaranteed relationship between SPE and its sponsorship. In a nonrecourse operation the creditors do not own the rights over the sponsorship resources, not having, therefore, any warranty, except of the own project. In the case of a limited operation the sponsorship is responsible for its corporative resources partially, traded bilaterally and with contractual clauses which limits the reaching of those resources.

Finnerty (1998) presents the concept as a fund raising to finance a project, characterized with a segregated economic unity, with limited contribution or without any contribution from the sponsorship, where the providers of resources look initially to the cash flow of the project not only to serve the debt but also to provide the return over the own capital invested. Esty (2003) completes that the SPE usually has a limited lifespan.

According to Martins (2013), most of the cases the long-term financier doesn't intend to take some kinds of characteristic risks of the entrepreneurs, like the risks of construction, operation and maintenance, supply and market. This way, on the initial period of the project, it is made necessary the backup of the sponsorships, where the project is going to be financed mainly by its equity capital or with short term resources together with specialized sources of financing, for the taking, for instance, of the bridge loans.

According to Bregman (2015), the Project Finance has a series of advantages in relation to the Corporate Finance. From the financing point of view, the uncertainty in relation to the warranty of the project is smaller than a company warranty in long term. From an entrepreneur point of view, the possibility to finance a project only with the warranty arising from its operational phase represents a significative advantage to the financial management of the company, as well as for an expansion strategy of investments. Still, from the point of view macroeconomic, the structure of financing directed for the project mitigate barriers for the expansion of the investment.

In a few words, the Project Finance is defined as a modality of financing in which a SPE is constituted for the project and the debt bounded to its development doesn't constitute a passive of the shareholder. Thus, the sponsors count on the project profit to guarantee the debt service

and, therefore, they control the attachment of eventual assets (machinery, equipment and others), the deposit of the SPE actions and the rights bounded to the contracts

The advantages and disadvantages between the models of Project Finance and Corporate Finance are shown throughout a comparative chart described by Picture 1.

### ***Analysis of a Project of Wind Energy Production***

In any industry whose maturing occurs during a long period, which is the case of the wind industry, the feasibility analysis process involves the prediction of risks which need to be managed. The key to the process, so, is to estimate, in the best way possible, the future profit of the project associated with its credit risk, and draw forms of financial warranty which are going to be executed in case the estimates do not substantiate.

The estimate of these profits comprehends simulations of the market results taking over rational expectations from the agents. If the market is not credible, it is not possible to simulate the result of such expectations, not having, thus, financing without long term contracts which mitigate market risks and regulations. Therefore, regulation stability is essential.

First it is important to comprehend that the beginning of a project occurs long before the energy production itself, thus, when it comes to a natural resource, it is necessary to evaluate the availability and quality of a local resource with high accuracy. The development of a project about wind energy production, thus, can be phased in big blocks, according to Picture 2, and its following phases, which show risks and costs along the process. In the case of Preliminary Studies and Feasibility Analysis, we highlight the phases:

- “1st Stage: with the goal of optimizing resources and eventual impacts to the environment, it is done an anticipated identification and classification of the territories of interest based on topography analysis, infrastructure and wind potential informed by wind data available like: weather stations, airports, or documentation such as Wind Potential Atlas.
- 2nd Stage: based on the identified regions and classified, it is analyzed the considered areas previously feasible to the installation of wind parks as of the environmental restrictions, such as the existence of Permanent Preservation Areas or sound impact, or still sociable, like the presence of residents.
- 3rd Stage: to affect the necessary measurements to energetic predictability, it is verified the availability and it is established the negotiation of the area usage.
- 4th Stage: it is processed the execution of a measuring cycle of anemometric data.
- 5th Stage: based on the information collected in a time lapsed, with the period depending on the demanding of regulation, it is effective the study of economic and technical feasibility.
- 6th Stage: elaboration of the wind park project and preparation of the documents.
- 7th Stage: technical license of the project in the Company of Energy Research and in the auctions.” (OLIVEIRA; ARAÚJO, 2015, p.59)

The first and main risk to be considered is the risk of production, that is to say, that the effective production of energy is inferior to the traded energy. To self-protect from this risk, the investor supports itself in independent consulting reports about the potential of energy production of the project considering the anemometric measures, according to the 5th Stage, because uncertainty on the wind speed and the potency curve of the windmills contributing to mistakes in the prediction of the energy.

The estimate of produced energy is done through the crossing of the wind speed statically obtained by the measures above cited, done the extrapolations and necessary estimates, with the potency curve of the windmill. In the calculation of the energy production should still be

added losses like the transmission net's efficiency, treadmill effect of the turbines and others. The estimate of produced energy minus the losses result in a total energy, as illustrated on Picture 3.

The net production is determined through the occurrence of probabilities in the excess of production. Thus, the denominated value P50 is the average annual production estimated in a period, in which there is a probability of 50% occurrence of effective production more than the P50. The same way, the P90 represents a probability of 90% só that the production exceeds the determined. Being a probability more accurate, the P90 presents production values of energy lower than the P50.

In relation to the environment, the risks use to be expressive to energy projects in all. However, the process of environmental licensing is used to being gaster in wind energy projects, because these present environmental impacts acknowledged as modest in comparison to other sources of energy. Including, the wind sector was the first and, for now, it remains as the only one with a dedicated environmental law, which considers wind energy power plants of a low environmental impact and, therefore, demand a simplified licensing procedure, according to § 2º do Art. 3º da Resolução CONAMA Nº 462, from June 24th, 2014.

*“Art. 3º*

*(...)*

*§ 2º The environmental licensing of wind projects considered of a low environmental impact will be held upon simplified procedure, observing the Attachment II, exempt the demand of EIA/RIMA.”*

The 3rd Stage contains the negotiation of the use of project occupied areas, such a situation it is normally formed by the land leasing where the wind parks will be installed for a long period of time (30 or 35 year, for instance), which covers the measuring time and stages of development plus the lifespan of wind production of the wind park.

After the development, there is a trade of energy from the wind park which can be effective in the Regulated Contract Market – ACR and/or Free Contract Market – ACL and finally, entering the stage of construction and consequently project operation. In the operation, the main expenses are the ones from the operation and maintenance services – O&M of the windmills, the fees of the usage of the transmittion or distribution system, the payments for the land leasing, which maintain, and fees of inspection from the Agência Nacional de Energia Elétrica – ANEEL, according to Bregman (2015).

As a whole, the costs which compose the building of a wind park are of planning, access and urbanization, leasing, electrical grid connection, acquisition, installation and O&M of the windmills. According to Custódio (2013) the main component is the acquisition of the windmills, which represents 75% of the investments.

In the construction there is the risk of the project not to be concluded in the due time or the estimated cost. Such an estimate has a small reasonable degree in the project as a whole, because the civil works are relatively simple and the business is already consolidated in the market.

In the trading there is the credit counterpart risk, in other words, the risk in which the buyer doesn't fulfill his obligations of the energy sale contract. In the ACR, as its distributors are the buyers of energy it is treated as a sectorial risk, thus, less probable. As in the ACL, with the bilateral trading, the credit quality of the buyer of energy must be analyzed and followed.

Still in the trading and operation of the wind project there is the risk of higher or lower production to the contracted, besides the reasonable hypothetical definition to estimate the cash flow for the years with no contract. This risk is given for the feasibility of the renewable production bounded to the Difference Price of Settlement – DPS, which is the short term market price (or spot price) of energy in Brazil, which pays all the producers in a wholesale market, for settlement of all the energy which was not contracted between the agents.

The actual DPS is calculated based on week considering foreseen information of availability and system laid through computer models (CCEE,2018 b). A difficulty in the practice of this market implementation is the feasibility of the energy prices, which introduce uncertainty in the producer's payment and difficult the trading feasibility and financing.

Another risk to be considered is the O&M of the project, because a team with experience and training must be available to reduce the levels of unavailability of the equipment. This risk is very mitigated by the specialized hiring of the O&M service, which most of the times is from the same provider of the windmills.

Additionally, the projects present a financial risk, in this case, represented by the mismatch between the production of cash flow and the obligations of payment, which can occur due to macroeconomic oscillations, basically if the debt indices present a displacement in relation to the index of inflation which corrects the energy sale contract.

By the risks exposed for now, the financeable of the projects is a challenge. Therefore, the cost of financing of a production asset is, basically, in function of the certainty in which the contracted debt will be paid, according to Mota (2015).

The banks estimate the project capability to pay its debts through the Debt Service of Covered Index (DSCI), reason between the EBITDA estimate and annual cost of the debt service and a robust warranty scheme. The bigger the risk perception, the bigger the DSCI demanded.

The infrastructural financing of energy production, in Brazil, is mostly based in the fundamentals of the Banco Nacional de Desenvolvimento Econômico e Social – BNDES, which is the main financier of national infrastructure, including supporting conditions to renewable energy sources.

The financing backup from BNDES to projects of wind energy production occurs according to BNDES (2018), in its most, the modality of Project Finance, in which the cash flow expected from the projects define the amount of credit which leverages, in function to the Debt Service of Covered Index.

Considering the biannual 2015;2016, the support of BNDES to the wind sector was highly expressive, with the financing to 89% from the 5.171 MW of new capacity installed in the period.

### ***Premises of a Wind Energy Production Project***

The evaluated study in this project considers an investor which has a project in a wind park and is analyzing the feasibility of offering its energy in an auction of the regulated market, where the implementing strategy of the park intends to guarantee the maximum value of electric energy offer in the certainty to obtain rentability.

The auction which intends to sell energy is an auction of new energy of the A;6 kind whose wind product foresees the celebration of a Contract of Commercialization of Electric Energy in a Regulated Environment – CCEERE in the modality Availability, which means that the

risk of non-production, in the short term market, is of the buyer. The duration of the CCEERE offered is of 20 years, the contracts are denominated in Reais and indexed by the Brazilian inflation. The ceiling price of reference to the auction for wind projects is of R\$ 276,00 per MWh.

Considering the accomplishing of this auction on December 20th, 2017 and the beginning of supply on January 1st, 2023, which configures a term of 60 months between effectiveness and delivery of energy.

Considering the informed periods, for the evaluation of this project, it was adopted as a premise the construction of the park in 24 months, with no incidence of delay in its execution and, thus, the anticipation of energy delivery and consequent sale in free market in the years 2020, 2021 and 2022.

The wind park of this study has fifteen towers, each one with capacity to generate 2MW, in total a capacity installed of 30 MW and physical warranty 17.50 MW in average. It is located in Bahia, in Northeast region of Brazil. The investment of this project was adopted in R\$180.000.000,00, according to CCEE (2017) based on the data extracted in the result of Auction A;6 of 2017. Considering that the R\$ 126.000.000,00 from the CAPEX are referred to the windmills cost.

The total amount of energy produced estimate in one year is calculated by the multiplication of the potency (30 MW), by the capacity factor (58,33%) and by the total quantity of hours in a year (8.760), obtaining a total of 153.300 MWh produced in one year. Out of this total, it must be discounted 2.5% referred to the loss of that occur in the Basic Network.

The gross income is calculated based on the indicated production scenery in a price of referral to the ACR of R\$200,00 by MWh e for the ACL of R\$150,00 by MWh, agreed in the auction date, being updated annually according to IPCA.

Since the option for the usage of the fixed production scenery was done as reference of gross calculation, the annual production is invariable and, thereby, there is no additional profit or penalties to be considered, which is a useful method to evaluate the contraction for availability here presumed.

The premises of the financing consider the conditions of the BNDES (2017) specific for the auction in question which are summarized in Chart 1, being adopted the financial cost TJLP<sup>19</sup> of 6,75% annually, common to the period.

For the calculation of the equity capital cost and debt cost were used the methodologies before highlighted together to the premises of BNDES and other estimates practiced by the market. Adopting, therefore, the cost of the debt in 9,75%, the cost of equity capital as 12,00% and the Weighted Average Capital Cost (WACC) resulted in 7,55%.

The outline tax adopted is the Presumed Profit, which is a way of taxing for the determining of the calculation base of the income tax and the *Social Contribution over Net Income – SCNI (CSLL)* of the legal entities who are not obliged, in the year, the apuration of the real profit. The option for the presumed profit holds in an aliquot of *PIS/COFINS* of 3,65%, the base of calculation for the IRS is 8% of the gross income and the base of calculation for the CSLL is 12% of the gross income. In the income tax case – IRS, the aliquot is the same for both

regiments: 15% with an addition of 10% for the exceeding values of R\$240.000,00, as well as, the aliquot of CSLL is of 9%.

For sectorial contributions, it was assumed the *Supervisory Fee of Electric Energy Service – SFEEES* is of R\$1,900.00 per MW installed per year (ANEEL, 2013) and the *Electric Energy Chamber of Commercialization Fee – EECCF* is of R\$0.0001 per MWh produced. As for *Usage Fee of the Transmission System – UFTS* were used the data from ANEEL (2017 b) referring to the charged value for the indicated project with the code 035266;7 located in Bahia. Thereby, it was considered a UFTS of R\$9.176 kW per month. It is important to highlight that the value mentioned doesn't consider the discount of 50% on the UFTS fee for energy incentivized projects, which is the case of wind energy.

It was considered over the signature of Operational Expenses the managing expenses of R\$150,000.00 per year for indirect managing costs of project operation, legal advice and others. It was also assumed the environmental expenses of R\$ 100,000.00 per year for activities in this area like maintaining the nature in a correct situation on the wind park.

Other operational expenses are the land leasing, which assumed a fee of 1% of the gross income per year and the insurance, considered in 0.10% the value of total investment, in line with what the main insurers charge. Also, the O&M expenses of the windmills and the electric grid, which were assumed in R\$ 650,000.00 per year, through projection of long-term contracts with third party companies to offer this service. The depreciation of the windmill is of 5% per year, considering 30 years of bestowal, and for the rest of the goods it will be used 10% of depreciation per year (Tolmasquim, 2005). A summary of the premises of the wind project is described in Chart 2.

With the adopted parameters, as described in Chart 3, the PLV of the project was of R\$217,344.607.98 and the *TIR* 14,90%, showing the feasibility of project potential since it has a financial refunding beyond the average expectation.

Still using the methodology of PLV evaluation, it was calculated value for the shareholder based in its cash flow, which resulted in R\$ 69,441,174.62 and the shareholder TIR of 17,76%. So, the financing creates the value for the shareholder.

In a second scenery, adopting exactly the same premises except for the referral price, which for the ACR will be of R\$150.00 per MWh e for the ACL which will be of R\$100.00 per MWh, it is observed that together with the decrease of prices there is also a decrease in project value. This scenario the PLV of the project was of R\$ 96,778,938.13 and the TIR 11,20%, showing more feasibility potential for the project due to the presence of a financial refund. However, the TIR is already below the cost of equity, which represents a minimum fee of attractiveness for the shareholder.

## **FINAL CONSIDERATIONS**

The insertion of wind energy in the matrix is a reality in Brazil and this paper sought to discuss financial themes of the wind energy projects, which are of fundamental importance. Particularly the allocation of risks between the entrepreneur of the project and the financing agent; and the uncertain of managing in relation to the production of energy of the huge relevance of the wind energy projects.

The valuation of wind energy production projects is of relevant importance for the decision making of the companies' investments and it should exhaust the risk estimates, costs and revenues with high fidelity and highly accurate criteria.

Being an academic work, it maintained fixed the production of energy through a renewable resource, but with the wind as a variable, the ideal is to deepen and detail the premises of the sceneries in order to benefit from the best resource available. The rigid scenery, although including the sale of energy in the free market, it does not consider the options the investor has and the uncertainty, otherwise minimized through time, can influence the value of the project.

Thereby, it is suggested that new analysis consider sceneries with projections of a variable production through the period of valuation to bring more sturdiness to the study.

## ENDNOTES

1 – Capital Asset Pricing Model – CAPM, in English.

2 – In investment is the classification of credit, that besides rating can also be called risk classification, risk evaluation, financial risk notation, among others. Such measure evaluates the credit value of the debt emissions of a company

3 – The anemometric measures are obtained, mainly, through an equipment called anemometer, which is a sensor used for the measuring of the wind speed. For the data which support the feasibility study of the wind project it is also used equipment like the Wind Vane, which shows the direction of the wind, thermohydrometer and barometer, which are, respectively, sensors of temperature and humidity, among others.

4 – The potency curve is a relation between the potency exit of the windmill and the wind speed.

5 – The windmills extract kinetic energy from the wind, behind them occurs a diminution of the wind speed making the windmill production of the tower that is located behind another to minimize, this effect is called treadmill.

6 – EBITDA is the abbreviation of Earnings Before Interest, Taxes, Depreciation and Amortization, meaning Lucros antes de juros, impostos, depreciação e amortização, in Portuguese.

7 – The capacity factor of a electrical energy producing station is the proportion between the effective production of the industry in a period and the total maximum capacity in the same period. The estimate can be done by the fraction of Physical Warranty by the potency.

8 – Basic Network is the transmittion that comprehend the lines of transmission and substations in equal or superior tension to 230 kV

9 – The TJLP is the Taxa de Juros de Longo Prazo, which was introduced by Medida Provisória nº 684, of 31.10.94, published in Diário Oficial da União on 03.11.94, being defined as the basic cost of financing given by BNDES. The TJLP is fixed by Conselho Monetário Nacional and published until the last given day of the trimester immediately before.

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## Tables, Figures and Appendices

Figure 1 – Comparative between Project Finance and Corporate Finance

Project Finance	Corporate Finance
Maior monitoramento e controle	Menor monitoramento e controle
Demora na montagem e altos custos	Rapidez na montagem e custos relativamente menores
Fluxo de caixa líquido, pelo contrato, deverá ser distribuído aos investidores	Fluxo de caixa líquido - reinvestimento ou Dividendos
Ao alocar riscos, utiliza limites de outros players - possibilidade de alavancagem Maior - o limite do patrocinador fica liberado	Financiamento utiliza parte da capacidade De endividamento do patrocinador
Estrutura de dívida menos complexa e número de credores menor - mais fácil de resolver apuros financeiros	Estrutura de dívida mais complexa e Número de credores maior - mais difícil de resolver apuros financeiros

Fonte: MWXENERGY, 2018

Figure 2 – Phases of development of a wind project



Source: SEBRAE, 2017

Figure 3 – Estudos preliminares e a estimação de uma energia líquida



Source: Authors Elaboration from DNV GL data

Chart 1 – Financing Conditions of BNDES

<b>Interest Rate</b>	
Direct Support: operation done directly with BNDES	
Financial Cost + Basic Refunding from BNDES + Credit Risk Rate	
<b>Financial Cost</b>	TJLP or TLP <sup>1</sup> or IPCA Currency
<b>Basic Refund from BNDES</b>	; According to current conditions to the project time setting. ; In November, 2017 is 2.1% per year.
<b>Credit Risk Rate</b>	; According to current conditions to the project time setting. ; In November 2017 is 0.5% per year. (with bank guarantee – cost 2.00%).
<b>Other Premises</b>	
<b>Maximum Participation of BNDES</b>	; Up to 80% of the value of the financiable items. ; The project will have to count on at least 20% of the contribution of its own resources. ; The BNDES can acquire infrastructural debentures emitted by the project.
<b>Amortisation Deadline</b>	; 16 years ; The interests will be capitalized during the shortfall term, which will be of up to 6 months after the input of the project in marketing operation, set by occasion of the deliberation in terms of credit concession.
<b>Amortisation System</b>	SAC
<b>Minimum ICSD</b>	; 1,2 ; This index must be maintained during the term of financing contract from BNDES.
<b>Credit Value</b>	; Determined according to capacity of project payment, expressed by ICSD.

**Source:** Authors elaboration from BNDES data

Chart 2 – Premises of a wind project (elaboração própria)

<b>Premisse</b>	Potency (MW)	30
	Physical Warranty (Average MW)	17,5
	Capacity Factor	58,33%
	RB Loss	2,50%
	Annual Expected Energy (MWh)	149.467,50
	ACR Selling Price (R\$/MWh)	200
	Annual ACR Gross Income(R\$)	29.893.500,00
	ACL Selling Price (R\$/MWh)	150
	Annual ACL Gross Income (R\$)	22.420.125,00
	Administrative Expenses (R\$) per year	150.000,00
	Environmental Expenses (R\$) per year	100.000,00
	TUST (R\$/kW) per month	4,59
	TUST (R\$) per year	1.651.680,00
	TFSEE (R\$/MW) per year	1.900,00
	TFSEE (R\$) per year	57.000,00
	CCEE Rate (R\$/MWh) per year	0,0001
	Leasing (reffering RB) per year	1,00%
	Insurance (reffering investment) per year	0,10%
	Insurance per year	180.000,00
	PIS/COFINS	3,65%
	O&M (reffering RL) per year	650.000,00
	Depreciation	11.700.000,00
	Income Tax Alíquota	15%
	CSLL Alíquota	9%
Ke	12,00%	
Kd	9,75%	
WACC	7,55%	

Source: Authors

Chart 3 - Valuation

Ano	2018	2019	2020	2025	2030	2040	2049
Preço de Venda atualizado ACR			R\$ 208,50	R\$ 253,67	R\$ 308,63	R\$ 456,85	
Receita de Venda ACR (+)			R\$ -	R\$37.915.739,11	R\$46.130.294,04	R\$68.284.104,11	R\$ -
Preço de Venda atualizado ACL			R\$ 156,38	R\$ 190,25	R\$ 231,47	R\$ 342,64	R\$ 487,68
Receita de Venda ACL (+)			R\$23.372.980,31	R\$ -	R\$ -	R\$ -	R\$72.892.178,99
<b>Receita Bruta</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$23.372.980,31</b>	<b>R\$37.915.739,11</b>	<b>R\$46.130.294,04</b>	<b>R\$68.284.104,11</b>	<b>R\$72.892.178,99</b>
Deduções: PIS/COFINS (-)			R\$ 853.113,78	R\$ 1.383.924,48	R\$ 1.683.755,73	R\$ 2.492.369,80	R\$ 2.660.564,53
<b>Receita Líquida</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$22.519.866,53</b>	<b>R\$36.531.814,64</b>	<b>R\$44.446.538,31</b>	<b>R\$65.791.734,31</b>	<b>R\$70.231.614,45</b>
O&M (-)			R\$ 677.625,00	R\$ 824.434,42	R\$ 1.003.050,53	R\$ 1.484.759,82	R\$ 2.113.276,19
TUST (-)			R\$ 1.721.876,40	R\$ 2.094.925,92	R\$ 2.548.797,70	R\$ 3.772.843,23	R\$ 5.369.932,33
Taxa de Fiscalização da ANEEL (-)			R\$ 59.422,50	R\$ 72.296,56	R\$ 87.959,82	R\$ 130.202,01	R\$ 185.318,07
Taxa da CCEE (-)			R\$ 15,58	R\$ 18,96	R\$ 23,07	R\$ 34,14	R\$ 48,59
Seguro (-)			R\$ 187.650,00	R\$ 228.304,92	R\$ 277.767,84	R\$ 411.164,26	R\$ 585.214,94
Arrendamento (-)			R\$ 233.729,80	R\$ 379.157,39	R\$ 461.302,94	R\$ 682.841,04	R\$ 728.921,79
Administrativo e outros (-)			R\$ 260.625,00	R\$ 317.090,16	R\$ 385.788,67	R\$ 571.061,47	R\$ 812.798,53
<b>Custos e Despesas Operacionais (-)</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$ 3.140.944,29</b>	<b>R\$ 3.916.228,33</b>	<b>R\$ 4.764.690,56</b>	<b>R\$ 7.052.905,97</b>	<b>R\$ 9.795.510,46</b>
<b>EBITDA - Resultado Operacional</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$19.378.922,25</b>	<b>R\$32.615.586,31</b>	<b>R\$39.681.847,74</b>	<b>R\$58.738.828,34</b>	<b>R\$60.436.104,00</b>
Depreciação (-)			R\$ -	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00
<b>EBIT - Resultado Operacional</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$ 7.678.922,25</b>	<b>R\$20.915.586,31</b>	<b>R\$27.981.847,74</b>	<b>R\$47.038.828,34</b>	<b>R\$48.736.104,00</b>
Despesa Financeira (-)	R\$ 6.785.336,04	R\$ 12.912.990,84	R\$12.055.476,47	R\$ 7.767.904,59	R\$ 3.480.332,72	R\$ -	R\$ -
<b>Resultado Antes dos Tributos</b>	<b>-R\$ 6.785.336,04</b>	<b>-R\$ 12.912.990,84</b>	<b>-R\$ 4.376.554,22</b>	<b>R\$13.147.681,71</b>	<b>R\$24.501.515,03</b>	<b>R\$47.038.828,34</b>	<b>R\$48.736.104,00</b>
IR (-)	R\$ -	R\$ -	R\$ 280.475,76	R\$ 454.988,87	R\$ 553.563,53	R\$ 819.409,25	R\$ 874.706,15
CSLL (-)	R\$ -	R\$ -	R\$ 252.428,19	R\$ 409.489,98	R\$ 498.207,18	R\$ 737.468,32	R\$ 787.235,53
<b>Resultado do Exercício (R\$)</b>	<b>-R\$ 6.785.336,04</b>	<b>-R\$ 12.912.990,84</b>	<b>-R\$ 4.909.458,17</b>	<b>R\$12.283.202,86</b>	<b>R\$23.449.744,32</b>	<b>R\$45.481.950,76</b>	<b>R\$47.074.162,32</b>
<b>EBITDA - Resultado Operacional</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$19.378.922,25</b>	<b>R\$32.615.586,31</b>	<b>R\$39.681.847,74</b>	<b>R\$58.738.828,34</b>	<b>R\$60.436.104,00</b>
Depreciação (-)			R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00
<b>EBIT - Resultado Operacional</b>	<b>R\$ -</b>	<b>R\$ -</b>	<b>R\$ 7.678.922,25</b>	<b>R\$20.915.586,31</b>	<b>R\$27.981.847,74</b>	<b>R\$47.038.828,34</b>	<b>R\$48.736.104,00</b>
IR (-)			R\$ 280.475,76	R\$ 454.988,87	R\$ 553.563,53	R\$ 819.409,25	R\$ 874.706,15
CSLL (-)			R\$ 252.428,19	R\$ 409.489,98	R\$ 498.207,18	R\$ 737.468,32	R\$ 787.235,53
Depreciação (+)			R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00	R\$11.700.000,00
CAPEX (-)	R\$180.000.000,00	R\$ -	R\$ -	R\$ -	R\$ -	R\$ -	R\$ -
<b>Fluxo de Caixa da Firma / FCFF</b>	<b>-R\$180.000.000,00</b>	<b>R\$ -</b>	<b>R\$18.846.018,29</b>	<b>R\$31.751.107,46</b>	<b>R\$38.630.077,04</b>	<b>R\$57.181.950,76</b>	<b>R\$58.774.162,32</b>
Entrada de Caixa Financeiro (+)	R\$144.000.000,00	R\$ -	R\$ -	R\$ -	R\$ -	R\$ -	R\$ -
Pagamentos de Dívida (-)	R\$ 4.500.000,00	R\$ 9.000.000,00	R\$ 9.000.000,00	R\$ 9.000.000,00	R\$ 9.000.000,00	R\$ 9.000.000,00	R\$ -
Resultado Financeiro (+)	-R\$ 6.785.336,04	-R\$ 12.912.990,84	-R\$12.055.476,47	-R\$ 7.767.904,59	-R\$ 3.480.332,72	R\$ -	R\$ -
<b>Fluxo de Caixa do Acionista / FCFE</b>	<b>-R\$ 47.285.336,04</b>	<b>-R\$ 21.912.990,84</b>	<b>-R\$ 2.209.458,17</b>	<b>R\$14.983.202,86</b>	<b>R\$26.149.744,32</b>	<b>R\$57.181.950,76</b>	<b>R\$58.774.162,32</b>

Source: Authors

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #635**

**How institutions affect foreign entry mode: the case of  
Brazilian airports**

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**Abstract**

*This paper examines the institutional theory aspects for entry mode of infrastructure's foreign direct investment (FDI) in the recent Brazil's airport privatization process in light of the local institutional (contractual) environment to attract resources and knowledge to overcome country's infrastructure asymmetries. The paper draws on institutions theory. We consider the institutional environment in Brazil for foreigner investors pursuant to key regulations on concessions and on bidding and procurement of public-private partnerships (PPP). In addition, the influence of the major local contractors on the bidding process in infrastructure project auctions. This paper will be based upon qualitative research with a case study focusing on the entry of three international airport infrastructure airports that were winning bidders in the recent privatization process in Brazil. Analysis of documents was carried out. Results show that without any prior knowledge of local institution environment these firms have committed high volumes of capital into Brazil counting on the protection of the country's institution environment of concessions and that a wide anticorruption operation in Brazil has promoted a major change in the entry mode of foreign firms in this market.*

**Keywords:** Entry Mode; Institutions FDI; Infrastructure; Airport..

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## **INTRODUCTION**

As opposed to manufacturing, infrastructure sectors suffer from the “market failure” problem by which competition does not promote the maximum social welfare and State intervention is thus justified under an economic efficiency criterion (RAMAMURTI; DOH, 2004). Government regulation as well as the control of entry in certain monopolistic markets like airports is justified although it brings with it the “obsolescing bargain” risk. Studies of market regulation and control of entry are highly industry-specific due to the very idiosyncratic market failures that are present in each infrastructure activity or segment (RAMAMURTI; DOH, 2004; TUROLLA, 2013). In addition, the institutional environment of host countries is also idiosyncratic, and even more in developing countries. Against that background, studies of market entry in specific infrastructure industries in emerging countries are relevant because theory is not sufficiently general to account for both the specific market failure of the industry concerned and the host country institutions. This paper contributes to the institutional theory literature by presenting a specific case of entry in a particular infrastructure industry in an emerging country, and by identifying the role of host country institutions in attracting FDI – which is difficult to attract in emerging markets as supported by Sader (2000) and the problems arising after entry are significant (GUASCH; LAFFONT; STRAUB, 2005).

Against that background, Brazil presents a particular institutional environment in which some specific changes can be studied in a controlled manner. When studying airport privatization in cross-country settings, the features are much less stable and therefore institutional aspects are much more difficult to control as compared to what is possible in the Brazilian context. This is a motivation for this study.

The general objective of this article is to examine the case of the concession of the Brazilian airports in which there were country-specific forms of contracts as well as mingled forms of concessions, including in the case of airports a consortium between MNEs and private nationals with the state-owned Brazilian Company of Airport Infrastructure, Infraero, participation in the equity composition. In such scenario, the specific object of this research project will be to analyze the contract advantages of MNEs entry mode in light of the costs of institutional rules of the game; in particular, we take into account the stake of Infraero, which has veto power over the investments in airports where it holds 49% of shares, as well as the prevailing competitive environment prior to a major corruption scandal affecting domestic contractors that typically dominated the bids for concessions.

In the sequence, we discuss the theoretical and applied literature as applied to the subject followed by the methodology and by the discussion of the results. The study contributes to the strategy of international players in the infrastructure industry and specifically in the segment of airports as they can better understand institutional features of entry in emerging countries with idiosyncratic institutional environment and regulation. Public policy can also benefit from the study as the paper clarifies rules that are relevant for new entrants given the existing local regulations.

## **THEORETICAL AND APPLIED LITERATURE**

This paper intends to examine the impacts of Brazilian institutional environment in attracting MNEs to commit FDI in airport infrastructure compared to national enterprises, and their choices of entry mode in this sector.

### ***Institutions and Entry Mode***

There is an extensive literature on entry mode choices. Main results of this literature are that institutional environment in emerging markets plays an important role on the entry mode decision of MNE's, with the quality of institutions directly correlated with foreign entry (SHAVER, 2013; MEYER, 2001; MEYER, et al., 2009; ANG, et al., 2015; MORSCHETT et al, 2010; CONTRACTOR et al., 2014; HERNANDEZ; NIETO, 2015; DIKOVA; WITTELOOSTUIJN, 2007; CUI; JIANG, 2010, 2012). Nonetheless, very specific rules of the game although not correlated with better or worse institutional quality might affect the choice of entry modes – as it will be shown in the Brazilian case henceforth.

There are two strategic initial decisions an MNE has to make when investing capital equity in a foreign country: establishment mode and entry mode. The first concerns the decision to establish by investing to build an operation from a blueprint (greenfield), or to establish by way of investing to acquire an existing foreign entity (brownfield). The second concerns the decision to entry alone (fully owned) or to partner with a local or other foreign investor (shared ownership) to establish a foreign entity (Dikova and van Witteloostuijn, 2007). Table 1 summarizes the approaches under Theories of Cost Economics (TCE) and its advantages and disadvantages for each of the mode choices.

\*\*\*\*\* **TABLE 1 ABOUT HERE** \*\*\*\*\*

According to Meyer (2001), MNE's entering an emerging economy need to adapt their strategy to the host country institutional environment in order to reduce transactions costs derived from highly imperfect markets. His study confirmed that choice of entry modes is highly affected by emerging economies institutions. Brouthers (2002) study confirmed that MNE's which determine their mode choice taking in consideration host country institutional environment, amongst transaction costs and cultural aspects, have better performance than those which do not take them in consideration when committing FDI.

MNE's adjust their entry strategies to adhere to regulatory and normative environment of host country (CUI; JIANG, 2010; BROUTHERS, 2002; MORSCHETT et al., 2010). In his further empirical study Meyer et al., (2009) has shown that JV (joint venture/partnership) is the preferred mode choice to enter weak institutional economies while full ownership mode choice prevails on stronger institutional economies. In his metanalysis, Morschett et al. (2010) has found that institutions and industry type moderate entry mode choice of MNE's. In addition, the study on the interaction effects of institutional differences on FDI, carried out by Ang et al. (2015), demonstrates that in order to locally achieve normative and regulatory legitimacy, firms tend to commit to regulatory environment when entering a foreign market.

### ***Institutions, emerging economies and contracts***

In his rethinking of foreign investment in developing countries, Ramamurti (2004) assesses that, as opposite to manufacturing, infrastructure sectors suffer from the market failure problem which can be remedied by government regulation. However, the latter carries obsolescing bargain risk, making investments even riskier when made in developing countries, characterized by weak institutions and political instability. Entry mode of MNEs in developing countries is, therefore, a function of choosing the appropriate capital structure to mitigate creeping expropriation from host governments (SAWANT, 2010). Notwithstanding, anticipated entry poses first mover advantages of ephemeral nature of windows of opportunity (TUROLLA, 2013).

Dunning (2008), upon incorporating institutions dimension in his eclectic paradigm outlined the central role played by institutional analysis in understanding both the determinants of MNE behavior, and its effects on home and host countries. Much of the institution's literature had dedicated attention to institutions as solutions to problems in a competitive environment and the role of institutions in economizing transaction costs (NORTH, 1991; WILLIAMSON, 1975, 1985). As applied to the international business field, the same literature provides insights on internationalization of firms. When firms decide to go to foreign countries to engage in a contract negotiation, they are subject to transaction cost problems due to the constraints of achieving an agreement and enforcing and protecting goods and services bonded to the contract, in addition to the agency problems (NORTH, 1991). As in Ross (1973), the eldest and most common codified form of social interaction is the relationship of agency which is raised when one party acts for, on behalf of, or as representative agent for another party, in a particular dominion of decision problems.

According to North (1991), measurements, accounting units, exchange means, notaries, consuls, regulatory agencies, jurisdictions, and insurances, were posed due to negotiations and enforcement in foreign countries. In attempt to make transacting and engagement in long distance negotiations feasible, institutions, organizations, and instruments were created to reduce information costs and to incentive contracts fulfilment. In the context of long term public-private contracts, those characteristics are even more constraining (GUASCH; STRAUB; LAFFONT, 2003; KIRKPATRICK; PARKER; ZHANG, 2006).

Cantwell, Dunning, and Lundan (2010), in one of their propositions to link evolutionary and institutional views, ascertain that, particularly from the emergence of knowledge-based economy and contemporary globalization, the aspects of institutional environment for international business are of uttermost importance to MNEs within the framework of North (1990, 2005), and that complex institutions emerge to deal with typical uncertainties arising from complex forms of exchange. Those institutions involve both market and non-markets actors. In their view "these institutional aspects have also become increasingly interconnected over geographical space, and MNEs both contribute to, and are affected by, the contagion effects from the external environment that are now capable of being transmitted more rapidly and effectively from one location to another" (CANTWELL; DUNNING; LUNDAN, 2010, p. 571).

### ***Infrastructure, internationalization and FDI***

Turolla (2013) proposes a theory of international production of infrastructure services by claiming that the decision of internationalization by any infrastructure firm is not a trifling one. Opposed to most sectors, infrastructure is characterized by high level of fixed costs with highly specificity of capital. Investments have quite complex nature in particular those of greenfield type (SADER, 2000). Such peculiarities imply relatively low ex ante incentive to investment, exacting regulatory action from governments. In contrast to that context, the traditional infrastructure firm carries risks that are different and frequently higher than those born by other corporations (Turolla, 2013). Infrastructure FDI and the international production of infrastructure subject is exiguously addressed in the academic literature, albeit its increased importance. Limited works can be found on the internationalization of infrastructure firms. Sarkar, Cavusgil and Aulakh (1999), are of the view that mainstream theories of international business (IB) needs further development to adapt or unravel international production of infrastructure in academic.

Even though infrastructure is a fundamental feature of economic development (CALDERÓN; SERVÉN, 2004), limited investment is a rather common situation, especially in developing countries. FDI, although not readily captive, may contribute to relieve the curbs related to poor infrastructure (TUROLLA, 2013, p. 42). The question raised by Sader (2000), as to why it is so difficult to attract FDI into infrastructure, a number of macroeconomy and institutional challenges faced by host countries were found.

Opposed to manufacturing, infrastructure sectors, suffer from the market failure problem which can be remedied by government regulation. However, the latter carries obsolescing bargain risk, making investments are even riskier when made in developing countries, characterized by weak institutions and political instability (RAMAMURTI; DOH, 2004).

With the event of rapid globalization in the 1990s, developing countries faced a major deficiency in infrastructure sectors such as transport, energy, water, and telecommunications (GUASCH, 1996) in order to be able to attract FDI from MNEs, regardless the attractiveness of wages or other economic attributes (RAMAMURTI; DOH, 2004).

In spite of the fact that infrastructure sector are subject the natural monopoly condition as well as showing non-tradable outputs, high capital intensity, high asset-specificity, high asset immobility, and strong political salience in addition to developing country risks, Ramamurti and Doh (2004) raised the question: “Why FDI increased in emerging markets?” enlightening that infrastructure FDI flows increase in late 1990’s were associated to: a) the decline of “natural monopoly” characteristics of infrastructure sectors which demands government regulation; b) advantages of first-movers in globalization phenomena of infrastructure sectors; c) novice mechanisms of finance that reduce risks for MNEs; d) the qualitative improvement of climate for infrastructure FDI in developing countries; and e) the less likely risk of expropriation of foreign infrastructure assets by host developing countries in current environment.

More recently, Sawant (2010) developed the theory of Project Finance (PF) mode of FDI as the alternative mechanism to minimize risk of capital-intensive investment in developing countries by way of increased leverage and syndicated loans to mitigate creeping expropriation and to improve bargaining position of MNE’s in ex post recontracting pitfalls derived from the asset specificity condition. In his work Sawant (2010) found limited evidences that PF mitigate creeping expropriation in host countries however it does support the evidence that PF mitigates the risks of significant investments in infrastructure for MNE’s in addition to mitigate transaction costs emerged from concentrated suppliers and buyers.

PF is however regulated in any local country context. In Brazil, regulation involves the law 8.987/1995 on concession and permission regime for public services and construction works and law 11.079/2004 on general rules for bidding and procurement of public-private partnership (PPP) in the context of public management. However, other institutions play a relevant role like the arrangements between players.

## **METHODOLOGY**

This paper is based on available documents, media articles, and preliminary interviews which will employ a qualitative research of a case study method, with the core objective to explore the answers to the question: how Brazil’s institutional environment affects the entry mode of FDI in the airport infrastructure sector?

Therefore, this paper observes three distinct moments: initially bibliographical research, which seeks to deepen the theoretical knowledge about the phenomena to be studied and thus pave the preparation of the second and third moments, which is the data collection and analysis of available documents including interviews with managers from airport operators found in the press, regulatory reports by the regulator ANAC, the National Agency for Civil Aviation, and the federal government.

The importance of establishing a protocol for the execution of the research lies on the fact that it guides the researcher throughout the entire process and mainly establishes the scientific link between the procedures and the results found (YIN, 2006). For Yin (2006) the protocol must contain at least four different steps: overview, field procedures, search roadmap questions, and report. We will make at a later stage content analysis of the material mainly of interview transcriptions to be compared with other documents.

## **RESULTS**

At the time of this submission, field research interviews were conducted with executives from two distinct airport consortium, members of local regulatory agency for aviation ANAC, and an independent regulation consultant. The objective is to interview additionally four executives from airport groups that have participated in different rounds of biddings in order to increase sturdiness of this study.

Preliminary results indicate that there is a set of factors playing together to allow for more foreign private sector participation, namely the change in government with a market-friendly team taking office, the signaling of macroeconomic stability under the Temer administration following a weak commitment by the former Dilma administration, and the weakening of the position of local players due to the Lava Jato operation. With all these conditions enabled, however, a key role was played by the design of the auction, without SOE Infraero and with a new mechanism of payment of fees (bestowal) that is related to the changes in the foreign exchange rate of the Brazilian currency. Airports were the first sector in which foreign players found a free avenue to thrive in the Brazilian market without joint ventures or partnerships with local companies or established contractors. That indicates a reduction in transaction costs of entry in the Brazilian market after decades of administrative and institutional barriers against foreign players - those barriers are still in place, but in some sectors, foreigners are increasingly encouraged to take the underlying risks with better prospects of economic return and contract continuity. Further improvements in contract design and regulation were helpful in airports and in other infrastructure sectors even after the handover from the Temer to the Bolsonaro administration early in 2019. It was also elicited from interviews that the terms of tenders were improved incrementally at each round as result of collaboration between ANAC and market players in an attempt to converge regulations to more friendly international combinations.

## **DISCUSSION**

Foreign Direct Investment (FDI) in infrastructure has been for many years a challenging contractual endeavor to new entrants in their internationalization process and to government agencies in attracting resources and knowledge to overcome country's infrastructure asymmetries (VAN DEN HURK, 2016; SADER, 2000). After a long period of deterioration in public accounts, services and infrastructure and limited financial resources for infrastructure investments in emerging economies, many governments decided to pursue initiatives of various

forms of private sector participation in order to boost investments amid binding fiscal constraints (GILLEN; MANTIN, 2014).

The Brazilian case is a particular one because the federal government made four successive rounds of airport concessions each one with a particular ruling. In addition, there was a major change between the periods which these rounds of concessions took place, namely the Car Wash operation. Corruption scandals and court decisions led incumbent infrastructure players to weaken. Those incumbents included contractors and new entrant operators typically derived from contractors' groups, being those which initially took over airport concessions. As a consequence, foreign new entrants have found a window of opportunity to enter the Brazilian market and to take concessions.

Before the Car Wash, the bidding procurement requirements set by the Brazilian regulatory agency ANAC led the national contractors and entrant operators to associate with foreign groups to meet the minimum prior operation requirements; after the Car Wash operation the only round carried out resulted in the adjudication of all of the four concessions to foreign groups without any partnership with local companies – which did not even bid for the objects, showing a significant shift in this market. Other specific features of the competition for these concessions can also be isolated so that their effects can be evaluated under a relatively controlled institutional environment. These features include: in two out of the four rounds, the State-owned company Infraero was mandatorily included as a stockholder with 49% share; changes in bidding procurement rules; restrictions on cross-ownership of terminals among others. It is noteworthy that these changes are relatively constrained, thus allowing us to evaluate their impact.

To be eligible for an airport concession, public tender requires at least one experienced operator in the partnership, thus far monopolized by Infraero. Because only MNE's own that specific advantage, national companies willing to participate in the tender are subject to partner with foreigner operators to compete in the process, initiated in 2011 (ANAC Tender Notice, 02/2011, 01/2013, and 01/2016)

The concession of Brazilian airports began with the privatization of Natal's airport alone. Then National Agency of Civil Aviation (ANAC), the aviation regulator agency, launched three batches of major airport privatization, in 2012, 2014, and 2017 respectively (INFRAERO, 2016).

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

There was a gradual increase in participation of foreign MNE's in airport concession, as seen in Table 2, an indicator of increased confidence, by foreign MNEs, in Brazilian institutional environment, evidenced by batch 3 of concessions in 2017, when airport concessions were fully adjudicated to foreign MNEs, a time when major infrastructure national enterprises and high caliber politicians were plunged into "Car-wash" corruption scandal at the same time Brazil's economy were struggling to recoup from its long term recession.

Brazil has disciplined, since mid-90s, a set of long term concession contracts, namely the so-called regular concessions ruled by law 8.987 of 1995, which main objective is to provide the necessary infrastructure for socio-economic development and the provision of services with distinctive quality allowing the public sector to harness the management potential of private entities while avoiding additional government expenditures (CABRAL; SILVA JR., 2009) and the administrative concessions and sponsored concessions both ruled by law 11.079 of 2004 being the first the service contract of which the Public Administration is the direct or indirect

user and the latter when it involves, in addition to the tariff charged by the users, consideration from the public partner to the private partner. Before those laws, foreign entry in the Brazilian infrastructure markets was rare or very limited to the concession of three highways and bridges and some ports. The legislation gave support to the entry of foreign players in the Brazilian market for several infrastructure sectors and it is clear from the documents that such legislation was also the base for the design of the airport infrastructure concessions. In the case of the airport infrastructure, the government agency ANAC under an initiative led by the federal government issued the publicly tender notice for all the batches of airport privatization specifying the terms of the concession such as, but not limited to, requirements to be an operator, limitations of bidders, minimum investment required, documentation, auctioneer, local and foreigner and consortium participants and its limitations. (ANAC Tender Notices 02/2011, 01/2013, 01/2016). Brazilian government is also of the view that the country retrieved the quality of the projects presented in the novel modeling of infrastructure Partnership Program of Investment (PPI) (PERES, 2017).

Evidence from documents is limited, however initial interviews sustain such change (improvement) and this will be further confirmed in upcoming interviews. The change in the ruling of mandatory Infraero participation, coupled with investment triggers requiring less upfront capital commitments has led to increased appetite of foreign players. This leads to the following proposition.

***P1: IJV entry mode of FDI in infrastructure in an emerging country increases under idiosyncratic auction settings.***

The difficulty in establishing such proposition is one of controlling for the effects of weakening of local contractors under the consequences of the Lava Jato operation. Evidences that this fact may be seen in the fact that no foreign player tried to bid lonely in previous rounds even without a dominant contractor partner; while no foreign player tried to bid with a local partner in the third round. Ecorodovias and CCR were players in the road sector that were available in all rounds but were actually chosen as partners in the third round (example Ecorodovias with German Fraport AG in the 2<sup>nd</sup> round), and these two players were not affected by Lava Jato, were still available at the 3<sup>rd</sup> round, but they did not bid alone and did not were neither chosen as partners to international bidders). So, we might propose that the change between 2<sup>nd</sup> and 3<sup>rd</sup> rounds is not to be attributed to the weakening of domestic players but rather to the Infraero mandatory share, and the new auction requirements.

One could think that the establishment choice in the case of airports is not a corporate decision but rather a public sector decision. In this reasoning, it would be the conceding entity that will choose among a greenfield project (like the ASGA project in Natal) or a brownfield project that involves refurbishment of existing facilities (like all other projects listed). However, the establishment decision does not concern the project itself (or the specific firm create to serve as a vehicle to the project, a SPV – Special Purpose Vehicle). It rather concerns the establishment of a subsidiary of an airport- or infrastructure-oriented MNE in a particular country, which could be by greenfield choice in the local market as a direct buyer of new concessions or alternatively as an acquirer of brownfield, as the local example of Brazil, the SOE Infraero or existing regional airports operators like companies known as Socicam and Multiterminais.

Against that background, the establishment decision does not regard the greenfield or brownfield nature of the project itself (i.e., whether the special purpose vehicle company builds new assets or takes over existing assets) but rather that the multi-airports operator itself that can

be acquired or not by the MNE in the latter case being a direct entry of such MNE as an operator of a new airport concession. All the foreign operators shown in the Table 2 entered the Brazilian market through a greenfield establishment mode, since none has acquired a local company with that purpose in sight – namely, they came directly into the local Brazilian market to bid for the concessions without acquiring equity in any local established operator.

Local market features are also relevant. The Project Finance (PF) operations with the public sector were dominated by the local contractors (Odebrecht, a construction firm is as an example). Within that context, entry of foreigners only took place because it was mandated by minimum experience requirements mandated by ANAC (Tender Notices 02/2011, 01/2013, 01/2016), and foreign players such as Corporación America, ACSA, Egis, Changi, Flughafen Zürich, and national contractors such as Engevix, OAS/Invepar, Triunfo, UTC, Odebrecht, and CCR (ALVARENGA 2012, 2013)

However, the anti-corruption car wash operation has dramatically changed the game and may provide analytical insights on the new situation.

As a result, local contractors, including those which participated in tendering batches one and two, were weakened in several senses by the operation, giving foreign players, such as airport operators Vinci, Flughafen Zürich, and Fraport, the conditions to enter, for the first time, without a local partner, nor SOE Infraero. with Fraport winning two concessions tenders in the same batch. Legislation did not prevent locals to keep taking most of the stakes, but the change illustrates how weakened local players had opened the spectrum for PF entry modal without having to share management with any of the local players. The absence of main local contractors allowed international operators to determine the entry mode of full FDI. However further investigation needs to be performed in order to determine the finance arrangements set by those MNEs. Thus, we can propose that local financing arrangements may create barriers against entry of foreign players in infrastructure markets.

***P2: Host country finance arrangements are deterrence factors for international operators in the local infrastructure market.***

## **FINAL REMARKS**

There is preliminary indication, as shown in this in progress paper, that host country institutions and regulations like the design of the procurement process actually have a direct effect on the foreign direct investment as an entry mode in airport infrastructure in Brazil and in the local markets. Furthermore, the perspective of effective laws aimed at rooting out systemic fraud might have signaled to a higher reliability of institutions in Brazil, in terms of contractual and regulatory environment, thus encouraging foreign firms to commit FDI in country's infrastructure (PERES, 2017). Th

This article has limitations like the limited number of cases studied and the fact that the study covers only Brazil as a host country – the idiosyncrasies may be very country specific. In addition, although the concession process in Brazil is rather recent, the analysis of each round of concessions shows an incremental participation of FDI in each round to reach 100% in the third round, supporting findings in academic literature on the institutional effects on entry mode choices. Further developments are yet to come as well as problems and challenges are yet to show up as the contracts evolve in time.

Future research directions include an enhanced qualitative methodology using interviews with executives from at least four different airport firms that have been granted the concession of a Brazilian airport.

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**Table 1**

Mode	Authors	Choices	Advantages	Disadvantages
<b>Establishment</b>	Kogut & Singh (1988) Hennart & Park (1993) Andersson & Svensson (1994) Brouthers and Brouthers (2000) Larimo (2003)	brownfield	speed of local presence	cross-cultural differences technological mismatch
		greenfield	preserve and replicate corporate culture	longer establishing period more time to build network
<b>Enter</b>	Gatignon & Anderson (1988) Kim and Hwang (1992) Delios & Beamish (1999) Meyer (2001) Brouthers (2002)	wholly owned	management autonomy full control over operation	liability of foreignness
		shared ownership	use of resources minimize investment risk	conflicting partner's capabilities, interest, and goals

Elaborated by the author based on Dikova and van Witteloostuijn (2007)

Table 2

						Consortium - Specific Purpose Vehicle - SPV					
						Private Shareholders - SPV				SOE	
Batch	Year	Airport Location	Term Years	Bidding amount BRL	Investment Required BRL	Foreign Partner	Country of Origin	% share	National Partner	% share	Infraero Share
0	2011	Natal-RN	25	0,2 bi	0,7 bi	Corporación America	Argentina	50,0%	Infravix	50,0%	0,0%
1	2012	Brasilia-DF	25	4,5 bi	2,8 bi	Corporación America	Argentina	25,5%	Infravix	25,5%	49,0%
1	2012	Guarulhos-SP	20	16,2 bi	4,6 bi	ACSA	South Africa	5,1%	Invepar /OAS	45,9%	49,0%
1	2012	Campinas-SP	30	3,8 bi	8,7 bi	Egis	France	5,1%	Triunfo UTC	23,0% 23,0%	49,0%
2	2014	Galeão-RJ	25	19,0 bi	5,7 bi	Changi	Singapore	20,4%	Odebrecht	30,6%	49,0%
2	2014	Confins-MG	30	1,8 bi	3,5 bi	Flughafen Zürich	Switzerland	12,2%	CCR	38,3%	49,0%
						Munich GMBH	Germany	0,5%			
3	2017	Fortaleza-CE	30	1,5 bi	1,4 bi	Fraport	Germany	100,0%			0,0%
3	2017	Salvador-BA	30	1,6 bi	1,2 bi	Vinci	France	100,0%			0,0%
3	2017	Florianópolis-SC	30	0,2 bi	1,0 bi	Flughafen Zürich	Switzerland	100,0%			0,0%
3	2017	Porto Alegre-RS	25	0,4 bi	1,9 bi	Fraport	Germany	100,0%			0,0%

(\*) Elaborated by author based on media articles

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #648**

**Regional economic impact and benefits of airport  
deployment an analysis under the context of the ABCD  
Paulista**

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**Abstract**

*Airports are important operational structures that benefit from the economic dynamics of the cities in which they are installed. They contribute greatly to the socio-economic development of the regions and their surroundings, which is why the role played exceeds the question of their location. The general objective of this work is to discuss some theoretical aspects about the operational and economic viability of a new airport in the city of São Bernardo do Campo, main city of ABCD Paulista, trying to examine the economic potential of this enterprise in terms of production, employment and income. It discusses initially the theoretical aspects related to the regional development and the economic role played by the airports, emphasizing the interpretation of the regional imbalance theory. The main airport types that can be implemented in the city of SBC are the airport-city, airport-industry or airport-corridor. This note presents alternatives for urban areas in São Bernardo do Campo that can receive the implementation of an airport site and proposes a more detailed study on the economic impacts generated from the use of an Input-Output Matrix. Eight potential areas have been identified that meet the legal, economic and environmental conditions established by municipal and state legislation. The airport project in São Bernardo do Campo adheres to the sustainable development objectives, fulfilling a relevant social, economic and environmental function.*

**Keywords:** Regional Development; Airport; ABCD Paulista; São Bernardo do Campo; Input Product Matrix; Economy.

**Acknowledgments**

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## **INTRODUCTION**

Airports are complex transportation structures that move large-scale passengers, cargo, aircraft and professionals. Its function is no longer only primary, that is, the movement of passengers and cargo. Modernly, "airport city" is what incorporates to its core business activities of commerce, hotels, events centers, automotive services, leases, etc. An airport is a logistic space responsible for the movement of passengers and cargo, but its concept has expanded significantly in function of the processes of greater economic integration between the regions. The mobility needs of goods and people have made airports essential infrastructures not only to meet these demands, but above all to promote the development of the region where they are installed. Thus, the operation of an airport function as a reciprocal mechanism of development insofar as it facilitates the economic movement of goods, services and people and, at the same time, generates potential opportunities for new business in its surroundings, promoting employment, income, taxes and productivity gains to the local economy.

If in the past airports were built far away from cities, they are now developing complex activities in their surroundings that give them life of their own. All of them are inserted in the logic of promoting the development of the productive forces of a region. They are channelers of human and material resources and operate under the logic of productive integration, which goes from the local to the global and vice versa.

In order to reach the objective proposed in this work (to evaluate the conditions of implementation of an airport in the ABCD region), the following main technical procedures are used: i) specialized bibliographic research (literature and official sources), complemented by the use of a simple technique of estimation from a series of passenger data and economic indicators; ii) qualitative approach of regionality scholars and airports. The method has a deductive character, when analyzing the characteristics, context and procedures for the implantation of airport sites when establishing some analytical parameters of economic and operational order that impact in the geographic space where they are installed.

## **THEORETICAL APPROACH: REGIONALITY AND AIRPORTS**

A striking feature of economic spaces is their degree of concentration, whose productive activities reflect the concentration of capital, which is poorly distributed (Haddad, 2009 apud Wiebusch, 2007). The concept of space and region is vast and does not allow simplification to its own economic dynamics, since the spaces encompass demographic, technological and social elements. This alone is enough to put into perspective the limitation of a single interpretation of analysis for the occupation of urban spaces. For this work, the concept developed by Boudeville & Perroux apud Wiebusch (2007) will be used, for which economic spaces can be homogeneous, polarized or planning. We are interested here in the dimension of polarized spaces, which constitute poles of concentration of economic, social, political and administrative activity, which seems to fit more directly to the ABCD region, due to its characteristic of strong industrial concentration.

The literature deals with the theme of regional development considering two major orientations: that of balance and regional imbalance. The first orientation (regional equilibrium) is based on the idea that free markets promote optimal allocation of the factors of production - because they are perfectly substitutable - and are characterized in economic environments whose prices operate freely (Kon, 1998). In this interpretation, what guarantees full employment in the use of factors of production are capital accumulation, technical progress and the labor market, and what explains the regional disparities are differences in the availability of these factors. The

criticism of this interpretation is that it is very rigid, not taking into account the dynamic factors that interfere in the localization of productive activities.

The second orientation - that of regional imbalance - assumes that economic activities are polarized (concentrated) and distinct from one another, caused by different patterns of economies of scale, production and distribution costs. For Hirschman (1995), this agglomeration is a result of the very growth of economic activity and its correction requires "sequential" rather than "simultaneous" solutions. In other words, developing countries have specific manpower and entrepreneurship available for their development projects, requiring that sequential stimulus policies be adopted in response to the disparities produced. Thus, this theory argues that the agglomeration economies accentuate the spatial heterogeneity, the economic advantages obtained by the proximity between the enterprises being important element of the generation of economies of scale, cost reductions and better distribution conditions. In other words, the economic imbalance promotes investment in the economic poles, which attract new companies and thus widens the regional imbalance. That is, the hypothesis of imperfect competition and increasing returns to scale explain the economic growth rates of a region (Costa apud Wiebusch, 2007). When we look at ABCD's development trajectory, especially since the 1950s with the installation of large projects related to the automobile industry, the region attracted new industrial enterprises that served as suppliers of specialized inputs and technologies. At the same time, urban agglomerations were expanded and the market for the consumption of durable goods and a wide service network developed. The economic expansion of the region generated increasing returns to scale in which the expansion of an industrial activity propelled the implantation of new industries, that consequently attracted labor of diverse parts of the country and constituted a strong market of consumption in the region.

### ***Context and models of airports***

Currently there are more than 2,400 airports spread across 175 countries, which moved 9.3 billion passengers in 2017 (ACI, 2017). Airport Council International (ACI) estimates that 919 airports operated 78% of all world traffic and generated revenues of US \$ 161.3 billion in 2017, 56% with aeronautical activity, 39.4% with non-aeronautical activities (concessions, parking, space leasing and others) and 4.6% with other activities. In 2017, global revenue per passenger was \$17.27, and the cost per passenger was \$13.55, generating an operating profit margin of 22.2% and a return on invested capital of 7.3%.

Brazil stands out in the international scene when it comes to the quantity of airports. There are currently 3,652 airfields in the country (80% private - 2,863 registered at ANAC), each of which has the most distinct characteristics of size, purpose and type of ownership (concessionary, landowners, union, municipalities and states) and / or operation (regional, national and international). Between 2005 and 2015, the demand for air transportation in the country increased more than 100%, from 54 million passengers in 2006 to 109 million passengers in 2016 (ANAC, 2017). In the period between 2017 and 2037, according to the National Association of Airport Administrators - ANEAA (2018), the number is expected to double, reaching 200 million passengers in 2037 (average rate of 3, 35% per year). The projection of air cargo is also promising: 84% growth in 20 years at regional and systemic airports. The Southeast will continue to lead the volume of cargo transported in Brazil (62% of the total). This context of expansion will require greater agility in the functioning of the airport infrastructure, requiring more appropriate regulatory frameworks and greater investments.

The primary legislation that gave greater organicity to the management of the Brazilian airport space dates from 1966, with the edition of the CBA (Brazilian Aeronautical Code) and, more

recently, with the edition of Administrative Rule 957 / GC3 of the Aeronautics Command, which deals with the rules of airport deployment and operation. All aerodromes (airports) are subject to the rules defined by DECEA, especially when it comes to buildings inside and around. These rules are covered in the so-called Aerodrome Protection Area (APZ). The necessity of the ZPA occurs due to the particularities of the areas involved to be distinct in the questions relief, altitude, population density and real estate aspects. Such a Protection Zone Plan is the responsibility of airport managers, whether public or private entities.

Airports play a key role in regional development, which is why it is worth highlighting the main models of existing airports and identifying those that would suit the ABCD region better.

According to Guler and Kassada apud Branco (2013), an airport site can be of four types: airport-industry, airport-city, aerotropolis or airport-corridor. For this work, the aerotropolis-type airport is not considered, since it applies only to less densely populated regions with wide geographic spaces available for urban projects, which is not the case of ABCD Paulista, whose urban and industrial area already consolidated.

According to Branco (2013), the airport industry is organized in such a way that it has companies and industry around it, attracted by the proximity to multimodal transport and accessibility, which generate smaller logistics costs and makes it more competitive, being able to benefit from incentives tax and / or special tax regimes. This airport model can be included in the special customs regime, which allows tax exemptions for import and export operations (customs warehousing operation). For Vasconcelos apud Branco (2013), the profile of the companies and / or industries that operate at the airport-industry are those that have flexible and on-demand production, high added value of the product in relation to its weight, manufacturing of perishables, production of the just-in-time type, capacity of fast shipment of parts to customers. For these authors, regions that count on industrial plants (packaging, assembly, transformation, value adding to goods and services), production complexes, technology center, research and development are potential recipients of the airport-industry. These airports have customs zone in their interior and are connected to a diversity of modalities that allow to obtain gains of scale, competitive costs, efficient mobility of the productive resources, promoting its own development. As a result of this dynamic, the development of the environment and the local community is stimulated, generating new business opportunities that feedback. The ABCD region is embedded in these characteristics. The establishment of an airport site would increase existing intramodality and increase the competitive capacity of companies located in the region.

Another model of airport more diffused is the airport-city. It operates under the logic of operating airport passenger and cargo services, generating airport revenues and also exploring commercial activities within the airport's own site. For the author, "*a dense set of activities related to the airport and its operation, as well as commercial and business activities located at the airport platform and its surroundings*" (Guller apud Branco, 2013). For these authors, the emergence of this concept of airport is due to the increase in profits from the operation of "non-aeronautical" activities (shops, leisure spaces, parking, commerce, restaurants, car rental, hotel chains etc); the attractiveness of the airport's "brand", promoted by the look and design of the site and the rapid commercial development in and around the area, given its natural potential to employ labor and foster several new businesses. Yet for the authors, "*the most satisfactory airport-cities will be those that can be developed jointly between airport managers and local / regional authorities*". The airport-city expanded the functions of the traditional airport administration and led to a new business administration model, which seeks to explore the use of airport infrastructure by passengers, visitors and companions; explore spaces inside and

outside the airport, with the generation of revenues not exclusively associated with passengers; the costs of new construction can be offset by the lease of these spaces in the future; parking lots are used to attract consumers to the interior of airports and extend accessibility possibilities such as train-metro-corridors.

However, there are different perspectives on airports-cities in the view of certain actors. For urban planners, it offers possibilities for requalification of land occupation, zoning plans, accessibility and urban design. For managers, it provides new business opportunities and is associated with business development. For local authorities, a city airport raises urban concerns, such as land occupation and mobility impacts with increased vehicular traffic, requiring them to be able to guarantee intramodality and accessibility. Investors and developers seek clarity and security for investments made; future tenants will require mobility facilities. And transport providers (airlines, operators, providers) want to take advantage of synergies and promote their business from the exploration of opportunities generated by their investments within the airport.

The airport corridor is the development of areas between cities and airports, usually along the length of a major highway. It is a backbone planned by the government, linking the airport to the city, under infrastructure conditions, highways and real estate developments. Imports cities worldwide already use this model, such as Amsterdam, Kuala Lumpur, Berlin, Osaka, Hong Kong. For Guller apud White (2013), as the conditions for its execution, accessibility to the transport structure, and there should be areas available for the development of real estate (offices, research centers, hotels, public facilities) and integrated management of all urban and economic spaces. Airlines and service companies, the region of the city and the airport itself have the purpose of improving the city's position in the long run; enable integration of the airport and runway areas and make it sustainable; guaranteeing governance based on the commitment of the parties involved (local companies, investors, areas and managers). Table I presents an illustrative drawing of each airport.

What airports have in common is that they carry out a multiplicity of functions, internal dynamics, high density and forms of occupation (Branco, 2013). The second characteristic common to all of them is the need for permanent dialogue among their actors, since the development dynamics of economic and airport activities can generate negative externalities that may compromise a more sustainable development. As a result, we will present a brief discussion about the airport infrastructure of Greater São Paulo compared to Greater London.

### ***ABCD Paulista: brief description and economic potential***

The ABCD region, an area belonging to the Metropolitan Region of São Paulo, is made up of seven municipalities and has an industrial vocation. It has estimated GDP of R\$ 112 billion, accounting for 5.8% of São Paulo's GDP. It has the second largest industrial GDP in the state and the third largest in the country. The annual per capita income is R\$40.4 thousand, well above the national average (R\$15.2 thousand). Nevertheless, per capita income is uneven among municipalities. While São Caetano do Sul has a per capita income of R\$ 83.6 thousand, Ribeirão Pires has income of R\$25 thousand, a difference of almost four times. The total population is almost 2.8 million inhabitants (6.3% of the population of the state). The average population growth rate in the region for the period 2000 to 2018 was well above the state's population growth rate (7.9% vs. 1%), indicating an increase in population density in the region in recent years (IBGE, 2019).

ABCD Paulista has 24,000 industries distributed in the region. Each of the municipalities in the region excels in different activities. São Bernardo do Campo is home to the country's leading car manufacturers (Volks, Scania, Ford, Mercedes) and has a complex urban infrastructure; São

Caetano do Sul is the municipality with the highest HDI in the country; Mauá and Santo André concentrate the petrochemical pole; and Diadema an important industrial center. The ABCD in São Paulo also concentrates important transport infrastructure (Anchieta, Imigrantes, Rodoanel, railroad) and has leading research centers (Federal University of ABC, Unifesp, University of São Caetano do Sul, Faculties of Law and Termomecânica). (Consórcio ABCD, 2019)

The metropolitan region of São Paulo, with its economic and social dynamism, presents infrastructure bottlenecks (Asquino, 2009). In recent years, the inauguration of the Rodoanel, a 177-kilometer circular corridor, has reduced pressure on urban infrastructure and improved circulation of vehicles in central areas. But the bottleneck process is on the rise because of the natural expansion of the circulation of people and goods. This same phenomenon can be observed in the airport infrastructure of the region, which has two airports with regular air operations (Congonhas and Guarulhos) and non-regular (Campo de Marte). While GDP and RMSP population increased by 47% and 8.6%, respectively, in the period 2010-2017, airport infrastructure has advanced very little (IPEA, 2013 and Marcos & Ferreira, 2015), even after the airport concessions process in which new concessionaires began to manage the Guarulhos airport and Infraero expanded the facilities of the Congonhas airport. Compared to the metropolitan regions of other cities in the world, such as London, for example, the density GDP-Population per airport is very high (2,258 for MSYP versus 882 for Greater London), indicating the need for the construction of new airports in the MRSP. The ABCD region presents economic and geographic opportunities for the construction of a new airport, which can contribute to minimizing infrastructure constraints and boosting its competitiveness.

ABCD presents itself as an economic space capable of contributing to the advances of Brazilian commercial aviation, not only in the aviation industry, but especially commercial aviation, which is responsible for the transportation of passengers and cargo. Currently, RMSP has only two airports (Guarulhos and Congonhas). These airports already have their capacity at the limit and, therefore, with no possibility of expanding their infrastructure to accommodate traffic growth projections (Oliveira & Alves, 2008).

Compared to the Greater London region (RGL), which has a population equivalent to 40% of the population of the MSYP, it has six airports (Heathrow, Gatwick, Stansted, Luton, City and Southend) which together volume of passengers from Guarulhos and Congonhas. While London took 13.4 years on average to build each airport, the RMSP took 51 years (CGH in 1934 and GRU in 1985). London airports are located in such a way that they serve the traffic of their surroundings and allow the operation of companies of low cost, ensuring levels of competitiveness between companies and transferring the gains of productivity to the passengers. Figure 1 shows the equidistant distribution of the six London airports.

The delay in the construction of new airports in the RMSP has resulted in the strangulation of the existing airport infrastructure (CGH and GRU) and limited the expansion of air transport's own demand, thus requiring the construction of a new airport. Geographically, the ABCD is an appropriate area to accommodate a new airport, not only because of its location but above all because of its market potential: GDP of R \$ 112 billion and consumer market with 2.8 million people, without considering the regions of environment. Compared with Greater London, its population represents 30% of London and 18% of its GDP; 12% of the MSYP population and 12% of its GDP. Table 2 shows some comparative indicators between MSYP, Greater London and Greater ABCD.

When comparing geographically and economically the regions of São Paulo and London, whose population is 40% of the population of the RMSP, it is identified the need to build new

airports in the RMSP. The population belt of this region has spread and its populations have to carry out large displacements to reach Congonhas or Guarulhos. Some new airport projects have been proposed in the recent past, such as Caieiras-CCR in 2015 and São Bernardo do Campo in 2014, but the economic crisis scenario of recent recent years has hindered the possibility of taking these projects forward.

In the context of expansion proposed for the coming years, it is necessary to resume the projects of construction of new airports by the municipal authorities. A new airport should move passenger and cargo; and have the same size of the Congonhas airport, with the potential to receive 20 million passengers / year and 40 thousand tons of cargo / year, contributing to the generation of 10 thousand new jobs (Airports Brazil Viracopos). Considering the same number of Greater London airports, RMSP could count on three new airports: Caieiras, Itapevi and São Bernardo do Campo and Suzano-Mogi das Cruzes, with the potential to generate 30 thousand new jobs. Annex 2 presents a hypothetical scenario of the geographical distribution of new airports in the RMSP.

If we take into account the population and economic potential of the RMSP, there is a lack of airport infrastructure in the region. The expansion of the Brazilian air market opens up prospects for the development of new airports, notably in the ABCD region, which sees the lack of air transportation to meet its local productive activities and passenger flows. According to the ACI, good average profitability per passenger justifies more detailed studies to explore the concept of "airport-city", "airport-industry" or "airport-corridor", and adopt it in new constructions in the RMSP, particularly in ABCD Paulista due to its strategic position and economic importance.

## **IMPLEMENTATION OF A NEW AIRPORT: ANALYSIS UNDER THE CONTEXT OF ABCD PAULISTA**

According to Peneda (2013), the concept of airport-centered urban development has spread throughout the world. This model suggests a greater interaction between the airport, the city and its users, and the airport may take different forms. For the author, the critical factors for the operation of the airport as a factor of urban development are related to the connectivity, the economic potential of the region; the airport's commercial management style and the context of sustainable development. Table 3 summarizes the main forms and their respective functions.

The economic potential depends on the supply and quantity of workers, the existing professional qualification apparatus and the productive infrastructure (companies, commerce, services, etc.). The existence of the airport itself creates the conditions for the development of these resources, especially those of socioeconomic aspects. Local and regional economies that are more focused on the services and high technology sectors are better able to leverage passenger and cargo traffic.

### ***Elements and constraints for airport installation in ABCD space***

The dynamism of the ABCD region guarantees sufficient minimum conditions for the installation of an airport site. The commercial management style defines the organization model of the business activities and depends on the organization of the actors for its design. The Development Agency and the Intermunicipal Consortium, entities that congregate the seven municipalities of the region, can be the center of discussions of the project. This coordination is important because the form of land occupation, such as the surrounding real estate projects and the type of airport management, should be the object of public policies coordinated with

the local actors to ensure active and equitable participation of all those who will be directly or indirectly affected through the airport.

Peneda (2013) also points to the dimension of sustainable development as part of the public policy that should guide the dynamics of the construction and expansion of the airport site, both on the air side and the air side. It is a question of integrating the airport site with the existing transport infrastructure to the one to be built. Faced with the challenge of future expansion of the airport, strategic plans must contemplate the social, urban and political demands.

The project for the implementation of the new airport in the ABCD should therefore be included in the context of long-term inclusive development, which promotes economic well-being but, above all, environmental balance and social well-being. These goals are in line with the UN Millennium Development Goals, which are to ensure environmental sustainability and develop a global partnership for development. The airport would benefit from the economic strength of its surroundings, being able to be previously defined its size.

In the particular case of SBC, one can point out as characteristics that favor the project of implantation of the airport site the following aspects: 1) presents a diversified industrial park; 2) has consolidated urban area with "pockets" of areas available around the Imigrantes and Anchieta highways and 3) has an integrated and continuous road system. In addition, the City Master Plan has areas that are outside the "green pockets" that can receive urban interventions.

### ***The particular case of the municipality of São Bernardo do Campo***

In order to indicate possible alternative locations for the installation of the airport in SBC, the city's Direct Plan was analyzed, which establishes as fundamental principles sustainable development, the social function of the city, the social function of urban real estate, equality and social justice and popular participation and the democratic management of urban politics (SBC, 2011). In its article 13, which deals with economic development policy, the objective is to "stimulate economic activities that complement and diversify the local productive park". These activities at the airport are more directly related to the defense industry, oil and gas production chain, technology industry, industrial activity, logistics and transportation, areas in which the municipality has important competitive advantages.

The Master Plan of the city is organized by Macrozoneamento and is divided into three major areas: 1) Consolidated Urban Macrozona (CUM); 2) Macrozona of Protection and Recovery of Manantial (MPRM) and 3) Macrozona of Environmental Protection (MEP). Nearly two-thirds of the area of the municipality is made up of green areas of environmental protection. As established in the Master Plan, the Restrictive Business Zones delimit the areas that can receive construction projects and are provided for in Law 6374 of December 2014. Figure 3 shows the limits of each macro zone of the municipality.

The potential reception areas of the airport project are located in Macrozona Urbana Consolidada (two areas, indicated by letter A) and Macrozona de Manzancial Protection and Recovery (an area indicated by the letter B and areas indicated by the letter C), both divided by section of the Mario Covas Rodoanel. The areas indicated by the letters A are Restrictive Business Zones 1 and 2; the one indicated by the letter B is the Diversified Use Zone 1 and the one indicated by the letter C are the Sustainable Management Zones. Areas A and B involve, respectively, the Botujuru and Batistini regions. Figure 4 shows the areas indicated with their letters.

It is noted that the environmental impact tends to be less than you can imagine. First, because it would be located in areas close to the main corridors of the city (Via Anchieta, Imigrantes

and Rodoanel) and secondly because these areas are already regularized under the city's Direct Plan, requiring operators to mitigate and recover natural resources through sustainable management of the enterprise itself and reforestation practices in other areas of the municipality.

Areas C are part of Macrozona's Manacial Protection and Recovery. In analyzing this area specifically, Article 51 of Law 6222 of September 2012 decides on the conditions of land use and occupation. Special attention is given to the Neighborhood Impact Assessment (NIA) requirement, which establishes that ventures above 10,000 square meters - such as an airport - must present a previous study to mitigate environmental impacts, in addition to establishing other requirements of occupancy in the case of these enterprises being constituted as poles generating traffic (PGT), which is the case of the implementation of the airport. At MPRM, we have potentially identified five major areas, four of which are available in the vicinity of Via Anglieta and one in Via Anchieta. Figure 5 shows the indication, with the letter C, of the available areas.

## **FINAL CONSIDERATIONS**

Sustainable economic and social development is an objective of modern society. The strategic development project of the municipality of São Bernardo do Campo is aligned with this objective and with what establishes the Millennium Goals of the United Nations. An airport in São Bernardo, considering the territorial and socio-economic potential of the region, will be a lever for improving the quality of life of its inhabitants and will contribute to the economic development of the ABCD region itself, generating employment and income opportunities and ensuring better competitive conditions for economic agents by promoting the reduction of logistics costs and promoting greater dynamism to local economies. In addition to signifying increased tax collection to the municipal administration and improvement in its investment capacity. Advances in environmental legislation at local and state level allow mitigating the risks to the local environment, incorporating the airports themselves in the context of sustainable practices. As the next stage of the study, the airport models that can be deployed in the region (city, industry, corridor) and estimated deployment costs, from design to operation, will be defined. The economic impacts promoted in the region in terms of production, employment and income will be explored through the use of the Input Input Matrix of Leontief. The attempt will be to estimate the economic impacts of the construction and operation of the airport on the various productive sectors of the region and surroundings and to identify, in current values, the benefits to be obtained in terms of production, employment and income. This exercise will highlight the importance of integrated urban space management so that the new airport project can contribute to broaden and strengthen the economic role of the city and the ABCD region itself.

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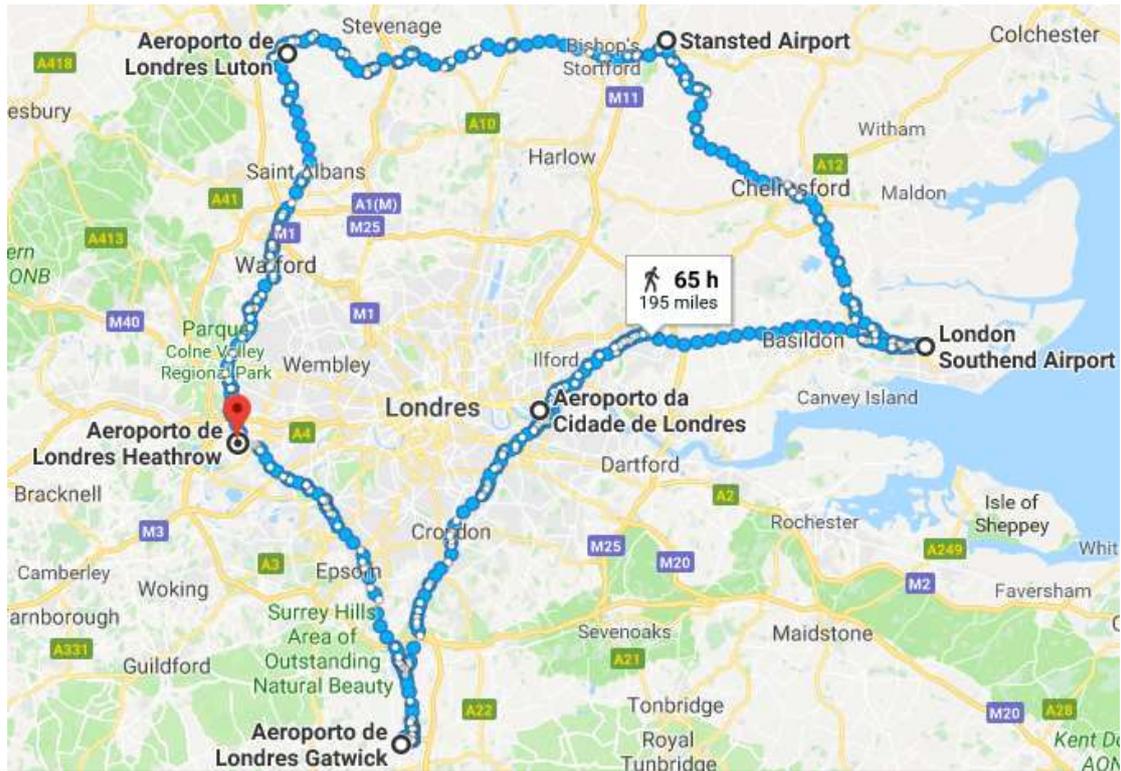
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Table 1 – Type of Airports and their Concepts

Airport-City	Development of an airport site with real estate developments with planning and administration by the airport authority
Airport Industry	Presence of industries in their environment that can operate customs zones in special tax regimes, focused on export and import operations.



<p>Airport Corridor</p>	<p>Real estate development and infrastructure between the city and the airport with public and private planning and with the participation of various political actors and territorial authorities.</p>
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Source: Branco (2013) - Adapted by the author

Figure 1: Spatial distribution of the 6 Greater London airports

Source: Google Maps - Author's elaboration

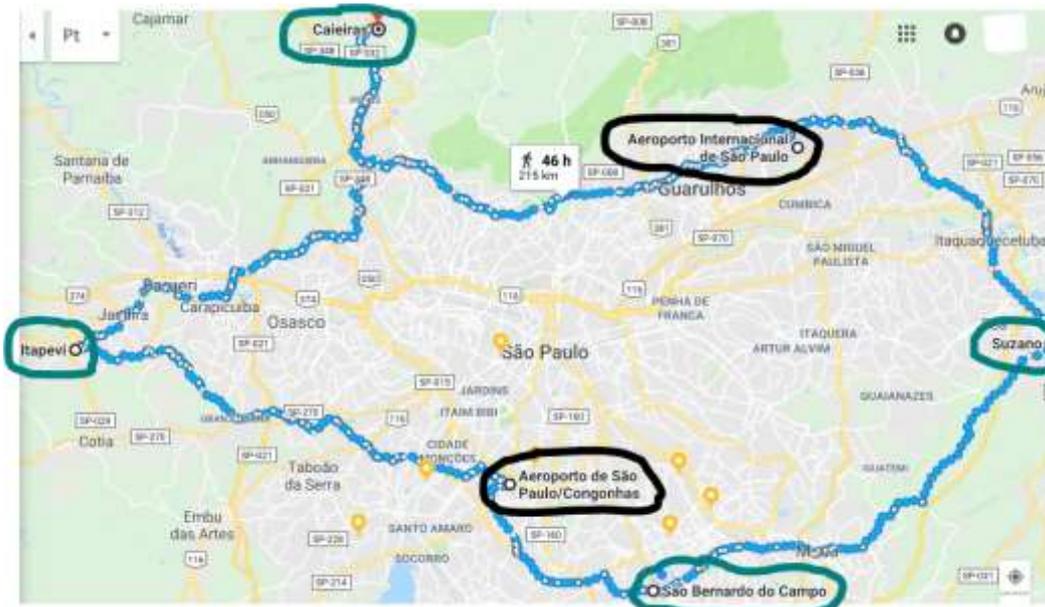


Figure 2: Spatial Distribution Scenario of the 6 airports of RMSP

Source: Google Maps - Author's elaboration

Table 2: Comparison of Socioeconomic Indicators for Selected Regions

Indicators	RMSP	Great London	Great ABC
Population (mi)	21.4	8.5	2.8
GDP per capita (EUR)	10.479	72.900	8.980
Área (km <sup>2</sup> )	7.946	1.572	825
IDH	0.79	0.91	0.79
GDP (EUR bi)	211	623	25

Source: IBGE and Eurostat - Author's elaboration

Table 3: Key Features of Airport-Centered Urban Development

<b>Connectivity</b>	
- Physical infrastructure	Interconnection between different modes of transport (highways, urban transport networks, railways, airports and waterways)
- Air operations	Number of flight frequencies and number of destinations served
- Local Geography	Airport location
<b>Economic potential of the region</b>	Standard of economic development of the region and its ability to produce goods and services. It depends on the supply and the quantity of workers
<b>Airport Business Management Style</b>	Airport management model focused on the performance of the public, private or mixed entity
<b>Sustainable development</b>	Promoting economic well-being, environmental balance and social well-being

Source: Peneda (2013) - Adapted by the author

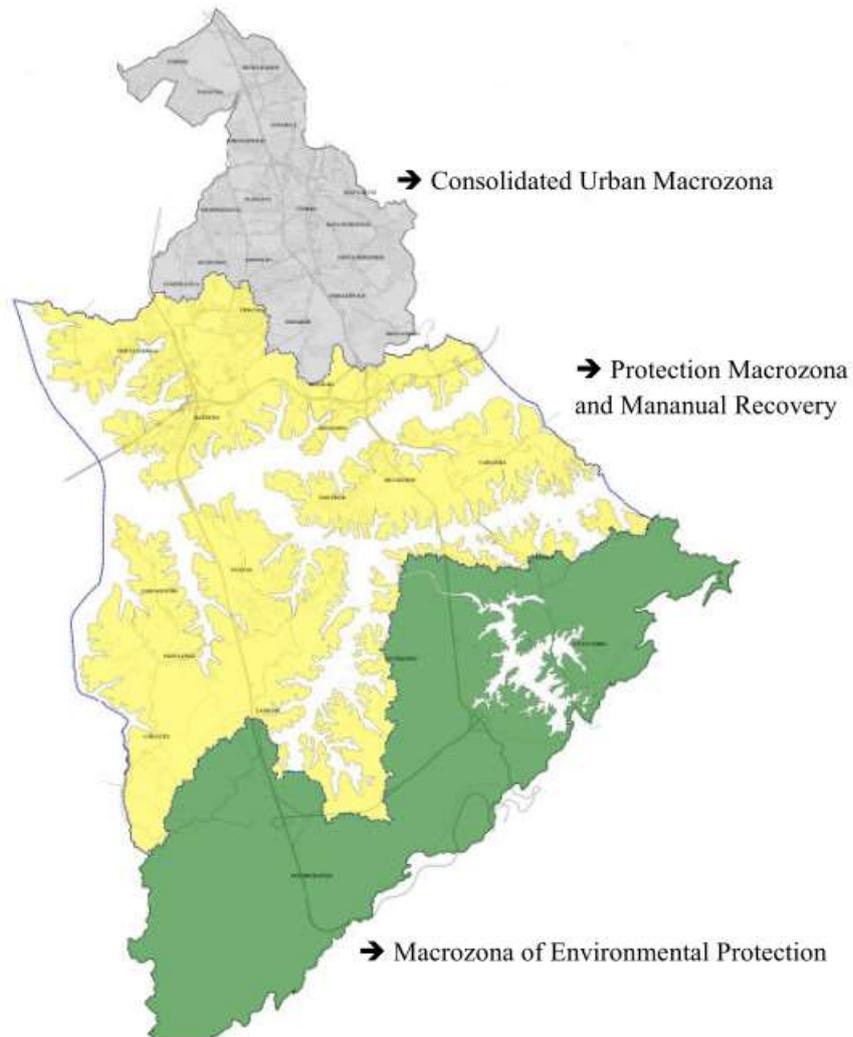


Figure 3: Macrozonas of São Bernardo do Campo

Source: Site of the City Hall of São Bernardo do Campos (2018)

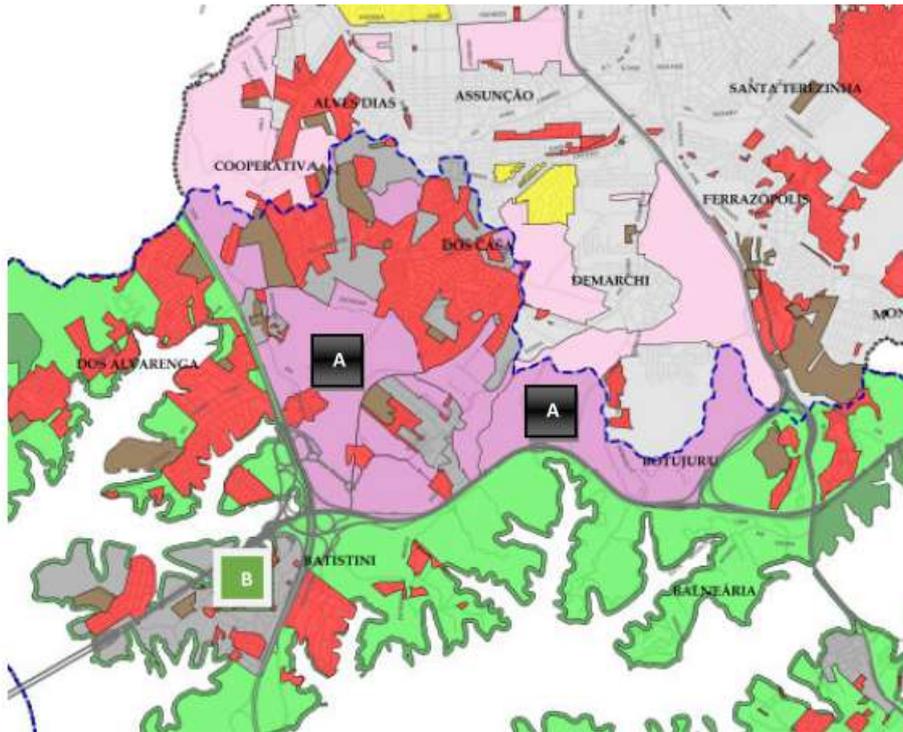
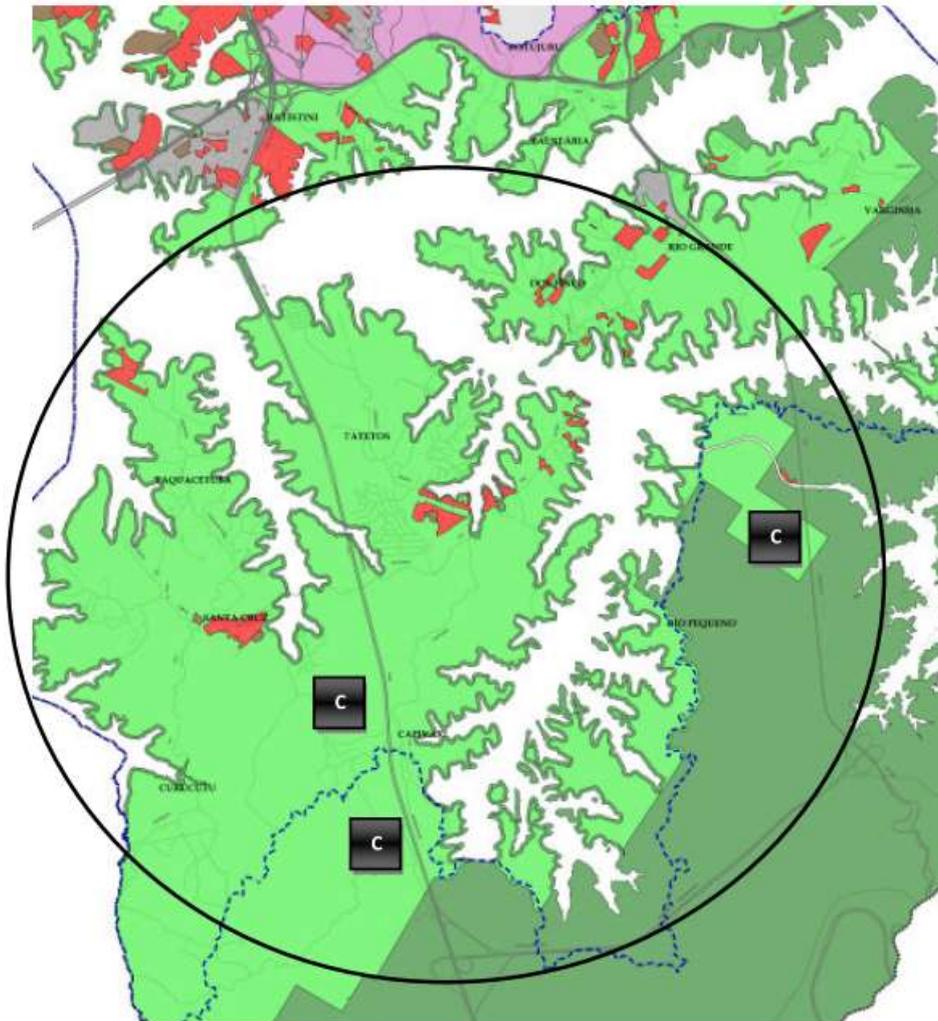


Figure 4: Partial zoning of São Bernardo do Campo

Legend: A (Restrictive Business Zone 1 and 2) and B (Diversified Use Zone 1)

Source: SBC, 2014 - Adapted by the author

Figure 5: Partial Zoning of São Bernardo do Campo MZPRM



Legend: C (Sustainable Management Zone)

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #683**

**Public-private housing partnerships in the world: A  
bibliography review**

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**Abstract**

*With the great growth of the urbanization of the world, the demand for real estate in the great centers has been constantly increasing. Pressure on governments in different parts of the world has led to discussions on improvements in public policies aimed at reducing the housing deficit, and as a result, the Public Private Partnership (PPP) model has emerged as a possible solution to the equation. In this way, a specific bibliographic survey is needed for housing PPPs in the world, in order to understand their local contexts, uses for the population and objectives for public administration.*

**Keywords:** Public-Private Partnerships; PPP; Housing; Bibliography review;.

**Acknowledgments**

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## **INTRODUCTION**

The process of intense demographic growth throughout the twentieth century occurred in well faster than the supply of services and social systems. Therefore, the intense urbanization caused degradation of the environment and urban soil, unhealthy agglomerations, increased violence among other social phenomena (RIBEIRO & VARGAS, 2015).

Among several reasons for urbanization, it can be affirmed that the migration to cities arises from the need for certain segments of society that yearn for the pursuit of better living and working conditions, causing exodus as a consequence of disasters environmental, climatic, political persecution, among other factors. It is a movement considered to be universal, an widespread occurrence around the world, that reaches directly or indirectly the entire society that supports it, albeit in an unequal way between the various classes and regions (FORTES & RIBEIRO, 2014).

## **OBJECTIVE AND JUSTIFICATION**

Concomitantly with the urbanization process, there was an increase in demand for real estate, generating new public policy challenges to governments, which began to use an intense relationship of partnerships with the private sector to try to supply the growing habitational necessity of the society. In order to improve the effectiveness of project delivery and make better use of public funds destined for the housing segment, the use of so-called public-private Partnerships (PPP) is increased in several projects around the world (BROWN, ORR & LUO, 2006).

With different political, bureaucratic and administrative arrangements, among other problems, public and private sector partnerships occur in a variety of ways. Due to these countless possibilities, it is mandatory to address a bibliographic study for housing PPPS, to better understand their local contexts, uses for population and objectives for public administration.

## **METHODOLOGY**

Due to the diversity of projects and authors found in preliminary research on the theme of housing PPP in the world, the study opted to perform a bibliometric analysis (DIODATO, 1994) to filter authors and magazines, held in two steps. The first was to conduct a search on Google scholar with the following terms: "PPP", "Housing" and "Public Private Partnership", as well as the corresponding combinations between these terms. In the second stage, the most cited authors of Google scholar were selected and also had mentions in journals classified in the site "Scimago Institutions Rank".

In this way, in the Scimago platform, the following thematic areas were evaluated: "Geography, Planning and development", "building and Urban development", "business, Management and Accounting", "Business and International Management", " Economics, econometrics and Finance ", " Economics and Econometrics "and" Sociology and Political Science "

In addition, works by official institutions from some countries studied, such as the National Office of Statistics of China, National Audit Office (United Kingdom), as well as globally recognized institution such as the organization of United Nations and World Bank, as well as other works by academic publishers such as Oxford University Press (UK), Research Collection School Of Economics (Singapore), Fundação Getúlio Vargas (Brazil) and Universidade de São Paulo (Brazil)

With analysis initiated for the United Kingdom and China, the proposal of this work is also to evaluate the housing PPP in the following countries: India, Malaysia, Singapore, Mexico, Nigeria and Brazil.

## **RESULTS BY COUNTRY**

### ***United Kingdom***

The case of the Project Finance Initiative (PFI) was the first initiative to structure PPPs known in the World, starting 1989 with projects of concession of highways. Its goal was to streamline processes played by the government, generating gains in efficiency and profits that exceeded the investment (NAO, 2018).

Specifically for the housing sector, it was noted a complexity related to the diversity of users, tenants and owners, in addition to the extensive deadlines, up to 30 years, involving maintenance and conservation by the private sector (NAO, 2018)..

The PFI finances two types of housing projects. Being a significant part used in reforms and or in new constructions and another used as social rent, with properties made available by housing associations (NAO, 2018).

### ***China***

With an urban population that should reach 69% up to 2030, China will experience a major expansion in the demand for urban dwellings in the country. Despite this, the availability of urban space for housing does not follows the housing demand (SHI, CHEN & WANG, 2016).

Since 1998, housing construction in China has changed significantly due to the country's urbanization process. The end of the employment mobility restriction, which fixed the worker in his hometown, the pressure on the cities forced the Chinese state to release the ownership of housing and the entrance of the private sector in the construction of dwellings. (SHI, CHEN & WANG, 2016).

Desde então, o governo central editou dois programas, um específico para compra da habitação (Economic Comfortable Housing, ECH), e outro destinado ao aluguel de habitações (Cheap Rental Housing, CRH). No caso da ECH, havia um arranjo entre o governo central mais o local e subsídios financeiros, que provocaram queda de até 40% no preço final. Já o CRH visava populações pobres sem condições de financiamento do imóvel (SHI, CHEN e WANG, 2016).

Since then, the central government has edited two programs, one specific for the purchase of housing (Economic Comfortable Housing, ECH), and another for the rent of houses (Cheap Rental Housing, CRH). In the case of ECH, there was an arrangement between the central government plus the site and financial subsidies, which caused a drop of up to 40% in the final price. The CRH was aimed to poor populations without the financing of the property (SHI, CHEN and WANG, 2016).

The houses in co-participation (Shared Ownership Housing, SOH), created in 2010 in Shangai, have implemented a reimbursement mechanism for the government, if the owner decides to sell the property, will have to return half of the capital gains (SHI, CHEN and WANG, 2016).

Later, the PRH (Public Rental Housing) modality, a public program that provides real estate for social leasing, would concentrate most of the Chinese housing Program, profoundly modifying the offer of houses (ZOU, 2014).

In addition to the programs, other benefits were observed, with competitive innovations for the choice of private partners. A quota has been established, with a price limit for land. Once, reaching the objective price of the bidding, the competitors went on to dispute the number of units per undertaking, guaranteeing the final price (ZOU, 2014).

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*Track 12 Public-Private Partnerships in Infrastructure*

**ID #687**

**The impacts of institutions on megaprojects: a systematic literature review**

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**Abstract**

*Megaprojects are complex and costly endeavors highly influenced by institutions and characterized by a business-government relationship. This study aims to evaluate the current approach in the academic literature about megaprojects and the institutional environment and, besides, verifying that those initiatives are more influenced by formal or informal institutions. A systematic literature review is conducted, based on bibliometric and content analysis. The findings indicate that regulatory aspects regarding megaprojects are mostly highlighted in the selected articles, but normative and cultural-cognitive pillars are increasing in importance even considering that norms, values and beliefs are less changeable in a society.*

**Keywords:** Megaprojects; Institutions; Formal Institutions; Informal Institutions; Business-Government Relationships..

**Acknowledgments**

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## **INTRODUCTION**

Megaprojects are defined as major, complex and large-scale undertakings that typically cost US\$ 1 billion or more, take many years to develop, involve multiple public and private investors from multiple countries and diverse cultures. Their outputs, characterized as uncertain, complex and politically-sensitive, impact a large number of stakeholders (Flyvbjerg, 2014; Kardes, Ozturk, Cavusgil, & Cavusgil, 2013; Van Marrewijk, Clegg, Pitsis, & Veenswijk, 2008). Besides, a megaproject is seen as a unique project firm in which a coalition is formed on a temporary basis in order to manage a program of projects (Kusuma, 2014). Megaprojects are highly influenced by the political life cycle of a national government of the host country (considering that this endeavor attracts professionals and companies worldwide) and much longer life expectancy when benefits are included in their completion and evaluation (Biesenthal, Clegg, Mahalingam, & Sankaran, 2018).

Current global megaproject market is between US\$6 and US\$9 trillion per year (Flyvbjerg, 2014). This amount represents approximately 10% of the total global gross domestic product (GDP) (US\$80,68 trillion) and is higher than GDP of developed countries like Germany (US\$3,68 trillion) and Japan (US\$4,87 trillion) of the year 2017 ("The World Bank: World Bank Database Open Data," 2018).

Due to the amount of money invested, their complex scope, the number of people involved, and time spent, megaprojects are considered as large-scale projects that shape and change society (Söderlund, 2017). Therefore, the institutional elements within a country represent a strong influence over megaprojects (Kusuma, 2014; Levitt & Scott, 2017; I. Ruuska, Arto, Aaltonen, & Lehtonen, 2009). Projects are omnipresent and happen in all parts of society and life. However, there were only rough estimations about the extent of projects in the economy (Schoper, Wald, Ingason, & Fridgeirsson, 2018).

The concept of institution has a broad meaning in the academic literature. For this study, we selected the work of three authors in order to guide our academic coding process. First, the economist Douglass C. North define institutions within the analogy of a competitive team sport, as "the rules of the game in a society" and has a major role due to the reduction of uncertainty by establishing a stable (but not necessarily efficient) structure to human interaction. Thus, they include any form of constraint that human beings devise to shape human interaction, but also consider punishment if those rules are violated and, due to that, can be also be described as "the humanly devised constraints that structure human interaction", classified in formal and informal constraints (North, 1990, pp. 3-4, 6). While informal constraints come from socially transmitted information and are a part of the heritage, i.e., the culture, formal rules include political (and judicial) rules, economic rules, and contracts (Scott, 2014).

Second, the sociologist William Richard Scott's conception of institution is stated as follows: "Institutions comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life" (Scott, 2014, p. 56). The regulative pillar is related to rules setting, monitoring, and sanctioning activities established by institutions. The normative pillar includes both values (conceptions of preferred or desirable structures and behaviors within a standard) and norms (how things should be done). Lastly, the cultural-cognitive pillar focus on the shared conceptions that constitute the nature of social reality and the establishment of common meanings to a group of individuals (Scott, 2014). Corroborating with this definition, Harrison and Huntington (2002) state that culture can

be defined as values, attitudes, beliefs, orientations, and underlying assumptions prevalent among people in a society.

Third, the economist Kamer Daron Acemoglu classifies institutions into four aspects: (i) economic (facilitate transactions, protect property rights and allow economic co-operation among actors of a society), (ii) political (create, enforce and apply laws and mediate conflict in order to promote economic prosperity), (iii) inclusive (allow and encourage participation by the great mass of people in economic activities) and (iv) extractive aspects (designed to have incomes and wealth extracted from a nation to benefit other subset (Robinson & Acemoglu, 2012). For this study, only the two first items will be considered, those have elements of formal and informal institutions, in order to evaluate the macroenvironment of megaprojects. Nonetheless, political and economic aspects constitute important drivers to attract decision makers in order to deal with megaprojects (Flyvbjerg, 2014).

Complementing the previous cited institutional definitions, the economic historian Joel Mokyr reinforces the difference between “culture” and “institutions” as following. In a simplistic way, culture is related to something *entirely of the mind* that can differ from individual to individual and is taken as a matter of individual choice. On the other hand, institutions are socially determined conditional incentives and consequences related to actions, those of them beyond the control of the individual. Consequently, culture helps to determine what kind of institutions emerge in a nation and, at the same time, institutions create an environment in which cultural evolution occurs. Culture can affect economic performance while higher trust and cooperation reduce transaction costs and facilitate exchange and emergent of well-functioning markets (Mokyr, 2016, pp. 9-10).

In order to establish a framework to be used along with this study, we are adopting an integrative approach based on the model raised by Peng, Sun, Pinkham & Chen (2009), considering the best insights from both economy and sociology areas, which can be summarized in Table 1.

**\*\*\* INSERT TABLE 1 HERE \*\*\***

To understand the institutional aspect in evaluating megaprojects is notorious into the academic literature. The capacity of governance and self-regulation acquires a vital role to large and complex projects (I. Ruuska et al., 2009). Their complexity is also derived from their long-term nature, which involves the participation of numerous stakeholders with divergent interests (Kardes et al., 2013). Besides, cultural misunderstandings can lack alignment and failure to address complexity, hurting deliverables of megaprojects (Shenhar & Holzmann, 2017).

Given this conceptual framework, the objective of this study is to answer the following questions: (i) What is the current approach status of megaprojects and institutions in the academic literature? (ii) What are the most prominent institutional elements that impact megaprojects according to the academic literature? (iii) Are megaprojects more impacted by formal (laws, regulations, rules) or informal (norms, culture) institutions according to the academic literature?

This study is organized into four sections. In Section 1, we discussed the research, and its context related to the academic literature and objectives to be achieved. In Section 2, we describe the research method focused on data collection of papers, bibliometric and content analysis. In Section 3 we describe the results obtained. In Section 4 we present a synthesis of the study and the methodology, the main implications of the study, the limitations and the future research directions.

## **RESEARCH METHODS**

This section is divided into four main methodological procedures. First, a data collection and selection of papers is conducted, based on the study of Gaur and Kumar (2017) and Bardin (2016). Second, we develop a bibliometric analysis considering similar research frameworks adopted by Carvalho, Fleury & Lopes (2013). Third, based on Bardin (2016) and Gaur & Kumar (2017), we will develop the data coding. Finally, an evaluation of the selected papers through the optic of content analysis will be conducted.

### ***Data Collection and Sampling***

Our analysis starts with the extraction of an initial sample database related to articles and reviews published in academic journals using the tool Clarivate Analytics Web of Science, as this tool includes papers from other databases (Scopus, ProQuest, and Wiley) published in indexed journals with impact factor in the Journal Citation Report (JCR). Moreover, Web of Science database provides essential information from the papers for the initial stage of content analysis, as abstracts (Carvalho et al., 2013). For this initial sample, we are not considering sources like books, book reviews, news items, letters, proceeding papers, editorial materials, and corrections. Moreover, due to the content analysis, only studies published in English are considered for our sample.

Boolean operators for the database survey, filters used and results are presented as follows (Table 2):

**\*\*\* INSERT TABLE 2 HERE \*\*\***

Synonyms of megaprojects and the term “project manage\*” (that should be related both to “project manager” or “project management” are considered in the search criteria). The initial database provided was constituted by 836 studies published from 1991 to 2018. Boolean operators were defined according to the dimensions of institutions presented in Table 1. The authors also decided to exclude from the search the terms related to “education”, “school”, and “medicine”, as they presented a considerable amount of results in previous searches using Web of Science. Besides, in order to improve results, a new filter was applied, considering only journals in business, management, finance, and engineering, which are the main areas related to Project Management. A new result of 226 documents was achieved.

After the elaboration of the list of papers to be evaluated, we performed a “floating” reading (Bardin, 2016) of all articles considering only the abstracts at this time, in order to exclude studies not related to our field of survey, i.e., culture and institutions influencing megaprojects. Consequently, from a list of 226 studies, 46 of them were selected. From this sample, we discarded the articles from journals with a Journal Citation Report (JCR) index equal or below 1.0 and also those not included in JCR but in Emerging Sources Citation Index (ESCI). Consequently, 38 articles remaining in the sample and were further on deeply read, mainly focused on literature review, methodology (in order to identify variables and constructs), key findings, limitations of the study, and opportunities for future research (Figure 1). Nonetheless, rather than sample size, we considered in this extraction a more relevant database for this study, as in the context of literature review, the sample size may not be relevant (Gaur & Kumar, 2017; Saldaña, 2015).

**\*\*\* INSERT FIGURE 1 HERE \*\*\***

From this corpus, 11 articles were removed. Additionally, we conducted a snowball process of including 7 articles based on citations taken from the readings. After this process, we achieved a final sample of 34 articles (see Table 3).

### ***Bibliometric Analysis***

We conducted a bibliometric analysis in order to present the following quantitative outputs from the 34 selected articles: (i) rank on journals by year and journal, (ii) most cited articles in academic literature (total of citations and average citation per year), and (iii) most cited words in articles. For this purpose, the authors performed this evaluation using the following tools: Microsoft Excel and VOSViewer Version 1.6.9.

Table 3 presents the rank of selected articles according to their total of citations. Nonetheless, it is also essential to verify the average citation per year in order to minimize the bias related the year of publication, as older studies tend to present a higher total of citations. Megaprojects and institutions are mostly published in Business and Management journals (38.2%), followed by Engineering (29.4%), Energy and Fuels (11.8%), Water Resources (8.8%), Transportation (5.9%), Economics (2.9%), and Environmental Studies (2.9%). 35.3% of the sample considered articles recently published (2016, 2017, and 2018). The journals with higher impact factors according to InCities Journal Citation Reports (JCR) are Journal of International Business Studies (6,198), International Journal of Project Management (4,328), and Energy Policy (4,039).

**\*\*\* INSERT TABLE 3 HERE \*\*\***

### ***Data Coding***

In order to conduct the data coding and later the content analysis, we included all selected papers in the computer-aided text analysis (CATA) tool Atlas.ti. Besides, based on the literature review related to the dimensions of institutions (Table 1) and content analysis procedures suggested by Bardin (2016), we defined the following categories, subcategories, and codes for the selected articles, as exemplified in Table 4.

**\*\*\* INSERT TABLE 4 HERE \*\*\***

We first selected a sample of two paper in furtherance of elaborating a draft of a coding scheme for all articles. Cohen's Kappa or Krippendorff Alpha (Gaur & Kumar, 2017) will not be applied in this study as the codification process will be elaborated by sole research. With the purpose of minimizing biases, coding schemes will firstly rely on the dimensions of institutions previously reported in this study extracted from the literature (Table 1) and aligned with the objective of this study, as suggested by Gaur & Kumar (2017). After sample coding, the model is adjusted and validated in order to by apply to all selected studies and later categorized according to their identified codes in the next stage and research for key findings based on categorization elaborated and literature review (Figure 2).

**\*\*\* INSERT FIGURE 2 HERE \*\*\***

## **RESULTS**

The sample consists in articles published from 2003 to 2018. Along these 15 years of publication and mainly considering the last three years, the concept of megaprojects is increasing in importance within the academic literature. Nonetheless, the term PPP (public-

private partnership) have been still used to determine sizable initiatives in public infrastructure projects, highly based on business-government relationships. This partnership aims to reduce the financial taken by the government, accelerating construction schedules and improving quality of public services, in order to enhance the effectiveness of government operations and promote economic growth (Chou et al., 2016). Those findings are graphically represented in Figure 3, in which the term megaproject is gain relevance up to 2015, while PPP or PPP project are strongly represented by studies in 2013 and 2014.

Table 5 presents an overview of the year and publication of articles and reviews per academic journal considered for this study related to megaprojects and institutions from 2003 to 2018. We can observe that the majority of them are published in journals specialized in Engineering subjects.

**\*\*\* INSERT TABLE 5 HERE \*\*\***

Considering the articles evaluated in the sample by categories, subcategories, and represented in Table 6, the most cited term is related to the regulative pillar, economic and political drivers, reinforcing the importance of formal institutions on megaprojects.

**\*\*\* INSERT TABLE 6 HERE \*\*\***

The content networks provide an overview of the most cited words based on the articles evaluated in this study. As expected, the most cited word is “project,” as it is our main subject of study. The graphic representation also shows that the term “PPP (public-private partnership)” are strongly considerate in the studies, but recently mainly in the last three years the term “megaproject” is increasing in importance throughout the literature (Figure 3). The density visualization graph also provides a view illustrating the strong use of “megaproject” and “project” terms (Figure 4).

**\*\*\* INSERT FIGURE 3 HERE \*\*\***

**\*\*\* INSERT FIGURE 4 HERE \*\*\***

Table 7 presents a summary of all articles obtained after the detailed reading of all 34 articles in the sample. We highlighted in this table the main issues regarding methodology, the approached institutional aspects, and opportunities for future research. As evidenced in Table 5 and Figure 5, regulatory aspects constitute the main focus of those studies (the total sum exceed one hundred percent because articles are overlapped by theme. Besides, the majority of them was treated by a qualitative approach, using mainly case studies, in order to understand cases of megaprojects by interviewing projects managers and stakeholders (Table 7).

**\*\*\* INSERT TABLE 7 HERE \*\*\***

**\*\*\* INSERT FIGURE 5 HERE \*\*\***

Based on Table 7 and according to the central theme of each selected article, we classified them by clusters related to regulative, normative, and cultural-cognitive subject predominance (Figure 5). As stated before, we observed that the majority of articles is mainly related to regulative aspects of megaprojects, followed by cultural-cognitive and normative issues.

Moreover, we observed the importance of project governance in managing projects, and it is related to regulative and cultural-cognitive aspects. It is important to highlight that project governance is an essential element within projects. In contrast of institutions, they can be

considered extrinsic from projects. We can also note that corruption is a cited issue in some studies of the sample.

**\*\*\* INSERT TABLE 8 HERE \*\*\***

## **DISCUSSION AND CONCLUSIONS**

### ***Synthesis of the Study and Research Method***

The purpose of this investigation, based on a systematic literature review, is to explore the current approach of megaprojects in the academic literature, considering high evaluated journals, and their relationship with institutions. As institutions, we considered as twofold: formal (based on regulative pillar) and informal (related to normative and cultural-cognitive pillars). 34 articles were selected from the Web of Science database and posteriorly categorized and classified according to the covered terms and subject.

Most of the articles considered in this study are qualitative, mainly based on case studies. This kind of research allows to in-depth evaluate the main institutional issues of the projects and not limit choices that restrict the respondent to describe new risks and institutional differences (Biesenthal et al., 2018).

Our results based on the article sample lead to the importance of regulative elements (also with implicit political and economic drivers) for the evaluated megaprojects. On the other hand, normative and cultural-cognitive elements are less considered in megaprojects, and also less impacted by changes throughout time.

### ***Main Implications of the Study***

We can highlight some salient findings of this article. Regarding the current approach status of megaprojects and institutions in the academic literature, one crucial aspect is related to the type of projects considered in such studies (mainly related to infrastructure initiatives), and also the relevant participation of China. In addition to that, the term “megaproject” is relatively new in the academic literature and seems to replace the term “PPP” or “public and private partnership.” Finally, megaproject is a cross-theme that navigates mainly both in management and engineering academic studies, and this synergy (and also knowing in dealing with that) can enrich them.

Nonetheless, in order to find out what are the most prominent institutional elements that impact megaprojects according to the academical literature, the content analysis demonstrated a high concern regarding formal and regulative institutions in megaprojects, as previously demonstrated in this study. Regulatory issues are considered most important is its characteristic of rapid changes, mainly when compared with norms and culture. Roland (2008) classifies those institutional elements as “fast-moving” (related to administrative directives or policy prescriptions) and “slow-moving” (conventions, routines, habits, and logic), which unfold over several years, decades or centuries. According to this author, culture is also related to technology, one of the issues treated by megaprojects. Perhaps this dynamic evolution of regulations takes more attention (and time) of megaprojects stakeholders in order to achieve the project objectives and its deliverance.

In addition to that, Biesenthal et al. (2018) reinforce the importance of the cultural-cognitive pillar, as their most basic mechanisms provide the foundation on which regulative and normative forces operate. As normative, cultural-cognitive knowledge is not as explicit as regulative and, consequently, must often be inferred from observing the behavior of others and, consequently, it takes times. Consequently, they also mentioned that all projects act as “microcosms of cultures brought to bear on them by the various experiences of the project members in the many prior projects that they were involved in” (Biesenthal et al., 2018).

Some intrinsic influences as project governance were highlighted in the literature review. Moreover, extrinsic aspects are the most influential ones related to megaprojects, and its point of view is corroborated with Scott (2014, p. 53) and his neo-institutional approach in the sociology, in determining that neo-institutionalism:

*is (...) build on a loosely constructed framework of ideas stemming from cognitive psychology, cultural studies, phenomenology, and ethnomethodology. The newer conceptual models emphasize cognitive over normative frameworks and have focused primary attention on the effects of cultural belief systems operation in the environments of organizations rather than on intraorganizational processes.*

### **Limitations and Opportunities for Future Research**

This methodological approach based on a systematic literature review tried to avoid or limits biases. Nonetheless, as we based our study in a particular focus, relating megaprojects and institutions, our findings cannot consider other such aspects that can impact projects even with a higher impact. Our density visualization graph (Figure 4) showed other aspects that can also impact megaprojects, like the country in which the project is established, the inherent risks of this kind of endeavor, the costs control, the environment or the project performance. As opportunity of future research is a new study considering which factors impact megaprojects at most and how it occurs.

Besides, we realized few articles relating cultural aspects of megaprojects. This issue could be considered in a longitudinal research about cultural aspects of a megaprojects and its benefits after their completion for the society.

### **NOTES**

<sup>1</sup> Related to the year of 2017 according to the Clarivate Web of Knowledge database, position of end October 17<sup>th</sup>, 2018.

<sup>2</sup> In order to maintain the contemporaneously aspect of this study, as opportunity for future research, we are considering only articles published after 2016 (inclusive).

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**Table 1** Dimensions of institutions

North (1990)		Scott (2014)	Robinson & Acemoglu (2012)
Degree of Formality of North	Examples	Supportive pillars	Drivers
Formal institutions	Laws Regulations Policies / Rules	Regulative	
Informal institutions	Norms / code of behavior Ethics Values / beliefs / assumptions	Normative Cultural-cognitive	Political Economic

Source: Authors, based on Peng, Sun, Pinkham & Chen (2009) and Robinson & Acemoglu (2012).

**Table 2** Data collection using Clarivate Analytics Web of Science.

Web of Science	
<b>Initial Boolean operators</b>	<p><b>TOPIC:</b> (institution*) <b>AND TOPIC:</b> ((cultur* OR norm* OR (code of behavio*) OR ethic* OR law* OR rule* OR regulat* OR politic* OR economic*)) <b>AND TOPIC:</b> ((megaproject* OR (mega project*) OR (mega-project*) OR (large project*) OR (global project*) OR (complex project*) OR (large multi-firm project*) OR (major project*) OR PPP)) <b>AND TOPIC:</b> ((project manage*)) <b>NOT TOPIC:</b> ((education* OR school*)) <b>NOT TOPIC:</b> (medicin*)</p> <p><b>Refined by: DOCUMENT TYPES:</b> (ARTICLE OR REVIEW) <b>AND LANGUAGES:</b> (ENGLISH)</p> <p><b>Timespan:</b> All years. <b>Indexes:</b> SCI-EXPANDED, SSCI, A&amp;HCI, CPCI-S, CPCI-SSH, ESCI.</p>
<b>Doctypes filter</b>	( ARTICLE OR REVIEW )
<b>Period filter</b>	1900-2018
<b>Database filter</b>	Web of Science Core Collection
<b>Language filter</b>	English
<b>First filtered results</b>	836 documents (777 articles and 59 reviews)
<b>Subject area filter (categories)</b>	Management, Economics, Engineering Civil, Business, Engineering Environmental, Engineering Industrial, Business Finance, Engineering Chemical, Engineering, Multidisciplinary, Engineering Aerospace, Agricultural Engineering, Engineering Manufacturing, Agricultural Economics Policy
<b>New Boolean operators</b>	<p><b>TOPIC:</b> (institution*) <b>AND TOPIC:</b> ((cultur* OR norm* OR (code of behavio*) OR ethic* OR law* OR rule* OR regulat* OR politic* OR economic*)) <b>AND TOPIC:</b> ((megaproject* OR (mega project*) OR (mega-project*) OR (large project*) OR (global project*) OR (complex project*) OR (large multi-firm project*) OR (major project*) OR PPP)) <b>AND TOPIC:</b> ((project manage*)) <b>NOT TOPIC:</b> ((education* OR school*)) <b>NOT TOPIC:</b> (medicin*)</p> <p><b>Refined by: DOCUMENT TYPES:</b> (ARTICLE OR REVIEW) <b>AND LANGUAGES:</b> (ENGLISH) <b>AND WEB OF SCIENCE CATEGORIES:</b> (BUSINESS FINANCE OR ENGINEERING CHEMICAL OR MANAGEMENT OR ECONOMICS OR ENGINEERING CIVIL OR AGRICULTURAL ENGINEERING OR BUSINESS OR ENGINEERING ENVIRONMENTAL OR ENGINEERING MULTIDISCIPLINARY OR COMPUTER SCIENCE SOFTWARE ENGINEERING OR ENGINEERING INDUSTRIAL OR AGRICULTURAL ECONOMICS POLICY OR ENGINEERING AEROSPACE OR ENGINEERING MANUFACTURING) <b>AND DOCUMENT TYPES:</b> (ARTICLE OR REVIEW)</p> <p><b>Timespan:</b> All years. <b>Indexes:</b> SCI-EXPANDED, SSCI, A&amp;HCI, CPCI-S, CPCI-SSH, ESCI.</p>
<b>Second filtered results</b>	226 documents (218 articles and 8 reviews)

Source: Authors, based on a survey using Web of Science tool conducted on November 16<sup>th</sup>, 2018.

Rank	Authors	Source	Subject area	JCR	Total of citations	Average citations per year
1	Flyvbjerg (2014)	Project Management Journal	Management	1,957	188	38
2	Orr and Scott (2008)	Journal of International Business Studies	(i) Business, (ii) Management	6,198	125	11
3	Ruuska, Ahola, Arto, Locatelli, and Mancini (2011)	International Journal of Project Management	Management	4,328	63	8
4	Mahalingam and Levitt (2007a)	Journal of Construction Engineering and Management	(i) Industrial Engineering, (ii) Civil Engineering, (iii) Construction & Building Technology	2,201	60	5
5	Ruuska, Arto, Aaltonen, and Lehtonen (2009)	International Journal of Project Management	Management	4,328	39	4
6	Javernick-Will and Scott (2010)	Journal of Construction Engineering and Management	(i) Construction & Building Technology, (ii) Industrial Engineering, (iii) Civil Engineering	2,201	34	4
7	Javernick-Will and Levitt (2009)	Journal of Construction Engineering and Management	(i) Construction & Building Technology, (ii) Industrial Engineering, (iii) Civil Engineering	2,201	31	3
8	Garvin (2009)	Journal of Construction Engineering and Management	(i) Construction & Building Technology, (ii) Industrial Engineering, (iii) Civil Engineering	2,201	30	3
9	Mahalingam and Levitt (2007b)	Journal of Construction Engineering and Management	(i) Construction & Building Technology, (ii) Industrial Engineering, (iii) Civil Engineering	2,201	29	2
10	Zhang, Gao, Feng, and Sun (2015)	International Journal of Project Management	Management	4,328	28	7
11	Jia, Yang, Wang, Hong, and You (2011)	International Journal of Project Management	Management	4,328	27	3
12	Van de Graaf and Sovacool (2014)	Energy Policy	(i) Economics, (ii) Environmental Studies, (iii) Energy & Fuels; (iv) Environmental Sciences	4,039	25	5
13	Reynolds (2012)	World Development	(i) Economics, (ii) Planning & Development	3,166	20	3
14	Del Moral, van der Werff, Bakker and Handmer (2003)	Water International	(i) Civil Engineering, (ii) Water Resources	1,956	18	1
15	Panayides, Parola, and Lam (2015)	Transportation Research Part A – Policy and Practice	Transportation Science & Technology	3,026	17	4
16	Lee (2010)	Water Resources Management	(i) Civil Engineering, (ii) Water Resources	2,644	16	2

**Table 3** Articles selected for the study, according to their impact journal factor<sup>1</sup>, based on the literature available on Web of Science and Scopus databases.

Rank	Authors	Source	Subject area	JCR	Total of citations	Average citations per year
17	Van Marrewijk, Ybema, Smits, Clegg and Pitsis (2016)	Organization Studies	Management	3,133	13	4
18	Heffron (2013)	Energy Policy	(i) Economics, (ii) Environmental Studies, (iii) Energy & Fuels; (iv) Environmental Sciences	4,039	10	2
19	Wong, Unsal, Taylor, and Levitt (2010)	Journal of Construction Engineering and Management	(i) Construction & Building Technology, (ii) Industrial Engineering, (iii) Civil Engineering	2,201	9	1
20	Soomro and Zhang (2016)	Journal of Management in Engineering	(i) Industrial Engineering, (ii) Civil Engineering	2,282	8	3
21	Chang, Wilkinson, Potangaroa, and Seville (2012)	Disaster Prevention and Management	(i) Environmental Studies, (ii) Public, Environmental & Occupational Health, (iii) Management	1,060	6	1
22	Macario, Ribeiro, and Costa (2015)	Transport Policy	(i) Economics, (ii) Transportation	2,512	6	2
23	Kemper, Mestre, and Amore (2003)	Water International	(i) Civil Engineering, (ii) Water Resources	1,956	6	0
24	Vit (2011)	European Management Journal	(i) Business, (ii) Management	2,369	5	1
25	Biesenthal, Clegg and Sankaran (2018)	International Journal of Project Management	Management	4,328	3	3
26	Trotter, Maconachie and McManus (2018)	Energy Policy	(i) Economics, (ii) Environmental Studies, (iii) Energy & Fuels; (iv) Environmental Sciences	4,039	2	2
27	Kohli and Menon (2016)	Energy Policy	(i) Economics, (ii) Environmental Studies, (iii) Energy & Fuels; (iv) Environmental Sciences	4,039	2	1
28	Zheng, Lu, Le, Li, and Fang (2017)	Journal of Management in Engineering	(i) Industrial Engineering, (ii) Civil Engineering	2,282	2	2
29	Chou, Hsu, Lin, and Chang (2016)	International Journal of Project Management	Management	4,328	1	0
30	Brunet and Aubry (2018)	International Journal of Managing Projects in Business	(i) Business, (ii) Management	1,321	0	0
31	Kavishe, Jefferson, and Chileshe (2018)	Engineering Construction and Architectural Management	(i) Industrial Engineering, (ii) Civil Engineering, (iii) Management	1,613	0	0
32	Li, Lu, Ma, and Kwak (2018)	Project Management Journal	Management	1,957	0	0
33	Pitsis, Clegg, Freeder, Sankaran, and Burdon (2018)	International Journal of Managing Projects in Business	(i) Business, (ii) Management	1,321	0	0
34	Wang, He, Xia, Meng, and Wu (2018)	Journal of Management in Engineering	(i) Industrial Engineering, (ii) Civil Engineering	2,282	0	0

**Table 4** Categories, subcategories, and codes used in the content analysis.

Categories	Subcategories	Codes
1. Formal institutions	1.1. Regulative institutions	1.1.1. Concept of regulative institutions
		1.1.2. Regulations
		1.1.3. Rules
		1.1.4. Laws
2. Informal institutions	2.1. Normative institutions	2.1.1. Concept of normative institutions
		2.1.2. Norms
		2.1.3. Code of behavior
		2.1.4. Ethics
	2.2. Cultural-cognitive institutions	2.2.1. Values / beliefs / assumptions
3. Institutional drivers		3.1. Political
		3.2. Economical

Source: Authors

**Table 5** Number of academic publications per journal and per year related to megaprojects and institutions.

Journal	Year													Total
	2003	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018		
Disaster Prevention and Management							1							1
Energy Policy								1	1		1	1		4
Engineering Construction and Architectural Management												1		1
European Management Journal						1								1
International Journal of Managing Projects in Business												2		2
International Journal of Project Management				1		2				1	1	1		6
Journal of Construction Engineering and Management		2												2
Journal of Construction Engineering and Management -ASCE					4									4
Journal of International Business Studies			1											1
Journal of Management in Engineering											1	2		3
Organization Studies											1			1
Project Management Journal									1			1		2
Transport Policy										1				1
Transportation Research Part A – Policy and Practice										1				1
Water International	2													2
Water Resources Management					1									1
World Development							1							1
<b>Total</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>8</b>		<b>34</b>

**Table 6** Summary of coded articles.

Categories	Subcategories / Code	Number and percentage of articles coded
1. Formal institutions	1.1. Regulative institutions	32 (94.1%)
2. Informal institutions	2.1. Normative institutions	25 (73.5%)
	2.2. Cultural-cognitive institutions	31 (91.2%)
3. Institutional drivers	3.1. Political	31 (91.2%)
	3.2. Economical	33 (97.1%)

Source: Authors, adapted from Gaur & Kumar (2017).

**Table 7** Sample articles about megaprojects and PPP and their main aspects related to institutions and opportunities for future research.

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Biesenthal et al. (2018)	Conceptual research. The authors suggest the use of discourse analysis to conduct new researches about megaprojects and institutional theory.	Regulative conflicts are progressively more straightforward to resolve than normative and cognitive ones throughout a megaproject.	All projects are microcosms of cultures and are influenced by the various experiences of project members. Cognitive conflicts during a megaproject are the most difficult to achieve a solution.	Due to the necessity of having useful information required form political, economic and also environmental aspects, megaprojects take a long time to materialize.	To apply novel methods used by researches using institutional theory to fill some research gaps identified. For example, to understand the dynamics of institutional forces on megaprojects, i.e, how institutional forces manifest, act, and are resolved on megaprojects.
Brunet and Aubry (2018)	Qualitative approach based on a case study of a public infrastructure project in Quebec using interviews, grounded theory, temporal bracketing, and systematic analysis.	Contracts by professionals in acting in the public project are formalized according to government regulations.	The Quebec Governance Framework practices for public infrastructure projects should be normalized at organizational and project levels, allowing the understanding of what is prescribed and what is done.	Economic perspectives are critical in dealing with major public infrastructure projects. Political institutions are also involved, as they have players involved in approving deliverables of the project.	Inter-case analysis could be useful in order to find patterns, differences, and time dynamic.
Chang et al. (2012)	Mixed approach based on questionnaire surveys, semi-structured interviews, observations, and a comparative analysis.	An appropriate level of governance and coordination in the construction market is essential, in order to regulate and supervise different resourcing stakeholders in a post-disaster project.	The impact of culture in Indonesia regarding construction housing impacts the project. The inhabitants of Aceh, Indonesia, traditionally utilized organic building materials like timber and bamboo and are not used to materials like cement, steel, and concrete.	Involvement of local political and alignment with the economic environment in order to achieve project results.	The authors mention that the paper can provide insights about reconstruction intervention, but they are not evident in the text.
Chou et al. (2016)	Quantitative approach in order to extract dispute data for PPP projects and treated by mining approach and analyzed by machine learning and regression techniques.	Regulation related disputes in PPP are handling similarly as government procurement cases, with a first negotiation, followed by mediation and then arbitration or litigation with different dispute resolution mechanisms.	-	PPP has been playing a significant part in economic and social development and, consequently, promoting economic growth.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Del Moral et al. (2003)	Qualitative approach that presents specific findings of a case study of water policy in Spain.	The authors consider that “general processes” of globalization contribute to the erosion of capacities of national states to regulate social activities and the environment.” Regulations are related with nation governance and directives from European Union contributes to de-regularize the service provided.	The diffusion of extra-Mediterranean values as criteria for the evaluation of water policy is a cultural factor pointed by this study.	The importance of the European water normative is a political factor that was introduced by globalization.	-
Flyvbjerg (2014)	Conceptual research in order to find key literature related to megaproject.	Institutional design can offer a better accountability in order to understand causes of problems and solutions for megaprojects. Nonetheless, the article does not differentiate institutions from its formal or informal elements.	See “formal institutions” description.	Politics and economic consist two of the “four sublims” of megaproject management. Megaprojects is a way of public exposure to politicians, which contribute to a better image and, consequently, to help them in promoting any eventual reelection. From the economic sublime, megaprojects handle with considerable amount of investment, due to the performance of distinct actors, e. g., construction and transportation workers, consultants, bankers, investors, landowners, and lawyer.	
Garvin (2010)	Qualitative approach considering case studies of PPP projects in North America, Australia, Portugal, Spain, and the United Kingdom.	According to the authors, “privatized infrastructure is managed by regulated enterprises where public commissions typically have substantial governance authority.”	-	Estimate demand or market risk can be problematic in PPP arrangements as it is related to the expected economic growth of a country. Besides, political pressures can be also been considered.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Heffron (2013)	Qualitative approach based on contrast explanation developed throughout the article as a dialectical learning.	Regulatory institutions, like the Office for Nuclear Regulation, as stakeholder of the project.	Nuclear sector influences the work culture mainly in China and South Korea and mainly based on safety.	This study is based exclusively on political and economic structures to account for public policy decision making for the nuclear energy sector.	-
Javernick-Will and Levitt (2010)	Qualitative approach based on interviews with international firms' representatives to identify the methods to transfer and mobilize institutional knowledge for their global projects.	Regulative elements in international projects tended to be explicit and more accessible to observe. Consequently, employees prefer to capture and publish this knowledge in written form.	Normative and cultural-cognitive elements are ways of sharing knowledge in projects mainly in an interactive (online) way, being the last one focused on social and cross-culturally interaction.	Differences in political infrastructure and economic development can lead to risks involving foreign expansion for international firms.	-
Javernick-Will and Scott (2011)	Qualitative approach based on data from case studies of international firms engaged in international infrastructure in order to evaluate the importance of institutional knowledge for international projects.	While most of the international project management researches focus on the regulative elements, normative and cognitive-cultural factors tend to have a secondary role.	The study focuses on the importance of normative and cultural-cognitive aspects of an international project.	Political, economic and legal (regulative) aspects should be complemented by normative and cultural-cognitive issues in an international project.	-
Jia et al. (2011)	Conceptual research in order to understand by generalization and induction the relationship between megaproject and social conflicts and developing a conceptual model of megaproject.	Social conflicts stimulate the creation of new rules and the improvement of existing rules.	Conflicts make people to question primary norms (and rules). Conflicts are stimulating by culture (e. g. individualism x collectivism).	Megaprojects has close relationships with the level of political centralization and economic development.	-
Kavishe et al. (2018)	Mixed approach using survey and semi-structured interviews with public and private sector respondents. Data were evaluated by parametric tests. Interviews were analyzed by content analysis.	PPP initiatives related to houses in Tanzania are strongly influenced by regulatory conditions, which can be classified as a new phenomenon.	The model of PPP could be adopted by other developing countries with similar cultural aspects.	The model of PPP could be adopted by other developing countries with similar socio-economic conditions.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Kemper et al. (2003)	Qualitative approach through case study in order to contextualize the Guarani Aquifer System Project and to describe the current status of international law and analyze it in the context of the company.	Lack of legal and regulatory mechanisms for groundwater management throughout the region underlying the Guarani Aquifer System, especially in Argentina and Brazil.	Informal norms are enforced for the project but need an improved formal framework.	Due to its social appeal in order to promote economic growth for the region and the existence of international law concerning transboundary groundwater, political aspects regarded the rational use of resources is under attention due to bilateral or multilateral agreements.	-
Kohli and Menon (2016)	Qualitative approach through ethnographic research involving discussions with key stakeholders and review of policy documents, news reports, and government data on investments in Gujarat, India, since 2000.	In order to better shape the developmental and environmental outcomes of the projects owned by state government and corporate investors after the earthquake of 2001, the scope of interactions between regulators and locally affected inhabitants should pay attention in the distribution or remedies to the population affected by this natural disaster.	Local culture of Gujarat is one of the motivators used in order to attract investors for the local projects related to the improvement for the region.	There is a misunderstanding between International Financial Institutions (IFIs) investing in coal projects and collaborating with the Tata subsidiary established in Mundra, India, and activists against coal exploration.	-
Lee (2010)	Qualitative approach in order to review urban water services in China since the late 1990s and the interaction between the government and private players in PPP projects.	China stimulates private sector players for enhance the urban water services from the late 1990s. For this reason, new laws and regulations have been enacted in favor of PPP projects. Nonetheless, the underpriced water by local governments does not attract investors, bringing institutional/regulatory risks.	Chinese population believe that water should be provided almost free. Due to that reason, urban water services had been untouched as a 'sacred cow,' and the services had deteriorated further in the 1980s and the 1990s because the underpriced water tariffs.	The Chinese government found difficulties in rationalizing water prices as the traditional perception of water is a public good and not an economic good. The underpriced water brings for local governments socio-political risks.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Li et al. (2018)	Qualitative approach through Longitudinal case study of the World Expo 2010 in China, based on <i>in-loco</i> observations and interviews.	The mega-event project governance was guaranteed by institutions that provided formal regulations and policies to guarantee the stability and evolution of the project.	A new project culture (considering the Chinese cultural context) was established, based on individual staff. This integration among individual staff motivated a new team culture.	Political institutions provide support during all stages of project, but declined with time, gradually transmitting from central governance-led to local government-led, and finally to enterprise-led. The economic perspective of the project is related to the even greater market dependency for funding (from enterprises) and even less funding from government.	Conduct multiple-case studies and cross-check the conclusions of similar cases and projects (also considering different situations in different countries, e. g. cross-case analysis or considering other mega-event projects like Olympic Games or World Cup).
Macario et al. (2015)	Qualitative approach through case study analysis in order to evaluate PPP projects related to Portuguese transport.	Regulatory issues are strongly related with PPP projects in transportation infrastructure. The regulator's proximity to government creates an unbalance of power to which the private party will respond strategically in order to increase opportunistic behavior.	Not considered in this article.	Economic regulation is considered for public interest ground as transportation infrastructure or services act as natural monopoly.	-
Mahalingam and Levitt (2007a)	Qualitative approach based on multiple case studies very similar in nature and scope, but different from one to another in nationalities.	Acting in different countries, proactive action by local contractors and regulators in improving safety might also serve as a competitive advantage in attracting infrastructure investment into developing regions.	The homogeneity among projects allowed the authors to control variables like project scope, contract type, and technology used and therefore focus more on the variations in cultural norms and values. Focus on cross-national issues on global projects.	In order to change the mindset of European workers after World War II, American sponsors used more time intensive normative and mimetic strategies and tried to inculcate American practices into the education system.	-
Mahalingam and Levitt (2007b)	Qualitative approach based on unstructured interviews with project personnel.	Regulations are seemed to bring delays in projects mainly during the construction phase.	Conflicts in norms arise due to different type of material used in United States and Europe. Project participants often wish to persist with their own cultures as they are used to working with such practices in their institutional environments. Culture is seen as a challenge in global projects.	Political and economic uncertainties often lead to confusion between project participants, delays and cost increasing.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Orr and Scott (2008)	Quantitative approach based on interviews collected in the period of 18 months and considering projects among 60 countries. After interviews and data analysis, grounded theory building, analytic induction and constant comparative method were conducted.	While some studies concentrate attention on legal and regulatory aspects, these authors believe in a holistic view of institutions impacting global projects regarding regulative, normative, and cultural-cognitive aspects, all of them equally important.	The article states that there has been little agreement among scholars who have tried to explain performance based on cross-cultural collaborative initiatives using cultural distance.	More experienced multinational firms tend to be effective in local economic transactions and political contests.	-
Panayides, Parola, and Lam (2015)	Quantitative approach considering a database of PPP projects from the World Bank. The authors conducted an analysis based on correlations matrix and binomial logistic regressions.	A high-quality regulatory environment exists when rules and laws are formulated and also effectively enforced to ensure stability of economic transactions, order of a society, and also efficiency in operations and a optimal use of resources in PPP projects.	The culture of customs is one of the elements that can influence the way of international trade.	The establishment of a partnership between public and private sectors is considered more important than the project costs.	-
Pitsis, Clegg, Freeder, Sankaran, and Burdon (2018)	Conceptual research about the academic literature regarding megaproject from the past five years and considering project and program management, and organizational theory.	Legal and regulatory issues are one of the characteristics that distinguish megaprojects from large projects.  Regulatory rulings related to support projects in infrastructure need to be addressed in order to match investors (mainly from developed economies) with projects (mainly focused on middle -income economies).	Contractual relations shape the “norms of competitive contracting,” promoting project power relations and cost control.	Megaprojects are linked to economic growth in global cities. The impetus of taking megaprojects consist in a complex convergence of economic, social, engineering and scientific ventures.	The authors suggest an extensive list of future research opportunities. Among them, we highlight the following suggestions:  How do megaprojects shape institutional frameworks and how do institutional frameworks frame megaprojects?  How the context of megaprojects is shaped and how this ‘political’ environment for the project is established?  How to stablish cooperation regimes in megaprojects considering cultural aspects and communication among stakeholders?

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Reynolds (2012)	Qualitative approach based on case study of projects in Africa using carbon offset payments to fund tree-planting activities.	There is an absence of formal institutions to regulate forest in many developing nations.	Informal institutions like norms can impose constraints on actors, leading to favorable outcomes from common pool resources (forest goods from developing nations).	The micro level of projects according to this study is related to the economic inquiry, i.e., the decisions of individuals in response to financial and social incentives. The authors differentiate economic from institutional theories, and this difference is used to state the hypothesis for their study.	-
Ruuska, Ahola, Artto, Locatelli, and Mancini (2011)	Qualitative approach based on multiple case study with publicly available information from nuclear power plant projects.	Formal regulatory institutions change according to the country. The Finish State interacts with the project manager through authorities. Besides, the ASN ( <i>Autorité de sûreté nucléaire</i> ) is the administrative authority in charge, on behalf of the State, to regulate nuclear safety and radiation protection.	Norms are theoretically evaluated in order to understand how they influence relational ties of transacting actors affecting the governance of transactions. Macroculture is an critical factor in dealing with governance in a networked project context.	The study discusses about the political position of European Union related to projects of reducing carbon dioxide emissions. The theory of institutional economics (and also transaction cost economics) presents market and hierarchical supply chain as two ends of a continuum on which economic transactions can be placed.	-
Ruuska, Artto, Aaltonen, and Lehtonen (2009)	Qualitative approach based on a case study with publicly available information about a nuclear power plant project.	A nuclear plant in Europe is highly regulated by European Union, which impact the project governance of projects in this area.	Sociocultural distance involves organizational culture, national culture and language, politics, and individual motivations and work ethics. In the project, it was observed some speculation about the differences in communication cultures between French contractors and Finnish companies.	Political decision-making bodies are an essential part of the organizations participating in projects related to nuclear energy.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Soomro and Zhang (2016)	Qualitative approach based on a case study of transportation PPP projects.	Laws and regulations are considered one of the motivators of the lack of interest by the private sector in PPP initiatives.	Not considered in this article.	Socio-economic factors (e. g. poor economic and financial feasibility assessment) can be considered as one of the failure drivers in transportation PPP projects.	-
Trotter, Maconachie, and McManus (2018)	Quantitative approach based on linear programming in order to understand the political factors that influence infrastructure projects of electricity generation in Africa.	International regulatory bodies (e. g. United Nations) influence the African electrification initiatives	African countries possess relatively high corruption scores that significantly influence projects.	Political institutions are seemed as the key prerequisite for successful electrification in developing countries. Nonetheless, African electrification has been frequently the subject of politician's private interests and, consequently, is influenced by corruption.	-
Van de Graaf and Sovacool (2014)	Qualitative approach based on a multiple case study of energy megaprojects in Europe, Asia, and Africa.	Inappropriate structure of regulations leads on delays on megaprojects in the MENA (Middle East and North Africa) countries.	Corruption mainly in Asian countries influence the ongoing of megaprojects. Inappropriate structure of informal institutions leads on delays on megaprojects in the MENA countries.	Political instability in the megaprojects in the MENA region implies in higher costs for megaprojects.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Van Marrewijk, Ybema, Smits, Clegg and Pitsis (2016)	Qualitative approach based on ethnographic research in the Panama Canal Expansion Program (PCEP).	Existence of regulations from the era of American control of this megaproject was not perceived as a negative factor.	Cultural aspects are the most critical in dealing with this project in order to manage conflicts and achieve agreements through negotiation. Particular attention should be given to the post-contract governance processes, also focusing on intercultural histories, organization traditions, cultural identities and expectations, and dealing with potentially conflicting interests.	Economical information was one of the collected issues in order to elaborate a documentary study of the megaproject. Political issues in the sense of this study was related to internal power of the company instead of regulatory bodies within a country.	-
Vit (2011)	Qualitative approach based on a case study of a project of the reopening of a paper mill in Chandler, Gaspe (Canada).	Regulations regarding protection of Papiers Gaspesia's investors were established in 2004.	The existence of internal conflicts in the project, which are influenced by cultural and organizational pressures, as projects often involve multiple stakeholders and sub-cultures.	Politicians and government bureaucrats were interested in job preservation, including their jobs. Projects decisions and actions were more related to social isomorphism than economic isomorphism.	-
Wang, He, Meng, and Wu (2018)	Quantitative approach based on survey, correlations, factor analysis, and partial least-square (PLS) analysis.	Regulatory agencies act as one of the institutional pressures in megaprojects. Those pressures in form of environmental regulations or stakeholders' expectations have positive influences on the emergence of organizational citizenship behaviors for the environment (OCBEs).	Normative pressures (mainly represented by standard, norms, and professional bodies in the environmental protection), and also mimetic pressures (the pressure of an organization to imitate others' successful initiatives), have a crucial role in promoting OCBEs.	Megaprojects are intrinsically related to economic-social benefits. Besides, the similar economic scenario of some developing countries (e. g. China, India, and Brazil) brings also common problems for megaprojects, like an unpredictable or inconsistent government regulations, insufficient or limited industry and market information.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Wong, Unsal, and Taylor (2010)	Quantitative approach based on a simulation of a virtual team using network analysis.	Local contractors from Southeast Asian countries face not so strong regulatory enforcements in comparing with those from international contractors from developed countries. This issue negatively impacts the productivity of the project.	The diversity of cultures impacts global projects. Engineers from different countries have different educational background and point of view related to design practice norms. As regulative standards do not govern these conflicts, they can be difficult, time-consuming, and costly to resolve.	Working abroad with international teams can bring political risks related to the country the project is inserted in.	-
Zhang, Gao, Feng, and Sun (2015)	Conceptual research about the institutional analysis of PPP application in infrastructure, developing an institutional framework about the established theoretical model.	The execution of megaprojects is formally governed by the contractual rules designed to regulate the participants (interorganizational). In case of PPP projects occurring in China, they are under a unique and complex legal system. The contractual rules formally regulate the participants (interorganizational) in the execution of megaprojects.  The execution of megaprojects is formally governed by designed to regulate the participants (interorganizational).	Informal institutions include the perceptions of PPP by the general public and a PPP-facilitating or impeding culture.	Political institutions are well structured to support PPP at the early stages, but due to lack of administrative departments restructuration, they lack established policies for ongoing and mature initiatives, what is evident by the high project failure rate.	-

Author	Methodology	Formal Institutions	Informal Institutions	Institutional drivers	Opportunities for future research <sup>2</sup>
Zheng, Lu, Le, Li, and Fang (2018)	Quantitative approach based on survey, correlations, and partial least-square (PLS) analysis.	Previous studies have focused on the developing of regulatory and formal controls in megaprojects, ignoring the behavioral of psychological aspects.	Relational behavior contributes to achieving a high project relationship quality.	Economic and social influences of megaprojects impact the relational behavior of participating organizations by frequent media reports regarding the project's progress.	<p>According to the authors, there are three opportunities for future endeavors based on this article.</p> <p>First, a new study should consider a longitudinal analysis to understand the relational behavior in megaprojects over time, particularly the identification of events that trigger changes.</p> <p>Second, future research should match data from multiple or paired interviewed in the same organization to assess agreement to improve the reliability of responses.</p> <p>Finally, a broader scope of data collection also considering other countries and regions could provide valuable information for the study.</p>

Table 8 Methodology approach of the selected articles.

Approach	Number and percentage of articles
Conceptual research	5 (14.7%)
Mixed	2 (5.9%)
Qualitative	21 (61.8%)
Quantitative	6 (17.6%)

Source: Authors.

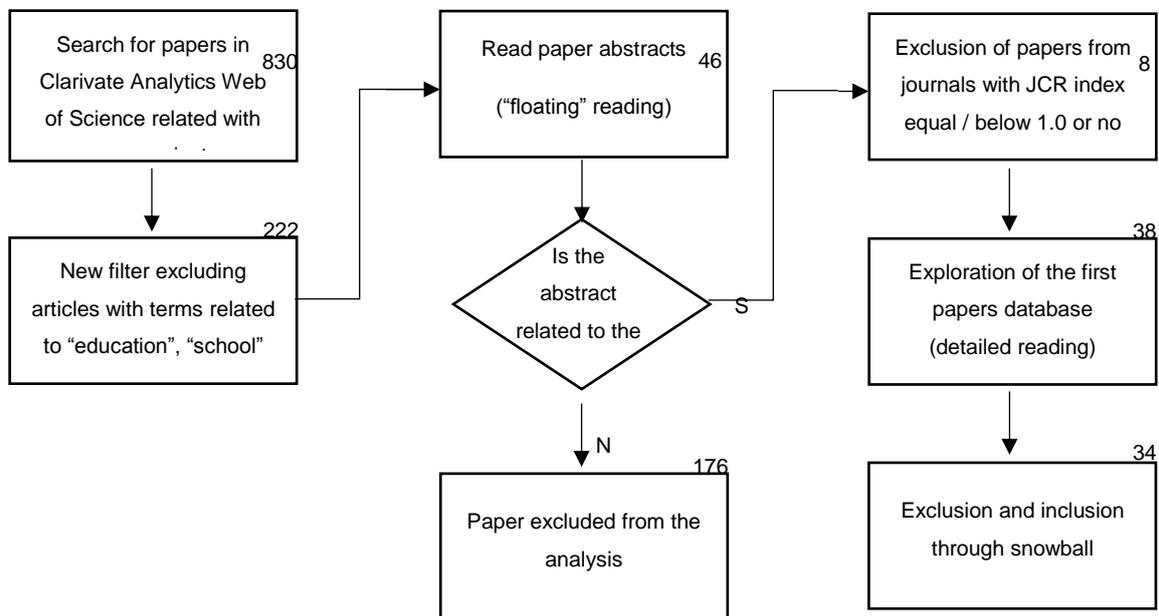
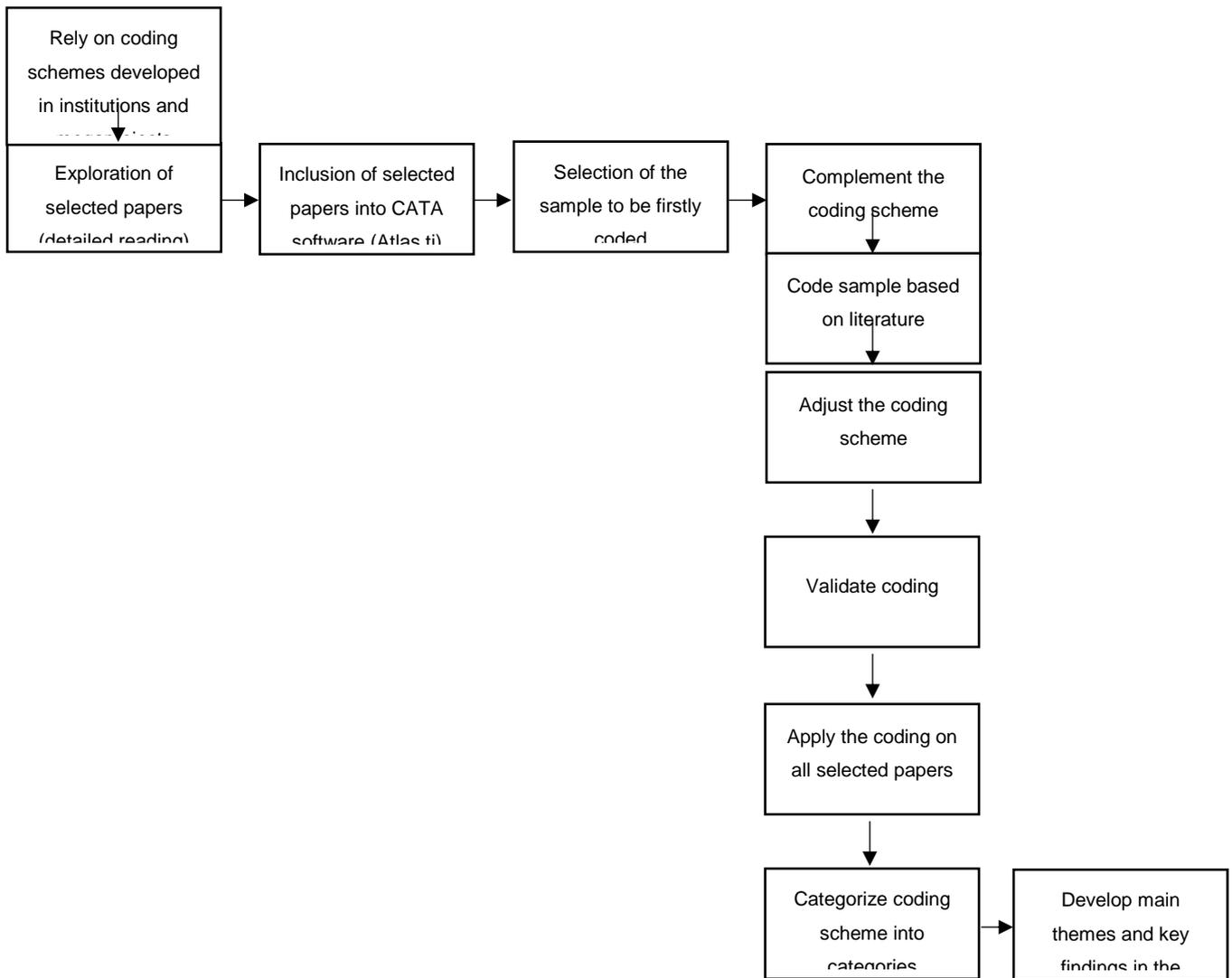


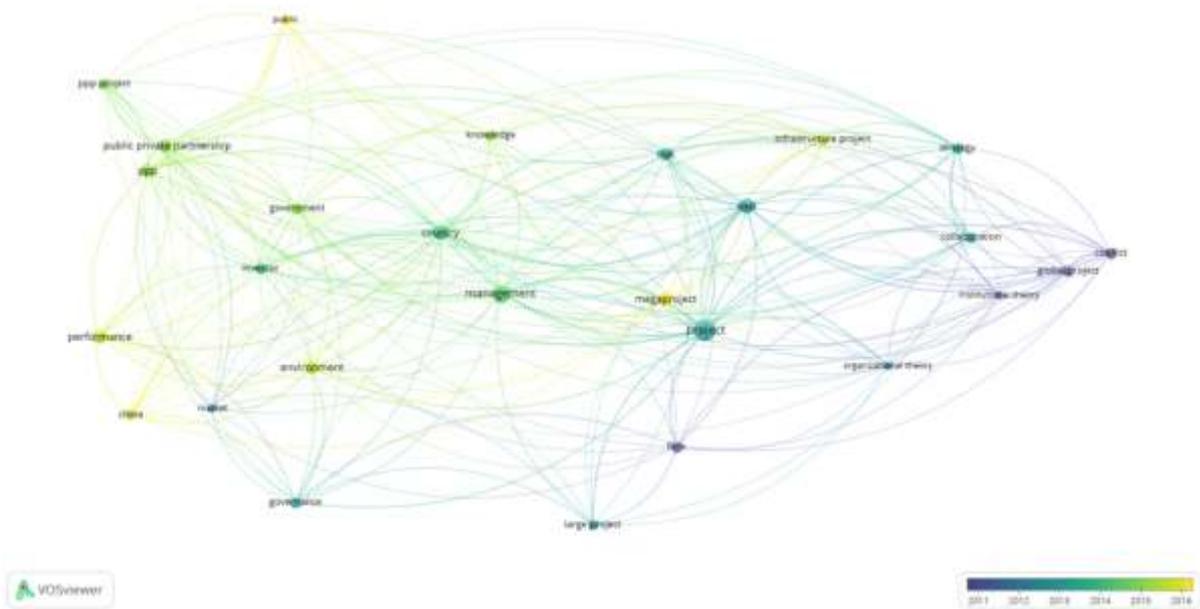
Figure 1 Pre-analysis of the sample: data collection and abstract reading.

Source: The authors, based on Bardin (2016); Carvalho et al., (2013); Gaur & Kumar (2017).

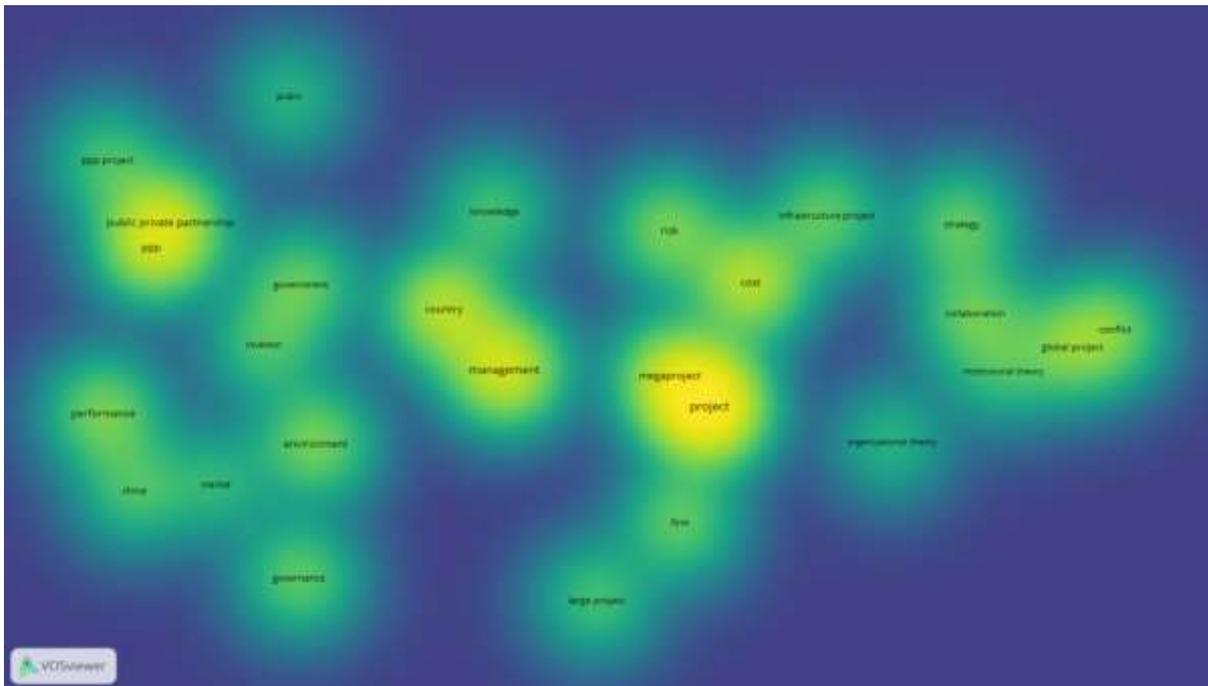


**Figure 2** Exploration of selected papers: accurate reading, coding scheme definition, categorization, and main findings development.

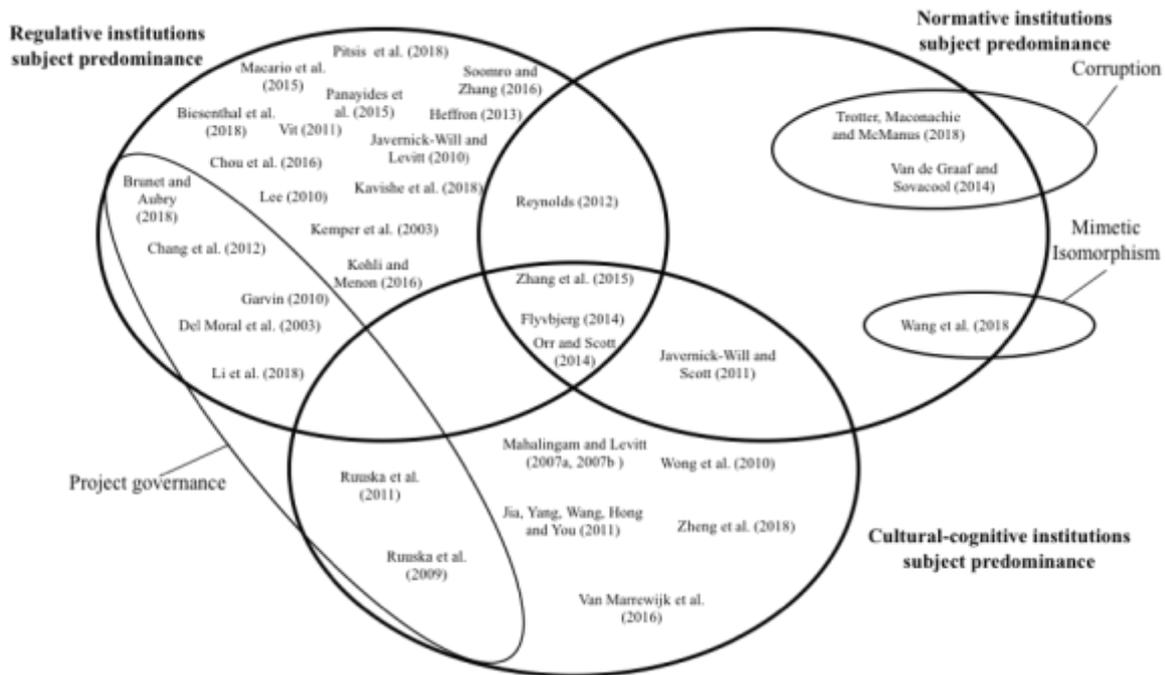
Source: The authors, based on Bardin (2016); Carvalho et al., 2013; Gaur et al., 2018.



**Figure 3.** Content network using overlay visualization, created by VOSViewer software.  
Source: Authors.



**Figure 4** Density visualization, created by VOSViewer software.  
Source: Authors.



**Figure 5** Clusters of articles according to the institutional theme predominance.  
Source: Authors.

*Track 12 Public-Private Partnerships in Infrastructure*

**ID #715**

**Institutional arrangements and social PPPs: A comparative study  
between the cases of Hospital do Subúrbio of Salvador and  
Complexos Hospitalares of Sorocaba**

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**Abstract**

*The present research intend to discuss the evaluation of the franchise bidding process of projects established through public-private partnerships (PPPs) in the health area. It consists in the study of two definite cases, the Hospital do Subúrbio of Salvador, which provides only healthcare services, and the Sorocaba State Hospital, related to facilities services such as maintenance and security. The research aims to discover whether institutional aspects are relevant for the bidders in the elaboration of the PPP projects offer for the health area. The comparison between the chosen cases will provide insights on the process of elaboration of the contract terms of the social PPP operators due to the difference in subnational contexts. Thus, the future paper will provide knowledge on the decision-making process of the companies from the stage of expression of interest to the final bidding and on the different models of contract management, for the Hospital do Subúrbio is managed by a “white scrubs” type of PPP and the Sorocaba State Hospital by a “gray scrubs” one. Finally, the study will foster the understanding of the institutional arrangements for the realization of PPP projects in the health area. The research is still in its early phase. Therefore, only the conceptual definitions ant the first findings are contained in this preliminary paper.*

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**Keywords:** Public Health Public-Private Partnerships; Franchise Bidding; Evaluation; Institutional Arrangements..

## **INTRODUCTION**

The object of the present study is the evaluation of the franchise bidding process of projects established through public-private partnerships (PPP's) in the health area. As a method, qualitative research will be used through the collection of data (Yin, 1994), to reveal specificities of the two chosen cases of projects established through PPP, being the Hospital do Subúrbio of Salvador (state of Bahia, a “white scrubs” PPP, which means the mainly services provided are clinical) and the Complexos Hospitalares in the State of São Paulo, more specifically, the case of the Sorocaba State Hospital (a “gray scrub” type, where facilities services such as maintenance and security are provided). To direct the studies, the following guiding question was designed: which institutional aspects are relevant for the bidders in the elaboration of the PPP projects offers for the health area? The general objective of the paper is to disclosure the process of elaboration of the contract terms of the social PPP operators for the two chosen cases, which are characterized by different institutional environments in a subnational context. The specific objectives are: 1) to unveil the decision-making process of the companies from the stage of expression of interest to the final bidding; 2) to differentiate the incentive of the models of contract management – “white scrubs” x “gray scrub”; 3) to understand the institutional arrangements for the realization of PPP projects in the health area.

## **PPP'S IN BRAZIL: PECULIARITIES**

Internationally, the term PPP arose in the last decades of the 20th Century to name any kind of cooperation between public and private parties. Nowadays, the expression usually represents a long-term contract between the parties, via a specific purpose entity created by the private company to perform the activity referred in the contract.

In Brazil, the PPP model is often used for long-term complex contracts regarding to infrastructure, which comprehends essential facilities for economics and society, including both assets and services.

The PPP's can either be (a) policy-based or program-based or (b) project-based or contract-based. In both cases, a long-term contract is established focusing the design and construction of a public facility, which will remain private or return to public ownership, with payments over the life of the contract for the use of the facility, by the public party or by the users. In any case, if the PPP fails the specifications or do not perform as stated in the contract, payments can be reduced.

There are many types of partnerships between the public and private sectors in Brazil. According to Di Pietro (2017, pXX), “The expression PUBLIC-PRIVATE PARTNERSHIP *LATO SENSU* includes several types of agreements between public and private parties regarding the construction of public facilities and/or the provision of public services [...]”, including common concessions, under Law N. 8.987/85, the PPP's *stricto sensu*, defined by Law N. 11.079/2004, and many other models of arrangements. The form of partnership is chosen per the type of activity to be contracted.

The expression public-private partnership (PPP) used in this paper refers to the model created through the edition of Law N. 11.079/04. According to its Article 2, “Public-private partnership is the administrative contract of concession, both in the sponsored or in the administrative forms” (Brazil, 2004).

The PPP's can also be divided in two different categories: the sponsored and the administrative ones.

In the sponsored type of PPP, the contract involves the concession of public services or public constructions, when it involves, besides the fare charged to users, pecuniary compensation from the public partner to the private partner is required. In this case, the remuneration is not different from the traditional (common) concession, in which a fare is paid by the user but public subsidy is also possible.

In the administrative concession model, there is an administrative contract for the provision of services to the Public Administration as a direct or an indirect user, even if it involves the execution of construction or the supply and installation of goods (Art. 2, § 2 of Law N. 11.079). It is a mixture of turnkey system and concession: turnkey because the remuneration is taken by the government and not by users and concession because its object will have to obey the rules applied to the traditional concession in the part that grants public privileges to the concessionaire. Thus, the concessionaire will perform tasks as if it were a turnkey contractor being paid by Public Administration itself, but will act as if it were a public concessionaire, observing the rules on transfer of the concession, intervention, takeover and other forms of termination provided by Law N. 8.987/85.

Table 1 – Differences between the common concession, the sponsored and the administrative PPP

It is relevant to notice that the procurement of the construction of a public facility without the concession of public services is also possible, per the Law N. 8.666/93. In this case, the public authority is responsible for designing the project, and the private party is responsible only for building the facility.

However, in the case of the hospitals analyzed in this paper, the PPP model was the one chosen by the public party, who did not provide the project. The public authority only defined “outputs” of the contract, such as services due to be provided to the population and its quality.

### **“HARD INFRASTRUCTURE” VERSUS “SOFT INFRASTRUCTURE”**

In this section of the paper, the idea of the provision of health care services as an infrastructure matter and as a context of natural monopoly will be addressed.

#### ***The Franchise Bidding Model***

Franchise bidding is a concept applicable to the case of a company whose service offer is predominantly framed as being in a situation where the natural monopoly of a particular economic activity prevails. The natural monopoly assumption, in turn, is that of a market situation in which the necessary investments are very high and is also characterized by the provision of exclusive goods with little or no rivalry.

In other words, in economic terms a natural monopoly scenario comprises a circumstance in which the purpose is quite specific, hindering the allocation of resources to other areas/players. It requires a considerable amount of financial resources to run the company and its services, as their assets are considered as “sunk”, and scale returns must be affordable.

Another important typical aspect of monopolistic contexts is the diffuse benefit of the provision of the services or goods generated by the company, that is, the positive externality of the

existence of the service/good to the company, without there being necessarily individually measurable factors for its users.

In addition to these features, perhaps the most notorious one is the idea of reducing social welfare generated in monopoly scenarios. Based on the concepts of rational expectations, because of its only player offering services, monopoly logic works by adapting the supply of services to demand, maximizing the profit by deliberating the quantity that will achieve its goal, regardless of whether consumers of this good/service will in fact be satisfied. In other words, due to the complete elasticity of the demand curve, the offeror works and produces quantities of goods or services in the way that suits him best, generating a great deal of deadweight for a non-negligible part of the society consuming these goods and / or services.

Because of this market failure in the late 1960s, Chicago economists developed a model that would act in monopoly cases to mitigate the deadweight problem, so that the provision of services could at some point equate to competitive, free-market premises. At the time, the conclusion – the result of a series of debates and academic discussions – stipulated that the monopoly price that reduces social welfare could be avoided through an *ex ante* competition in the concession of the monopoly franchise for the company that is willing to offer products and/or services in the best terms and practices (Williamson, 2012).

Approaching the specificity proposed for this work, the franchise bidding found to be more adequate to the problematic of health PPP's can be framed as elaborated ones, whose contracts are considered incomplete in the long term. More specifically, the contracts involved in this type of auction require that the franchisee winning the bid specifies the prices to be practiced to which they would be prepared to offer the service/product in a certain period. Nevertheless, due to future unforeseen circumstances, the contract would be subject to change in terms, if proven necessary.

Long-term contracts, however, pose challenges related to franchise awards, which can be adjusted through contractual renegotiation permission subject to punishment clauses (Williamson, 2012). Among the typical problems of this type of contract, three different situations can be mentioned.

The first one is related to the maximum *ex ante* question, the first pre-contractual dispute and the evaluation of the different proposals, which deals with the artificiality or obscurity of the initial award criteria. In the words of Williamson (2012):

*“The promise to produce cheap is scarcely a well-defined commitment unless the quality of service is well specified and the proposals evaluated on a scalar basis have economic merit. Posner acknowledges this and proposes that subscriber preferences for quality be checked by a pre-bid request (...).*

The comparability problems that would otherwise be observed if otherwise price and quality could vary at the end of the competition process are therefore avoided. The pre-bidding request not only prevents quality from being defined by a political body, but also alleviates the need to choose from a number of disparate price-quality mixes, on the basis of which they are uncertain, in the final competition (...)

The bottom line is that although franchising can be reduced to a lower price criterion in the proposal, this may be artificial if the future is uncertain and the service in question is complex (...)

In the second and third situations, the author deals with the stages after signing the contract, specifically in cases of project development and / or renewal. Concerning the problems of performance of the contract, it is precisely at this stage that the “(...) convergence of franchise auctions with the regulation of public services” (Williamson, 2012) becomes more evident, with the most drastic measure being the substitution of the company in the course of the project. In the cases of contractual intervals, the author is emphatic in stating that hardly any parity of proposals will be changed, which will only happen in cases where the competitors see real advantages in the adjudication, be them economical, administrative or political. Otherwise, there are no major incentives to change the project executor (Williamson, 2012).

In the two chosen cases, whose bids are inserted in the context of the first signing of contracts, the present work seeks to understand the initial criteria of adjudication proposed by the companies for cases of different institutional arrangements, that is, the projects of the Hospital do Subúrbio of Salvador and the Complexos Hospitalares in São Paulo.

## **THE HOSPITAL DO SUBÚRBIO CASE**

With the 6th largest GDP in the country, R\$ 137 billion in 2009, the state of Bahia presents the contradiction of being the 9th economy with the worst GDP per capita in Brazil. The state's population growth rate was 1.30 (period 2001 to 2009), and Bahia is the third most populous state of the Federation, with 14,016,906 inhabitants according to the latest census. The capital has 18 administrative regions, one of them with approximately 22 neighborhoods of 1 million inhabitants (UFRJ, s.d).

Having 1.99 hospital beds per 1,000 inhabitants, 740 units of intensive care and 1.1 doctors per 1,000 inhabitants (Brazil, 2012b), the ratio of maternal mortality per 100,000 live births in 2006 was 71.7 and the national average was 77.2. The state's infant mortality rate in 2008 was 23.3%, meanwhile the country's average rate was 9.6% and the supplementary health coverage rate, which in Brazil stood at 24.6, was 10.4% (Carreira, 2012).

In 2007, the state presented great deficit in the amount of available hospital beds. In 2009, coverage of the Family Health Program (PSF) in Salvador was below the national average by 39.7 percentage points. The occupation rates of the main regional centers and of the capital approached 100% in the year 2011. At the time, the main health resources in Salvador were: 14 state hospitals and 141 municipal health units, 5 specialized centers, 55 basic health units (UBS), 47 family health units (FHU), 10 psychosocial care centers (CAPS) and 9 units of emergency care (UPA) (Carreira, 2012).

### ***The Hospital do Subúrbio PPP***

The main reason for the implementation of a PPP is the search for efficiency in the public service, having as its main principle the management by results. For its accomplishment, technical, qualitative and quantitative studies are necessary to ensure the model of contract (PPP in this case). In the contract, the public partner must specify the performance goals to be observed by the private partner, since it is common to link the payment of the counterpart to the achievement of the quality standards. The maximum value of the economic proposal should guarantee the economic-financial balance of the project without exceeding the average cost of similar services in the public administration and in the private sector (Portugal; Prado, 2007). In Brazil, Value For Money (VFM) is used to establish a bidding ceiling, with the PPP price being lower than that of direct management, while in England, which initiated the PPP theory, the measure aims to find a reference value.

According to the survey carried out by Carrera (2012), when the Hospital do Subúrbio was built there was the objective of decentralizing health care centers. In 2009, the Health Secretariat (Sesab) needed to implement two new hospitals. However, due to the Federal Fiscal Responsibility Law – Complementary Law N. 101/2000 – which imposes strict limitations to public expenses, the state could not execute its plans through the governmental body.

In an attempt to create a health management model for the Hospital do Subúrbio, which could be a reference for its efficiency, this hospital was the first public one in Brazil to adopt the Public-Private Partnership (PPP) model of administrative concession. In this case, the private for-profit entity undertakes to make available to the community the operation of a particular service and the consideration is made through the public partner, and the remuneration is tied to the provider's performance in the reference period.

The PPP project consisted of the maintenance and operation of the hospital, including the clinical and non-clinical services, as well as the investment in hospital equipment and remodeling. The unit had, in December 2011, 298 beds, divided into wards, high complexity care, emergencies and specialties. There is also a surgical center, a clinical analysis laboratory, a diagnostic center, a physiotherapy center and a hemodynamic center, and beds for home care. Since 2012, the hospital has 373 beds and comprises the attendance of clinical emergencies, surgical, traumatic-orthopedic, neurosurgery and endoscopy digestive.

The public consultation for the project took place from October 13 to November 12, 2009. On October 27, the interested companies were publicly heard, and there was no objection to the proposal. The auction was held on March 12, 2010 by BM&FBOVESPA. The entire project development process, from the signing of the agreement to the public hearing, lasted approximately nine months. The financial-economic modeling was carried out by the Finance Department, the Health Department dealt with the technical aspects, and the State Attorney General's Office took care of the legal apparatus. The team also encompassed the Department of Administration and Development. Some issues included the legal body of IFC (the largest development institution for the private sector in developing countries, sustained by World Bank), which provided modeling advice, and BNDES (the Brazilian development bank, which usually supports infrastructure projects). The duration of the project was stipulated in 10 years, and it can be renewed for the same period. It was then considered a long-duration contract.

In an attempt to mitigate the risk of payment, a state law was approved to guarantee that the private party receives the necessary resources from the provision of the services to the public. A mechanism has been created that disaggregates the ownership of the money – so that the private party is not subject to a complex procedure for public debts payment called precatory – , issuing the payments to the Agency of Promotion of the State of Bahia (DESENBAHIA).

Regarding quality, having experience in accreditation was one of the criteria for scoring in the auction and it was determined that the deadline for the hospital to obtain the accreditation seal would be 24 months. Thus, 30% of variable remuneration is linked to compliance with quality indicators.

The economic proposal with the lowest value of maximum annual consideration was another vector of choice and the technical index of the proposal was attributed by the technical notes delivered by each tenderer, using the criteria of accreditation and management capacity. As a result of the PPP in health being a new model, in a state with little benchmarking, there was no effective competition. The Prodal Consortium, special purpose company (SPE), was the winner of the bid, with no discount, with a maximum technical grade and annual consideration in the amount of R\$ 103,500,000.00. The SPE has 70% of the capital held by Promédica and 30% by

Dalkia, the first being responsible for the healthcare part and the second for the infrastructure segment.

The concessionaire was fully responsible for the allocation of risks, with some previously determined exceptions: a judicial decision that prevents it from providing the service; unpredictable factors and incalculable consequences that may be subject to insurance coverage; failure to comply with contractual or regulatory obligations by the granting authority; alteration of taxes or legislation that modifies the economic and financial composition of the contract for the concessionaire; omission or failures in the regulation or functioning of the public health network that jeopardize the quantitative and performance indicators of the concessionaire.

## **THE COMPLEXOS HOSPITALARES CASE**

São Paulo is the most populous Brazilian state, with an estimated population of 45,094,866 inhabitants (data for 2017, as shown by IBGE). The population density is the third largest in the country according to data from the last census of 2010, with 166.23 inhabitants per km<sup>2</sup>. The population growth estimated for 2018 is 0.7%. The projected life expectancy in São Paulo for the period is 78.6 years. The proportion of the elderly in the state (people over 65 years old), according to the 2009 Family Budget Survey (POF), is 8.4%. The infant mortality rate estimated for 2018 is of 9.3%.

Regarding the physical structure, São Paulo currently has 75,857 health facilities. Among the types, we highlight the high number of medical clinics (49,189), specialized clinics (10,499), basic health units (4,696), polyclinics (1,941) and hospitals (1,084), as shown in the table below, together with other types of establishment.

With regard to the morbidity and mortality rate, 19.5% of the deaths recorded in the state are due to diseases related to the respiratory system, another 19.2% are infectious, 18.8% are cases of circulatory system problems and 12.5% are cases related to neoplasms (tumors).

The rate of coverage of the supplementary health plans provided by private companies to citizens willing to pay for their services in São Paulo is 38.1% of the total population (17,172,499 people), that is, taking into account from more basic contracts to the more sophisticated ones, encompassing all types of care (full, with maternity, obstetrics, among others), participation systems (full coverage, division of costs etc.), among other features.

### ***Sorocaba Region***

Sorocaba currently has about 659,871 inhabitants, being the fourth most populated city in the interior of the State of São Paulo and the most populous one in the southern region of the state. It has an area of 450.38 km<sup>2</sup>. The municipality, along with the metropolitan regions of Campinas, Baixada Santista and Grande São Paulo, integrates the so-called Expanded Metropolitan Complex, a megalopolis that exceeds 30 million inhabitants.

Regarding the physical structure, Sorocaba currently has 1,018 health facilities, concentrating around 1.3% of the total in the state. Among the types, 680 are medical offices (1.3% of the state ones), 68 specialized clinics (0.6%), 36 basic health units (0.7%), 86 polyclinics (4.4%) and 16 hospitals (6.1%).

Regarding the morbidity and mortality, 19.5% of deaths recorded in the state occur due to diseases related to the respiratory system, another 19.2% to infections, 18.8% to cases of circulatory system problems and 12.5% to neoplasms (tumors).

### ***Institutional elements***

The following analysis was obtained through the study of the public bidding and the PPP concession contracts of Sao Paulo's Hospital Complexes. The Government of the State of São Paulo is interested in improving the management, efficiency and provision of medical care to the population of the state. Thus, after analysis by the State Department of Health, specialties were identified that were not being sufficiently offered by the public power, as well as localities capable of potential gains if certain health projects were allocated to them.

Based on the case of the Hospital do Subúrbio, in Bahia, which, by adopting the PPP model, significantly improved its indicators – having been accredited with Excellence in 2016 and considered one of the 100 best in the infrastructure sector, as well as one of the 10 leading health projects in the Latin America, having been also awarded the title of best health project in Latin America between 2012 and 2013 –, the Government of São Paulo sought to transfer to the private sector the provision of “gray scrubs” services, comprising the construction of the Hospital Complexes, including the elaboration of all the engineering and architecture projects), the supply, installation, maintenance of the medical-hospital equipment and furniture necessary for the operation of the Hospital Complex, as well as the management of the financial resources required to perform the objects of the contract.

As well as in the Hospital do Subúrbio, the Hospital Complex project is a PPP of administrative concession. The duration of the operation was defined in 20 years, 10 years more than the one in Bahia, and can be extended for 15 years. The total value of the Hospital Complex contracts is R\$ 1,367,061,247.53, comprising the initial provision of resources and the monthly payments in the estimated period, which will be adjusted annually following the IPC-FIPE variation.

The provider is entitled to receive a monthly monetary consideration proportional to each of the hospitals and paid by the granting authority. The payment is composed of a fixed portion (Portion A) and another one linked to the service rendering (Portion B - Variable). There is a Performance Measurement Coefficient and a Production Factor, related to the monthly average of the observed daily occupancy rate. If the monthly occupancy rate exceeds 110%, a procedure should be introduced to recompose the economic-financial rebalancing, aiming to restore the nominal capacity of the beds and, in case the average of the last six months exceeds 110%, the rate occupancy shall be deemed to have been exceeded in a non-contingent manner. However, if the occupancy rate is less than 85%, the average occupancy of the last six months shall be taken as reference, in the payment of part B. Being identified by the granting authority the need to use new technology or techniques, its attendance will precede the recomposition of the economic-financial balance. However, in case of non-compliance with the established standards, the granting authority is allowed to reduce the amount to be paid, what may even culminate in the adoption of penalties if the scenario persists for three consecutive months or in a systematic way, even if not consecutive. It is worth noting that expenses related to public utilities such as medical gases, electric energy, water, electricity and sewage are under the responsibility of the granting authority.

In order to maintain the level of service quality, since for the continuity of the contract it is mandatory to update the technology and to maintain performance rates, the provider is responsible for keeping all the reversible assets in good shape and in full operation during the contract, otherwise it will face proportional reductions in the remuneration and, if the circumstances imply the non-compliance of the contractual object, possibly the declaration of the expiration of the contract. In any case, the replacement of the goods due to their deterioration, misuse or any other causes, does not claim the economic-financial rebalancing of

the contract, once these have already been considered in the price proposal. In addition, the contract establishes that the provider will maintain the up-to-dateness of the equipment, facilities and techniques necessary to the provision of the services of “Gray Scrub”, in order to ensure a high level of quality of services provided to the users. However, the private provider can not be held responsible for not receiving the accreditation seal, as long as the causes stem from reasons linked to the services of “White Scrubs”. In the event that the provider identifies the improper execution of the “White Scrubs” activities, which may jeopardize the compliance with the contract standards, it is foreseen that he should communicate the fact to the granting authority, so that the appropriate measures are complied with.

## **DATA ANALYSIS**

This section will be written after the completion of the data collection and analysis, which includes a spool interview with the managers of both projects, Hospital do Subúrbio and Complexos Hospitalares.

## **CONCLUSIONS**

For now, the first findings subside the statement that there are many differences between the two chosen cases, mostly derived from the institutional peculiarities of each one. Therefore, the crafting of the proposals for the bidding contemplate these features, what will be better explained after the interviews that are still to be carried out.

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**Table 1 – Comparison between common concession and PPP**

	<b>“COMMON CONCESSION”</b>	<b>PPP</b>
LEGALGROUND	Laws n. 8.987/95 and 9.074/95	Law n. 11.079/04
PARTIES	<ol style="list-style-type: none"> <li>1. Public Authority; and</li> <li>2. a private company or a SPE (in the case of a consortium of public companies)</li> </ol>	<ol style="list-style-type: none"> <li>1. Public Authority; and</li> <li>2. a SPE (Special Purpose Entity), created by a company or by a consortium of private companies</li> </ol>
OBJECT	Public service, preceded or not by the construction of the Facility	At least two of the following activities: (1) work force supplying, (2) supplying and installation of equipment, and/or (3) building work.
DURATION	Established by contract	5 years min., 35 years max.
CONTRACTVALUE	No limits.	10 million reais min.
FUNDING	Service fee paid by the users and/or other forms of revenue, which includes non-pecuniary consideration provided by the public entity (such as assets).	<ol style="list-style-type: none"> <li>1. SPONSORED PPP: service fee paid by the users and additional payment by the public body;</li> <li>2. ADMINISTRATIVE PPP: payments by the public sector, which is the direct or indirect user (in this case, the concessionaire replaces the public entity in the provision of a relevant service to the users)</li> </ol>

## **Track 13**

# ***Investment Decision in Manufacturing & Macroeconomic Prices***

**Track 13 Investment Decision in Manufacturing & Macroeconomic Prices**

**ID #604**

**Fiscal Incentives**

**Roberto Flores Falcão** (UNIALFA, Brazil)

**Marcelo Ladvoat** (UNIALFA, Brazil)

**Abstract**

*The proposed panel intends to discuss the relationship between fiscal decentralization, regional disparities and economic growth within 26 Brazilian's states and Federal District. The papers that is going to guide the discussion, "Regional Disparities, Public Policies and Economic Growth in Brazil", highlights the channels through which decentralization can affect inequality: human capital, vertical fiscal imbalance, population's geographic concentration, and local taxes. Given Brazil's reality, a country with extreme disparities and high levels of inequality – social, economic and political – economic considerations, such as fiscal decentralization should be central to any proposal intended to improve the citizens' living standards. Northeast and north regions continue to lag economically behind other regions. According to the data from Brazil's statistical agency (IBGE), the south and southeast regions generate around 70% of the country's GDP. Moreover, in Brazil only three states out of 26 hold 53% of Brazil's GDP. By means of an econometric model, the results of our study show that fiscal decentralization should be a fundamental redistributive instrument and was able to gradually converge living standards within different regions of Brazil. The relevance of the topic also includes the fact that the few existing studies on Brazilian's fiscal structure facing regional economic growth show conflicting results. Further, fiscal decentralization can lead to a more efficient provision of local public goods and services to promote a welfare state, citizen's preferences and economic growth. However, Brazil's policymakers seem to have a different view.*

**Keywords:** Decentralization; Fiscal incentives; Regional Disparities.

*Track 13 Investment Decision in Manufacturing & Macroeconomic Prices*

**ID #612**

## **German exports, economic growth and foreign demand: An analysis in the period 2000-2017**

**Pedro Raffy Vartanian** (Universidade Presbiteriana Mackenzie, Brazil)

**Joaquim Carlos Racy** (Universidade Presbiteriana Mackenzie, Brazil)

**Bruno Dalle Piagge Vendruscolo** (Universidade Presbiteriana Mackenzie, Brazil)

### **Abstract**

*This study aims to identify to which extent – and also if – the exports of goods in Germany are conditioned by the foreign demand between 2000 and 2017. Therefore, the research employs as methodology an ARDL model and the bounds test for cointegration. It's possible to identify that the coefficients indicate, for both the short and long run, an elastic behavior of the German exports relative to the external demand changes. Additionally, in the same period, the results corroborated the positive hypothesis of a long-term relationship between the variables. However, although the statistics and historical analysis point to the weakness of a growth model that heavily relies on exports as a fundamental source of demand, the discussion raised forces to reflection the institutional characteristics that may actually contribute to a better understanding of the aspects that define the evolution of the recent German economic history.*

**Keywords:** German Exports; Sensibility; Foreign Demand; German Reunification; Labour Market; Economic Liberalization.

### **Acknowledgments**

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## EXTENDED ABSTRACT

The German economic growth became substantially dependent on the country's exports and the remarkable growth of manufactures and technologically competitive goods production to other markets were definitely responsible factors for the German economic resurgence from a "sick man of Europe" to an "economic superstar".

The diagnostic, causes and effects analysis of the economy and society in a context of country's economic sovereignty strengthening seem precise for two distinct theoretical lines that diverge in the interpretation of the means and implementations of economic policies concerning the issues and problems identified for the German reality. In the first case, (I) the restructuring of the governance structure and industrial relations, (II) the greater economic liberalization and the flexibility growth in the labor market and (III) the restriction of the welfare state's scope since the Hartz reforms - and, as a consequence, reductions or maintenance of wage levels that allowed the *unconditional* shrinkage of unit labor costs - would have been the identified measures as a response, in the last instance, to the intensification of the processes of productive globalization and international competition, which resulted in an increase in labor productivity and country's exports, pointed as a growth caudate (Bernard and Wagner, 1997, European Commission, 2010, Kundnani, 2015, Baccaro and Pontusson, 2016, Baccaro and Benassi, 2017).

Beforehand, while according to the diagnosis of the problem situation - intensification of trade flows and increased international competition – the credits to the increase in productivity and German net exports for the second line of thinking assessed, are due to technological superiority and high competitiveness gains through non-price mechanisms (Beck and Scherrer, 2010, Storm et al. (2015), Streeck et al., 2005). Moreover, while for the first authors the shrinkage of unit labor costs was perceived as *absolute* and as a consequence of wage squeezes, for the latter the increase in productivity is the coefficient that surely would stand out as a determinant factor for the reduction of *relative* unit labor costs.

Both fronts understand the processes of social and income inequalities deepening and growing dualization of the German economy, where a coordinated, institutionally strengthened and protected sectoral core (manufactures) benefits to the detriment - as a necessary condition - of a less regulated, socially supported and more flexible sector (services). The wage decline in the latter is a reflection and part of a historical process of economic policies choices and definitions that has weakened domestic demand, but has given strength and explain the increasing dependence of the German economy on its exports.

In this scenario, the main objective of the present work is to evaluate *if* and *to what* extent German exports are conditioned to the behavior of foreign demand. The importance of the research is revealed once the successful performance of Germany's economic evolution can be used as a growth strategy for other countries or regions. The hypothesis is that there is a relationship between the German exports and the behavior of the world income. The study contemplated a historical, economic and social review for the recent period, which may help in the analysis and seizure of the German economy recovery process starting from the growth of its exports.

The delimitation over time takes place between 2000 and 2017 and the data for the dependent variable (German exports of goods) were collected from the European data portal Eurostat, in millions of euros at current prices (*xt*); for international demand data, as *proxy*, the income data of OECD member (except Germany) countries were considered - *yt*.

The Autoregressive Distributed Lag (ARDL) methodology and the bound tests for cointegration by Pesaran and Smith (1998) and Pesaran et al. (2001) have some features that give them advantages over the more conventional cointegration tests (i.e., Engel-Granger and Johansen, which require the same order of integration for the variables): (I) they can be used for the relationship analysis between variables  $I(0)$  and  $I(1)$  combined, besides (II) considering the configuration of a single equation, which makes the implementation and interpretation of the results simpler and (III) admit different numbers of lags for the explanatory variables of the model. The equation will be defined as follows:

$$\begin{aligned} dest\_ln\_xt_t = & \delta_{0i} + \alpha_1 dest\_ln\_xt_{t-1} + \alpha_2 \Delta ln\_yt_t + \alpha_3 \Delta ln\_yt_{t-1} + \alpha_4 \Delta ln\_yt_{t-2} \\ & + \delta_1 ln\_xt_{t-1} + \delta_2 ln\_yt_{t-1} + v_{1t} \end{aligned}$$

Regarding the observed results, for the cointegration test carried out with the detrended serie of German exports as a dependent variable the F statistic was 5.132520, greater than the upper bound limit at 5% significance level (4.327). This result indicates that the null hypothesis of non-cointegration should not be accepted, thereby there's statistical evidence of a long-term relationship between the variables  $xt$  and  $yt$ . The result equals to 1.158062 obtained for the long-run multiplier between world income ( $yt$ ) and German exports ( $xt$ )  $(-(0,660730/(-0,570548))$ , ou  $-\delta_2/(\delta_1)$ ) suggests that, on average, a 1% increase in world income would increase by approximately 1.16% the German exports of goods in the long run.

For the period 2000-2017, it was possible to endorse the elasticity hypothesis of German exports in reaction to the oscillations in world income. In the short term, the exports seem to respond to income fluctuations: a 1% increase in world income would result in an average growth of 2.44% in German exports. The null autocorrelation of the residuals and the stability test indicate the validity of the model. In the long run, although less elastic, exports tend to increase by 1.16% in response to a 1% change in international income.

Additionally, once there is statistical evidence of a long-term relationship between the variables and hence, of cointegration, it is possible to state, according to the literature, that exports and German economic growth would be structurally dependent on foreign demand. Perhaps the most important thing to note is that the country's economy seems to be showing signs of fragility because it is so dependent on international demand and therefore more vulnerable to external shocks (Thorbecke and Kato, 2012, Kundnani, 2015).

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*Track 13 Investment Decision in Manufacturing & Macroeconomic Prices*

**ID #765**

## **The imminent need for pension reform in Brazil and India**

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### **Abstract**

*Financial security during retired life and in old age protects individuals with a source of income. It is firmly rooted in the preservation of human dignity, self-esteem., and self-reliance. The growing burden of promised pension payments to civil servants have compelled all governments to consider immediate implementation of pension reforms. Our study reviews the status of global pension systems followed by a closer look at two countries – Brazil and India – that have adopted pension reform in the last decade with moderate success. This paper emphasized additional reforms required to protect the retirees without additional fiscal burden.*

**Keywords:** Pension Reform; Brazil; India.

### **Acknowledgments**

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## **INTRODUCTION**

Financial security during retired life and in old age protects individuals with a source of income. It is firmly rooted in the principles of human dignity, self-esteem, and self-reliance. The growing burden of promised pension payments to civil servants have compelled all governments to consider immediate implementation of pension reforms. The word *reform* drives the working population toward a fear of reduced benefits in future. The unions and pressure groups approach this with misconception from the beginning. Current and future pensioners need to understand that the benefits of pension reform would address most important aspects of adequacy, sustainability, and integrity of their pension plans. Financial literacy is the key even for well-educated working population in all countries.

## **LITERATURE REVIEW**

### ***Pension Reform in India***

Meeting the needs of an estimated 300-million population by 2050 requires committed public policy debate in furthering pension reform [Bali, 2014]. While this is a daunting task, the government of India is addressing the needs of the poor, old generation. Despite the government's dedicated efforts to avoid exclusion and inclusion error traps, exclusion of some individuals below poverty line and inclusion of members above poverty line were unavoidable. The government's current targeting approach favors certain older individuals with an ability to sway influence to their side. Despite being old and poor, many are unable to access the benefits of a pension system since they lack connections [Asri, 2019]. Pension funds are vital to private capital formation and pave way for a vibrant capital market. Recent pension reforms in India have won India an international acclaim and recognition [Gupta, 2012].

Pension reforms have given rise to the introduction of numerous private pension and investment firms and their management is admittedly efficient. However, they meet with limited success in the absence of simplified tax codes, removal of redundant regulations, and stripping of layers of bureaucracy [Juurikkala, 2008]. Private pension funds need clear policy directions as to their structure of accounts (separate or collective accounts), administrative costs, management, degree of diversification of portfolio, and any possible subsidy or grants [Gupta, 2003]. Government sponsored welfare pension system will continually require vast fiscal resources to sustain future disbursements much to the chagrin of hard-working subscribers. For widespread implementation, technology-based platforms requiring biometric identification of beneficiaries will be an immediate need [Asher, 2015].

### ***Pension Reform in Brazil***

Chile implemented its pension reform in vacuum and led the way for other countries in Latin America. It relied upon the two pillars of minimum benefit and defined contribution [Barreto et al, 1997]. An examination of the process of structural reforms in the health and pension sectors in Argentina and Brazil during the period 1988-2008 shows that the success thereof depends on the support of trade unions and social groups [Niedzwiecki, 2014]. Local pension funds became strong players in making long-term investments in salient projects, deemed politically salient during President Luís Inácio "Lula" da Silva's administration that got its name pension fund "developmentalism" [Datz, 2013]. Brazil has often emphasized fiscal discipline, social security reform, and granting prominence to private pension funds with a view to modernizing her economic architecture. However, government directives and exclusion of

lower income groups led to an alliance between union bureaucracy and globalized financial capital [Bianchi et al, 2005].

Generous pensions have allowed public sector employees to retire prematurely at age 55 rather than 60. This policy results in a steady loss of 3% in GDP and it must be eschewed [Glomm et al, 2009]. The tax reform for pension funds in Brazil prompted firms to distribute tax-deductible dividends when the largest shareholder was a pension fund. This led to firms attracting investments from major institutions to reduce their cost of capital. In essence, equity tax shield served as a substitute for debt tax shield and the leverage of many a firm was reduced [Colombo et al, 2018]. A study of the impact of rural pension reform in schooling in 1991 led to the conclusion that bargaining power within households is a force to reckon with in the promotion of literacy among girls [Ponczek, 2011]. Brazil's pension plans for employees in the public sector are very generous in comparison with those in its private sector. This comes with exorbitant costs. Reallocation of those pension funds from non-productive government sector to public education and improved infrastructure is a better public policy than classic pension reform [Glomm et al, 2010]. Privatization of pension funds is seen as a viable solution by most governments in Latin America, particularly Brazil but reliance on short-term capital is a constraint in enacting the intended reform [Brooks, 2007]. The success or failure of pension systems depends on several factors including macroeconomic conditions, labor market regulations, and the institutions [Matijascic et al, 2006].

### ***Review of Global Pension Systems***

Each country must have a tailor-made pension system based on its demographics, economic development, and heritage [Sadhak, 2013]. Melbourne Mercer Global Pension Index classifies pension systems with a three-dimensional approach, namely adequacy, sustainability, and integrity. The system design, benefits, savings with tax support, home ownership, and growth assets are the characteristics that define adequacy. Sustainability stems from coverage, demography, economic growth, and total assets. Regulation, governance, and costs embody market integrity. The Netherlands and Denmark are the only two countries in the world that have a robust retirement income system with good benefits, sustainability, and integrity. Table 1 shows the present status of select countries in the light of the three dimensions. Most countries' pension systems in the public and private sector rely upon a minimum mandatory contribution to make them adequate for withdrawal during retirement. They also carry salient features of additional mandatory and voluntary savings. The average age for qualification to derive pension benefits for the OECD and EU countries is 65 to 66 years of age whereas it is 60 for India and China. The forecast for the old-age dependency ratio of about 60 for Brazil and China by 2075 highlight the urgency and importance of building a sound architecture for their pension systems. The same is estimated at 50 for the United States. India is at a better shape at a forecast of 37.

Global statistics indicate that improved standards of living have given longevity to population in most countries and it acts like a double-edged sword. An income that was once considered adequate is unlikely to support an individual for an extended life notwithstanding rising healthcare cost. Table 2 presents the size of pension funds for select countries with their recent historical perspective to understand the magnitude of their value.

Grade	Description	Countries
A	Robust retirement income system with good benefits, sustainability, and integrity	The Netherlands Denmark
B	Sound structure but with areas for improvement	Australia, Canada, Chile, Finland, Germany, Singapore, and Switzerland
C	Good features with high risks and questionable sustainability	Brazil, Italy, Malaysia, Saudi Arabia, Spain, South Africa, and USA
D	Desirable features with major weaknesses and doubtful sustainability	Argentina, China, India, Japan, Mexico, and South Korea

**Table 1 Status of Global Pension Systems**

Source: Melbourne Mercer Global Pension Index 2018, page 20

The status of Brazil, China, India, and Thailand is negligible in comparison with Canada, Switzerland, UK, and the US. Women tend to live longer than men in many countries. Table 3 shows the number of years women live after retirement with comparative data for men in select countries.

**Table 2 Pension Funds Asset Data for Select Countries**

S. No.	Country	2011	2012	2013	2014	2015	2016	2017
1	Brazil	308.27	315.15	273.97	250.47	174.85	231.59	242.66
2	Canada	1,072.06	1,199.20	1,260.16	1,297.73	1,195.70	1,289.36	1,464.87
3	Chile	134.96	162.02	162.99	165.43	154.71	174.48	210.51
4	China (PRC)	56.66	76.65	98.90	125.66	146.75	159.36	197.80
5	Hong Kong	79.47	90.33	102.87	110.05	115.08	122.94	148.12
6	India	2.85	5.45	6.82	11.47	16.25	23.47	NA
7	Mexico	132.38	168.56	181.25	181.88	163.96	145.82	173.62
8	Russia	37.06	NA	117.18	70.85	65.77	87.04	96.91
9	Singapore	159.26	187.82	199.67	208.11	211.58	226.91	268.45
10	South Africa	169.94	185.94	173.17	179.96	146.15	171.11	NA
11	Spain	108.25	114.23	127.48	121.59	113.18	112.02	132.13
12	Sweden	46.71	57.41	53.77	47.04	43.70	20.13	22.61
13	Switzerland	664.57	734.00	807.89	785.91	794.36	810.97	916.82
14	Thailand	19.53	22.85	22.97	25.53	24.67	27.33	33.37
15	United Kingdom	2,232.60	2,529.99	2,810.56	2,784.63	2,741.92	2,607.82	2,903.32
16	United States	11,072.38	12,129.26	13,667.14	14,302.90	14,126.07	14,827.82	16,301.04

Source: Funded Pension Statistics, February 2019, OECD

The US pension system encompasses a social security system. Lifetime earnings with progressive benefit formula are the essential characteristics of the government-backed social security administration. Its promised disbursements are likely to face a crisis in the 2030s unless

the government takes an evasive action. It may include raising the minimum age to qualify for benefits and reduced benefits. However, the country has built a sound architecture through the private pension funds. Table 4 gives us a glimpse of the number of funds and their total asset value for the recent years. With or without the social security system, pension system in the United States the strength, size, and magnitude of the private pension funds.

**Table 3 Years of Life for Women after Retirement in Select Countries**

S. No.	Country	Years in Retirement	
		Women	Men
1	Brazil	20.0	16.8
2	Canada	23.9	18.9
3	Chile	19.6	13.7
4	Mexico	18.9	13.9
5	Russia	17.6	13.1
6	South Africa	15.6	11.3
7	Spain	25.3	21.5
8	Sweden	21.9	18.7
9	Switzerland	23.3	19.0
10	United Kingdom	22.9	19.3
11	United States	20.6	17.9

Source: Private Pension Plan Bulletin Historical Tables and Graphs, Employee Benefits Security Administration, US Department of Labor, page 129

**Table 4 Private Pension Funds and Asset Value in the US**

Year	Total Plans	Pension Plan Assets (\$ billions)
2000	735,651	4,202.67
2001	733,470	3,940.99
2002	733,312	3,617.25
2003	700,012	4,247.90
2004	683,070	4,693.48
2005	679,095	5,061.62
2006	694,550	5,684.30
2007	707,787	6,090.47
2008	717,532	4,703.50
2009	706,667	5,511.06
2010	701,012	6,281.75
2011	683,647	6,345.60
2012	676,622	6,966.26
2013	681,154	7,870.90
2014	685,203	8,307.43
2015	693,925	8,154.47
2016	702,540	8,614.94

Source: Private Pension Plan Bulletin Historical Tables and Graphs, Employee Benefits Security Administration, US Department of Labor, pages 1 and 13

### **India and Brazil in Transition**

Both India and Brazil have implemented pension reform but the effectiveness will fall under attack over time. More reforms must be in place to promote disciplined savings accompanied by tax incentives. Brazil had 24.4% of GDP in total assets in funded and private pension arrangements in 2017 and India had a dismal 1%. The same for the US at 145.3% dwarf both countries' statistics<sup>20</sup>. India's pension system was vastly impacted by the generous non-contributory benefits bestowed upon retiring civil servants was the primary cause of its fiscal

<sup>20</sup> Pension Markets in Focus, 2018, page 9, OECD

burden. This principle of dualism is common to India and Sri Lanka [Karunaratne , 2002]. The pension reform was necessary in India due to the insurmountable fiscal burden. Besides, the liberalization policies led to privatization of many an industrial sector. The time was ripe for consideration of massive pension reform.

The fundamental principles remain the same for all countries in a firm commitment to pension liabilities of the past, present, and future. Sound investments with a healthy growth in rates of return are the dire needs to meet the obligations [Gayithri, 2009]. India's national pension system (NPS) is a reasonably good example to serve as model for both developing countries and industrialized economies. The system originally meant for government employees in its inception phase of 2003 to 2005, Later, it permitted employees of private corporations and labor force in informal sector as well to participate with tax-free contributions and benefits. The system is subject to systematic regulation. It emphasizes simplicity, transparency, and portability. However, constraints may stem from mounting fiscal burden and future changes in political landscape.

Brazil's retirement income system is similar to the US social security system with higher replacement rates for low-income earners. Insurance firms and pension trusts offer pension plans for corporations and individuals. Brazil may have to increase the minimum age to qualify for pension and increase the level of mandatory contributions. These features will sustain the system from severe shortfall in liquidity. Automatic membership and easy enrolment for individuals who do not have coverage otherwise will increase the level of contribution. The case of Brazil appears easy compared with that of India. The country needs to modify the welfare-based national pension system to a contributory funded mechanism. Such contributions must have increased levels in the near future to protect liquidity. Tax incentives and less regulation are necessary to promote cost effective operation of private pension funds.

## **CONCLUSION**

The reforms suggested here are universal for all countries. However, employees, labor unions, and pressure groups need to understand that the reforms would protect the retirees in their old age with an income stream and enhance their self-esteem. Less reliance on support from government will lead to a plethora of private pension funds. Well-educated finance managers and investment professionals will get to manage the contributions effectively and efficiently with the goals of minimum cost and a healthy growth rate. Thus, Brazil and India would accomplish all three dimensions of a robust pension system, namely, adequacy, sustainability, and integrity.

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## **Track 14**

# ***FDI and Internationalization***

*Track 14 FDI and Internationalization*

**ID #559**

**FDI determinants in Brazilian Health Plan**

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**Abstract**

*The health market in Brazil was the object of changes in public policy that allowed changes in its financing structure. These changes, the first of them in 2001, allowed Foreign Direct Investment (FDI) in the supplementary health segment, and the second, in 2015, extended this possibility to the hospital segment in general. This research aimed to identify the determinant variables of FDI in the Brazilian supplementary health market in the period from 2007 to 2016. This research was carried out to identify the corporate structures of the Brazilian Health Plan that had FDI and their determinant variables over a period of 10 years. From the data collected at the Administrative Council for Economic Defense (CADE) and the National Supplementary Health Agency (ANS), among 1769 Brazilian health plan companies that had financial information available we identify 46 with FDI. The variables BENEEXCL and EBITDATRAD were the main determinants of FDI in the health plan sector in the period. The results show that the selection of risk by the health plan investors is a decision-making factor in the origin of the investment, whether national or foreign, and the consumers are also considered a factor of access to the market. Regarding cash flow issue, the results corroborate the fact that this is a growing sector, with financial returns considered stable.*

**Keywords:** Health Plan; FDI; Random Forest.

*Track 14 FDI and Internationalization*

**ID #579**

**Public policies and foreign direct investment in Brazil**

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**Abstract**

*Foreign direct investment in a country depends directly on macroeconomic factors resulting from public policies. In this study, we analyze the effects of public policies in the economic area carried out by the Brazilian government in attracting foreign direct investment. For this, we conducted a survey of secondary data on policies implemented and foreign investments in the country. The results show that the Real Plan, COPOM and PAC were the most successful public policies in attracting foreign direct investment.*

**Keywords:** Institutions; Brazilian Public Policy; IDE;

**Acknowledgments**

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## **INTRODUCTION**

The institutional arrangement of nations has been a subject much discussed in academic works over the years, because of the influence it exerts on the behavior of organizations (North, 1991; Peng, Wang & Jiang, 2008). The Brazilian institutional environment is constantly changing. Most of these changes are generated through the implementation of public policies, which aim to regulate social relations and make Brazil a country attractive to businesses, domestic or international.

A relevant historical contribution of FDI - Foreign Direct Investment in Brazil refers to the resumption of the Brazilian economy in the 1990s (Laplane & Sarti, 1997). However, the literature does not clearly establish what public policies, carried out in Brazil at the time, have contributed to the development and attraction of foreign investment in the country. The institutions of a country directly influence the process of internationalization of companies in emerging countries (Monticelli et al., 2017). Political risk, for example, is an indicator analyzed in the decision to invest internationally, and may be crucial in the differentiation between developed and emerging countries (Costa & Figueira, 2017).

Therefore, the research question that leads this work aims to answer which were the public policies that positively influenced the Foreign Direct Investment in Brazil. In this way, the relevance of the work is presented through a very empirical analysis of the establishment of the main public policies developed in the country and their impact on the Brazilian economy. To show the role of public policies in decisions by the FDI in an emerging country that has unstable institutions, it adds its contribution to international business literature (Pinto et al., 2017).

This study was based on the literature on international business, formulation of public policies and on the Brazilian economy. We also used, as a research source, empirical data from the World Bank. This study confirms its relevance for considering the political-institutional influences on foreign investment strategies, considering that the risks and uncertainties, whether fiscal, political or legislative, that impact on the allocation of investments. The results indicate that mainly the policies related to the stabilization of the economy have positive effects on FDI.

The paper is structured in five sections, including this introduction. In the second section, the theoretical bases of this research are presented, where the concepts of Public Policies, Foreign Direct Investment and the Brazilian Panorama are discussed. The third section presents the methodological structure of the research. In the fourth section, we present the results of the research, followed by analysis and discussion. Finally, we present some considerations about the research results, the limits observed and recommendations for the continuity of the study.

## **THEORETICAL BACKGROUND**

This item aims to present considerations about the concept of public policy. It should be noted here that the Federal Constitution of 1988 organized the structure of the Brazilian State, which consequently reflects in the organization of public policies. In this way, the governments use the constitution as the main tool for the organization of their actions. Thus, public policies are characterized as instruments of governmental decisions based on demands evidenced by society. For Lamounier (1982) "all public policy is a form of intervention in social relations", that is, public policies are made by the State and its governments, in order to intervene in a common interest, economic or social.

The institution responsible for receiving and defining public policy is the State, from which it organizes itself into plans, programs and actions (Vargas, 2009). Understanding public policy as a tool to organize the demands presented by society, be it from the economic, political or social field, it implies a structuring. In this way, the public policy cycle is presented, which includes the elaboration of an agenda, formulations, implementation and control of the proposals that were exposed during this process (Frey, 2000), which requires a long and bureaucratic period until its implementation.

The last step of the policy cycle is evaluation, when the effectiveness of a policy is verified. It is at this moment that the improvement of the management practice happens, in order to verify the errors and correctness throughout the process. Figueiredo and Figueiredo (1986) affirm that the evaluation of the policies fall into two types, process and impact. The first deals with verifying the application of the policy in accordance with the guidelines outlined in its wording. The impact assessment aims to estimate the effects of the policy on the target population.

### ***Foreign Direct Investment***

With technological advances and globalization, the way of doing business in the contemporary market surpasses the national borders of a country. Communication has gained speed and agility, and the exchange of information between different parts of the globe occurs in a fraction of a second. International business can be defined as the trade and investment relationships of organizations that cross borders between countries (Cavusgil et al., 2010).

Boyacigiller et al. (1997) emphasize that international business has as its main characteristic the external environment to which companies conduct business, however, the way organizations operate has specificities related to their country of origin. Cavusgil et al. (2010) emphasize that through internationalization, countries exchange mainly physical and intellectual assets, such as the expertise of a technology, labor and capital. For the country that receives the foreign investment, the benefits are many, from the increase of offers of work to the population to the collection of taxes. Many of these benefits have intensified with globalization and internationalization.

Globalization is the macroeconomic process that studies the phenomenon in its broad performance, that is, it is a generic way of understanding how relationships occur in the globalized world. Globalization can also be defined as a collapse of barriers between states, resulting from technological advances, enabling the exchange of information from people around the world. Globalization is not something new, but it has intensified in recent years, since it allows the maintenance of a market of integrated economies, full of possibilities. (Cavusgil et al., 2010).

Internationalization, in turn, is a process that occurs in the microeconomic scope, dealing specific transactions between countries. Fleury and Fleury (2016) point out that this phenomenon is related to the agents that participate in globalization, such as companies and governments. The process of internationalization can be motivated by the search for competitive advantages, once the inefficiency of the domestic market is verified (Dunning, 2000). The foreign market is able to absorb surpluses and scales of production and commercialization, contributing to lower costs. There is also the motivation for offering key customers to an organization (Ferreira et al., 2011). The eclectic paradigm, better known as OLI, describes three specific advantages of internationalization, the advantage of ownership, localization and internalization (Dunning, 2000).

The decision to internationalize demands an analytical study of all the variables that involve an unknown market, among them, the decision by the mode of entry. Harzing (2002) states that depending on the input mode chosen, organizations obtain greater profits, that is, the mode of entry influences the success of foreign investment.

Export is the easiest way and is usually the first alternative in an internationalization process as there is low cost and less risk. It is carried out by the sale of goods and services to international clients (Cavusgil et al., 2010). Greenfield is the entry mode in which you create a company from your plant. According to Harzing (2002) the type of company that uses this mode of entry most is the companies based on economies of scale. This mode of entry is the riskiest, since there is greater commitment of resources, however control over actions is also greater (Ferreira et al., 2011).

Acquisition of assets in other countries, which include capital, technology, managerial expertise, and manufacturing infrastructure (Cavusgil et al., 2010) provide another mode of entry. It enables speed of entry and diversification of some of the company's competencies. Finally, the Joint Venture is a joint venture, which brings together foreign investors and local investors, with the aim of dividing control and ownership of a single company (Kotler, 2000). This type of entry is necessary when the foreign company does not have the financial, physical or management resources to carry out the enterprise alone.

### ***Overview of Brazil***

According to the Federal Constitution of 1988, Brazil constitutes a democratic State of law, that is, the people have the power of choice, electing people from society to represent them. It is a federal presidential republic, where the people democratically elect the president. It is formed by 26 states and 1 federal district, which has low autonomy, mainly at the legislative level (Ferreira et al., 2011).

The abundance of natural resources, petroleum, minerals, as well as the largest forest in the world - Amazonia (Ferreira et al., 2011) is well known. It is a country that in addition to having a large territorial extension, in terms of potential market, has more than 2 million people (IBGE, 2018), being the largest country in Latin America (Ferreira et al., 2011). If we compare the size of Brazil with Europe, we can see how big it is.

Brazil does not only excel in territoriality in Latin America, it is part of Mercosul and has natural leadership in the bloc, since it has an emerging economy and good international relations. This economic block is a collaborative public policy. The positive leap at the beginning of its implementation is highlighted, considering the flow of foreign investment in the member countries, mainly of the automobile industry (Cavusgil et al., 2010). It is a laic state country where religiosity is not synonymous with wars that affect social relations. Christianity holds the greater part of the Brazilian population. Religious security is emphasized as low risk when analyzed for investment in the country.

According to the UNCTAD statistics website (2018), Brazil is among the developing countries that receive the foreign direct investment, ahead of countries like India and Chile, over several years. However, the country has some inefficiencies. There are high rates of corruption, social inequalities, low level of schooling, poverty in a large part of the population, crime and problems of urban mobility (Ferreira et al., 2011). The issue of urban mobility is a critical factor since according to the latest report of the Confederation of Transport (2017), 61% of freight highways, increasing costs and delivery time, do transport.

Another issue to be considered, concerns the actions that governments over the years 1990 to 2015, but mainly from the early 90's has been doing to improve the institutional environment. This improvement was aimed at the growth of the country, increasing the distribution of income and job offers. From this scenario, it is extremely important to highlight governmental actions that have led to advances and attraction of FDI to the country.

### ***Economic policies***

In the early 1990s, Brazil was experiencing turbulent times in the economy. Since that time, several measures have been established with the aim of improving this environment. The first one was the commercial opening. This measure had as main objective to resume growth, opening the Brazilian market for imports and exports, stimulating the competitiveness of domestic companies - which had become obsolete. To keep up with the pace, Brazilian companies needed to modernize in order not to lose market in the face of new competitors. This governmental action reduced state intervention (Fernandes, 1997).

In 1991, Brazil along with three other neighboring nations, Argentina, Paraguay and Uruguay, formed the economic bloc called Mercosul. This policy had as main objective to stimulate free trade among these nations, eliminating import tariffs and generating trade opportunities between them (Ferreira et al., 2011). The policy reflected not only commercial benefits, but also facilities free transit without passport by member countries, validation of diplomas, social security and the acquisition of a residence visa (Mercosul, 2018).

In 1994, Brazil was experiencing great economic instability, reaching the peak of super inflation. In an attempt to contain this reality, the government established the Real Plan as a policy of stabilizing the economy and controlling inflation. It was the beginning of economic growth (Rocha, 2000). In this context, there have been many privatizations of public companies.

Also, in 1997, the Monetary Policy Committee (COPOM) was created. This policy had as its main function to define guidelines for monetary and interest rate policy, which culminated in the creation of SELIC Rate. It is also the competence of this committee to disclose the inflation report. This type of policy is common in other countries. The United States, Germany and England are examples of nations that also have this system, since it facilitates the decision-making process and improves communication and transparency with the population (Banco Central do Brasil, 2018).

After the 2000s, two development agencies were created to stimulate Brazilian industry. ABDI - Brazilian Agency for the Development of Industries, whose main objective is to develop Brazilian industries to generate employability and warm up the market (Planalto, 2004). The other was APEX - the Brazilian Agency for the Promotion of Exports and Investments, whose purpose is to promote exports and attract foreign investments to Brazil. Its main areas of activity are industry, commerce, services and technology (Planalto, 2003).

As a way to stimulate the economy, in 2007 the Growth Acceleration Program (PAC) was created. This was an important state investment focused on the construction sector. In addition to contributing to the generation of new jobs, through the PAC, important infrastructure works were carried out for the country's development (Ministério do Planejamento, 2018). It was a measure that helped the country in the global crisis of 2008.

The 1990s mark a transition in the international business literature, when it inserts institutional variables as determinants of FDI (Amal & Seabra, 2007; Amal, 2014). The institutions of a country can determine its degree of instability (North, 1991). Thus, the state's political actions can affect the way it is viewed by the world (Amal, 2014). Protectionist trade policies may

discourage foreign investment in emerging countries, while trade liberalization has a positive effect (Lehmann, 1999; Asiedu, 2002).

The formulation of public policies, as well as the government's action in the economy, can stimulate the incentive to foreign investment as well as cause its inhibition. Any change that occurs in the law governing the entry procedures of foreign companies may undermine the investment plans of a foreign organization. Country risk is closely linked to the politics, economy and laws of a nation (Cavusgil et al., 2010). FDI flows depend directly on political risk (Amal, 2014).

The degree of economic freedom and the political risk of an emerging country are capable of influencing the foreign direct investment decision (Amal & Seabra, 2007). Considering Brazil's outlook, the Commercial Opening, Mercosul, Real Plan and COPOM were policies related to the stabilization of the economy. APEX and ABDI are agencies promoting industry, foreign trade and investment. The PAC served as an accelerator of the Brazilian economy and was fundamental for Brazil to undergo the global crisis of 2008. It is believed, based on the literature, that these policies have positive effects on FDI in Brazil.

## **METHOD**

This study aims to analyze whether public policies can influence the attraction of FDI to the country. Assuming that economic policies are hypothetically the ones that present the greatest effects for the object of this study, the policies and governmental actions of this area were analyzed in the period 1990-2016. It is an exploratory study because this type of research aims to increase the proximity of the researcher to the problem in question to clarify concepts or develop hypotheses (Churchill et al., 2011).

In order to investigate the proposed problem, two coefficients of relation were used: the public policies and the data of direct foreign investment directed by Brazil in the World Bank. These variables were transformed into statistical models of linear regression. Hair (2005) conceptualizes this method as a way to verify if there is a relation between variables, one can also evaluate the strength of this relation. In this relation, three types of variables were taken into account: dependent, independent and control variables.

The dependent variable of the study is the amount of foreign direct investment directed to Brazil in each focal year. The FDI was collected in the World Bank database. The level of analysis of the study, therefore, was the focal year.

The independent variables of the study are Trade Opening, Mercosul, Real Plan, Monetary Policy Committee - COPOM, APEX - Law 10668, ABDI - Law 11080, Growth Acceleration Program - PAC. These variables were coded as dichotomous, classified as "1" when present in the focal year and "0" when not present in the focal year. In other words, it was classified as "0" the moment before implementation of the given policy and "1" after its implementation.

The control variables established in the study serve to reduce the deviations of the results and allow a statistical coherence (Hair, 2005). For this, GDP, inflation, market capitalization and FDI were the control variables chosen. GDP is a method of measuring the economic activity of a country. When that index is high, it means that the economy of that country is growing. That there is more money available which consequently increases consumption. As demand increases, companies also grow and generate more jobs. And it can also lower inflation rates,

because with companies working at a good level the increase in the supply of goods and services can reduce inflation.

Inflation is a huge rise in prices of goods and services. This happens in several ways. It may be due to high government spending, the low supply of certain products and changes in the exchange rate. It is one of the variables that most affects the investment market. For example, a company that wants to settle in Brazil, if inflation is high, the costs to produce it will be consequently high. With high inflation, there is still the loss of purchasing power on behalf of families, which ultimately influences demand. If there is no low demand and the costs to produce are high, there is a fall in the trade of goods and services, decreasing the profit of the companies.

The market capitalization, or Market Cap, as it is commonly called is how to measure the performance of the stock exchange. For those who invest is a way to assess the state of the country in relation to their companies, since it has a history of growth or decline. For those who will invest in Brazil for example, it can serve as a basis the history of companies that are already installed here, as it can indicate if the environment in question is conducive or not for investments.

The FDI is all investment flows in the form of capital transfers to another country of destination. This variable takes into consideration, mergers, acquisitions, the construction of zero manufacturing plants and the joint venture. In addition, this variable brings many benefits to the destination country, as it generates jobs, transfers technologies, and brings development and infrastructure to the region in which it is allocated.

## **RESULTS**

Political risk is a variable to be intrinsically examined in the process of internationalization, since the context of countries can intervene in the success or otherwise of business. Risk delimits access to markets, and consequently bureaucrat the processes of entry and stay of capital. On the other hand, this same intervention presents positive points, especially when the public policies encourage the access of foreign companies in a country. With this, the Trade Openness and Mercosul had significant highlights in the results of this study and are closely linked to free trade. Table 1 presents the descriptive statistics based on the data.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

Table 2 shows the relationship of one variable to the other. For example, the Real Plan had the objective of reducing inflation, and in fact decreased, as we can observe above by the degree of negative correlation (-0.719 \*) and the significance close to zero. It is important to emphasize that when the sig (significance) is close to zero the correlation is very expressive. That is, public policy aimed at stabilizing the economy and regulating inflation was efficient in that period. ABDI (7), for example, had a positive correlation with internal FDI, with an index of 0.851 and with significance close to zero; it is possible to see that it helped to develop the industries that invested in the country.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

In Table 3, Model 1 - The Commercial Opening variable - had significant significance in the inflows of foreign direct investment in 1990 with a positive result ( $\beta = 0.225$  sig. <0.045). This can be explained by the governmental action made at the time, which opened the Brazilian market to the rest of the world. As the model itself indicates, the implementation of this public

policy was a good result, as domestic enterprises were forced to modernize both in their manufacturing parks and in the domestically produced products.

Therefore, it should be noted that the Commercial Opening Policy was, above all, decisive for the attraction of FDI, but also for the growth of domestic companies. It also contributed to the modernization of the industrial park, a problem identified in the 1990s and to the consequent improvement of product quality. For the consumer, the benefits were great, given that competitiveness has raised product quality standards.

In Model 2 - Mercosul - it also had a positive result and presented significant significance ( $\beta = 0.217$  sig.  $<0.049$ ). This result may explain that the creation of the economic bloc was a public policy that worked. It overthrew protectionist barriers, stimulated free trade, and encouraged the movement of people and goods without bureaucracy among member countries. In addition, the formation of the economic bloc has expanded the potential market of companies that set up in Brazil, enabling free trade among Latin American countries. What also explains this significant increase of FDI in Brazil is the country's natural leadership in the bloc.

The Real Plan had a result of  $\beta = 0.502$  sig.  $<0.000$ , which is very significant the influence that this variable had on the Brazilian IDE. This can be explained due to the restructuring plan of the Brazilian currency, which sought stabilization of super inflation and resumption of growth. Once a country has a stable economy, it will be attractive to investors. Unstable environments do not attract. The Real Plan was a public policy that served to increase the external reliability in the Brazilian economy, so much so that the significance of this result, when compared to other policies is very expressive.

On the other hand, COPOM had an even better result than the real plan with  $\beta = 0.564$  sig.  $<0.000$ . This significance can be explained by the implementation of the economic analysis committee, which seeks solutions based on changes in the economic environment. This committee takes into account numerous factors that influence the economic scenario, such as the transparency of the information collected and the reliability of the actions that will be executed to maintain and improve the Brazilian economy. Brazil also uses the COPOM, as a way of analyzing the external economies, to what level are the transactions in the international market, interest rates and the exchange rate.

It was also verified that three other public policies did not have significant influence to the foreign investments. It seems contradictory, but the industry development agencies (ABDI) and foreign trade and investments (APEX) presented values of  $\beta = -0.243$  sig.  $<0.296$  and  $\beta = 0.003$  sig.  $<0.986$ , respectively. Finally, the CAP also had no significance to FDI inflows. However, it is important to highlight the role that this public policy has had in the country, especially as regards the retention of the investments that were already installed here. This is due to the increase in employment and income generation stimulated by the PAC. If we return to the economic scenario of 2008, at the height of the global crisis, countries were experiencing turbulent times in their economies, and Brazil remained economically stable.

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

Model 8 presents results that diverge from previous ones, because part of the analysis of the independent variables together. In it, it is possible to analyze that when considering the effects of all variables, the Real Plan, creation of COPOM and PAC were the most important factors in attracting FDI in the country. It is worth noting the extremely high-adjusted  $R^2$  of model 8 (92.5%), which implies a model with a very high explanatory power, which means that the analysis performed reached a satisfactory level of accuracy.

## **DISCUSSION**

The results of this research were important to verify the influence of Brazilian public policies on the inflows of foreign direct investment. Commercial opening, Mercosul, Plano Real and COPOM, were implemented and implemented in a period of great changes in the country, being created successively. These policies contributed considerably to Brazil's overcoming the super-inflationary period and the stagnation of the economy experienced in the 1990s. It is important to highlight the similarity between these actions and Derani's (2002) concept of public policies, where he affirms that they are always done in the light of collective interest. The country needed to change to stagnate inflation and grow, the population needed to have better jobs and better prices at fair prices.

According to Cavusgil et al. (2010), barriers to trade and investment make up the so-called Risk-Policy list. Through the Trade and Mercosul Openness, the country overthrew barriers and stimulated free trade, which consequently positively affected FDI. FDI was impacted as these actions reduced the risk of trade barriers intervening in investment projects in the country, facilitating the inflow of foreign investments.

The Real Plan and COPOM are also considered influencers of Political Risk. The economic failure of the past was what encouraged the creation of the Real Plan. This action was beneficial, as it stabilized the economy and reduced inflation rates. COPOM, in turn, assisted in reducing risk when it was implemented with the objective of monitoring and developing monetary policy solutions to keep the Brazilian economy stable. With the significance of these four variables, it can be verified that the government in the form of efficient and modifying public policies controlled the political risk. The PAC, in turn, served as an accelerator of the Brazilian economy and it was fundamental for Brazil to go through the global crisis of 2008, maintaining investments.

The variables that did not have significant influence were APEX and ABDI. What is noteworthy is that the first two are specifically development agencies for industry, foreign trade and investment, which should therefore have influenced FDI.

The results indicate the policies linked to the stabilization of the economy in the 1990s were the most important for the positive effects on FDI. Although the other policies, except the PAC, did not have significant results, the variables contributed to the analysis proving that public policies do not always work for the development of a particular sector, but that can influence others.

Thus, it is possible that the instructions for analysis within the Political Risk (Cavusgil et al., 2010), are characterized as a tool modifying the scenario of a country. They can both influence investments, and can improve domestic policies. The state intervenes to improve the landscape and the public measures are tools used for this.

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**Table 1. Descriptive Statistics**

	N	Minimum	Maximum	Mean	Standard deviation
FDI Flows	32	19,66	25,34	23,1978	1,68853
Commercial Opening	32	0,00	1,00	,8438	,36890
Mercosul	32	0,00	1,00	,8125	,39656
Real Plan	32	0,00	1,00	,7188	,45680
COPOM	32	0,00	1,00	,6563	,48256
APEX	32	0,00	1,00	,4375	,50402
ABDI	32	0,00	1,00	,4063	,49899
PAC	32	0,00	1,00	,3125	,47093
GDP	32	-3,77	7,99	2,6471	3,05337
Inflation	32	3,20	2947,73	350,3235	728,55231
Market capitalization	32	25,57	28,07	26,6502	,74075
FDI external	32	18,21	24,08	21,5326	1,85264

Source: Prepared by the authors based on the research data.

**Table 2. Correlations**

	1	2	3	4	5	6	7	8	9	10	11
1 FDI Flows	1,000										
2 Commercial Opening	,527**	1,000									
3 Mercosul	,616**	,896**	1,000								
4 Real Plan	,779**	,688**	,768**	1,000							
5 COPOM	,823**	,595**	,664**	,864**	1,000						
6 APEX	,689**	,380*	,424*	,552**	,638**	1,000					
7 ABDI	,727**	,356*	,397*	,517**	,599**	,938**	1,000				
8 PAC	,789**	,290	,324	,422*	,488**	,764**	,815**	1,000			
9 GDP	-,116	-,228	-,095	-,019	-,146	-,020	,024	-,095	1,000		
10 Inflation	-,762**	-,424*	-,529**	-,719**	-,823**	-,594**	-,624**	-,504**	-,036	1,000	
11 Market capitalization	,683**	,299	,334	,434*	,503**	,919**	,910**	,843**	,048	-,581**	1,000
12 FDI external	,830**	,573**	,598**	,742**	,752**	,771**	,851**	,723**	,012	-,797**	,745**

Source: Prepared by the authors based on the research data.\*\* =  $p < 0,01$  and \* =  $p < 0,05$

**Table 3.** The influence of public policies on FDI inflows

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Commercial Opening	0,225 (0,045)							-0,125 (0,482)
Mercosul		0,217 (0,049)						0,155 (0,355)
Real Plan			0,502 (0,000)					0,312 (0,021)
COPOM				0,564 (0,000)				0,465 (0,002)
APEX					0,003 (0,986)			-0,258 (0,154)
ABDI						-0,243 (0,296)		0,166 (0,486)
PAC							0,210 (0,277)	0,299 (0,021)
GDP	-0,142 (0,090)	-0,170 (0,041)	-0,180 (0,008)	-0,103 (0,122)	-0,181 (0,045)	-0,186 (0,035)	-0,148 (0,105)	-0,099 (0,123)
Inflation	-0,373 (0,000)	-0,306 (0,002)	-0,183 (0,023)	-0,083 (0,350)	-0,348 (0,001)	-0,363 (0,000)	-0,340 (0,001)	0,004 (0,971)
Market capitalization	0,156 (0,236)	0,149 (0,255)	0,248 (0,024)	0,169 (0,100)	0,068 (0,702)	0,218 (0,261)	-0,101 (0,619)	0,098 (0,537)
FDI	0,425 (0,014)	0,458 (0,006)	0,196 (0,162)	0,254 (0,059)	0,635 (0,000)	0,721 (0,000)	0,618 (0,000)	0,001 (0,993)
Adjusted R <sup>2</sup>	0,819	0,818	0,887	0,887	0,789	0,798	0,798	0,925
F	29,141	28,959	49,706	49,43	24,149	25,431	25,541	35,575
N	31	31	31	31	31	31	31	31

Source: Prepared by the authors based on the research data.

*Track 14 FDI and Internationalization*

**ID #580**

**Institutional distance and the performance of subsidiaries  
in emerging countries**

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**Abstract**

*The institutional distance represents the differences between the institutions of the countries. In the context of emerging countries, institutions are considered weak and inefficient, and may entail higher adaptation costs and impact on organization's performance. For international business literature mitigate the negative effects of institutional distance is critical to the survival of the subsidiary in a foreign location. In this paper, we investigate the effect of institutional distance on the performance of subsidiaries located in emerging countries. For this, multiple linear regression tests were performed to measure the effect of institutional distances on return on assets (ROA) and return on shareholders' equity (ROE) of the subsidiaries. Culture, connectivity, financial and economic were institutional distances that had negative influence on the performance of the subsidiary.*

**Keywords:** International Business; International Strategy; Performance of the Subsidiary; Institutional Distance; Emerging Countries;.

**Acknowledgments**

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## **INTRODUCTION**

With the increasing economic demand of countries, companies tend to operate and invest outside their country of origin (Borini et al., 2006). Cavusgil et al. (2010) emphasize that the strategic motivation lies in seizing an opportunity or gaining new knowledge, while the reactive motive is linked to the need to serve a client who has expanded its operations abroad. To do so, companies that wish to establish subsidiaries in other countries - especially in emerging economies - should fit in with their reality.

The differences between the modes of operation of the country of origin of the investment and the host country are called institutional distances. According to Bae and Salomon (2010) institutional distance interferes in foreign investment strategies, as well as in business adaptation, generating an impact on their performance. Studies report how institutional distances affect company performance in the mode of entry, using the regulatory, cognitive and normative dimensions of an institution (Xu & Shenkar, 2002).

Figueiredo (2011) postulates that for a subsidiary to achieve a better performance, it must develop an internal and external counterpart, some of them being more effective, when the subsidiary operates in a market and has no specific knowledge of it. A positive relationship between performance and psychic distance can be observed, according to Dikova (2009). However, literature is poorly established when we have dismembered institutional distance in its axes: economic, financial, political, administrative, cultural, demographic, knowledge, connectivity and geography, as highlighted by Berry, Guillén and Zhou (2010). In this way, the objective of this work is to analyze the effect of institutional distance on the performance of subsidiaries in emerging countries.

The relevance of this paper is to identify which institutional distances interfere in the performance of subsidiaries and also those that do not have effect. In addition, the context of emerging countries can provide results on specific institutions linked to this type of economy. Methodologically, this study is based on empirical analysis of secondary data on the performance of companies and the calculation of institutional distances elaborated by Berry et al. (2010). The results indicate cultural, connectivity distances have a negative effect on ROE and ROA, while economic, and financial distances have a negative effect on ROA alone.

This article is divided into five sections. After the introduction, the theoretical framework is developed with the theme's internationalization and the performance of subsidiaries, emerging economies and institutional distance. Then, it is described to the methodology used in the method section, followed by the results of the research and the discussion. Finally, the limitations of the research and suggestions for future studies are presented at the conclusion of this study.

## **THEORETICAL REFERENCE**

This section presents a brief literature review on the topics of internationalization and the performance of subsidiaries, emerging economies and institutional distance. The purpose of this session is to base and base this study on already established literature on the topics listed.

### ***Internationalization and the Performance of Subsidiaries***

When a company runs out of productive exploitation in its country, it begins to internationalize, exploiting technologies and modes of operation that are often "outdated" in their country of origin (Borini et al., 2006). International business is characterized by an involvement, ranging

from minimal to moderate, with external operations (Wright et al., 2000). The authors point out that actions such as buying assets from foreign companies, exporting to other nations, establishing licensing agreements with foreign companies or creating strategic alliances with these companies characterize international business and its different modes.

Multinational companies (MNCs), for the most part, generate more business volumes abroad than in their home country. The costs of doing business abroad is a concept established in International Business (NIs) and stems from the additional disadvantages borne by MNEs as opposed to domestic firms (Eden & Miller, 2004). Thus, the evaluation of the performance of subsidiaries abroad plays a key role in value creation (Kretschmer, 2008). The main source of disadvantages in being foreign is institutional distance (Eden & Miller, 2004). According to Porter (1993), companies should seek to know what determined their ability or inability to obtain a competitive advantage in the country they chose to set up. Foreign activities should focus where it is possible to achieve and maintain competitive advantage (Cavusgil et al., 2010).

Successful businesses often focus on particular cities or states within a country. In the United States, for example, many of the country's leading real estate companies are headquartered in Dallas, Texas (Porter, 1993). The company strategies are based on factors that may affect the host country's performance in the process of adapting its organizational practices to local norms in search of legitimacy (Rosenzweig & Singh, 1991).

For Ferreira et al. (2013), the MNCs' control and coordination of their subsidiaries changed substantially, from a perspective where the strategy was passed on by the head office company to create the subsidiary's own strategy. With this, "... the subsidiaries are given an active role in building the advantages of the EMN" (Ferreira, Beltrão & Almeida, 2013 p.21). A company has a competitive advantage when it generates a greater economic value, which is represented by the perceived benefits and the total economy of these goods (Barney & Hesterly, 2008).

Thus, the difference between the competitive advantages of the companies is the difference of the economic value that it generates before its rivals. Barney and Hesterly (2008), postulate that in this way the subsidiary starts to participate actively in decisions taken by the host organization. However, even with all the advances, it is not clear in this relation the effective control, autonomy and even dependence of the subsidiaries on the part of their headquarters companies (Ferreira et al., 2013). For Barney and Hesterly (2008), the transnational opportunity to operate a company in the international sector can be a means to exploit the advantages of - global integration and local response - since the traditional form of negotiation is seen from a perspective that will be beyond national borders, allowing a more effective analysis. The globalization of markets generates greater integration between companies and countries, allowing an expansion in the commercialization of goods and services, as well as capital flows, generating a reciprocal dependence between countries (Cavusgil et al., 2010).

Gitman (2010) and Assaf Neto (2012) explain that the company's innumerable financial indexes are designed to facilitate decision making and performance, such as ROE and ROA are widely used to measure performance. These data allow company managers to adopt the appropriate strategies. Firms that adopt efficiently structured corporate governance tend to raise their value, so these firms have a positive influence on their assets, thus leading to better performance (Knapp, 2015).

For the Brazilian Institute of Corporate Governance (IBGC) (2018), corporate governance contributes to the company with the intention of conserving and improving in the long term the economic value of the company. It is capable of generating a facility in obtaining resources as well as contributing to the increase of quality of management, thus having the company a

greater longevity and a greater contribution to the common good. The performance of a company is linked to its ability to use a diversification strategy when needed (Barros et al., 2018).

The choice of where to install a subsidiary has as a decisive factor the productivity of the host country, which should be aimed at stimulating the elevation of the standard of living of its population (Porter, 1993). Emerging markets are a thriving investment opportunity, given that emerging economies are prospecting for economic growth, allied to a young population and a growing middle class (Cavusgil et al., 2010). On the other hand, these markets provide weak institutions and are surrounded by uncertainty, often subject to unstable politics and high levels of corruption, directly impacting on how to do business (Cuervo-Cazurra & Dau, 2009; Cuervo-Cazurra, 2016).

### ***Emerging Economies***

Emerging countries have a faster economic development (Ferreira et al., 2011). The saturation of the more renovated markets makes multinational companies seek out developing markets (London & Hart, 2004). The business of emerging markets is based on the social pyramid of these, as companies have billions of potential buyers.

Most markets have a young and growing workforce in social classes as well as low-cost firms, although they have faced a deficit institutional environment (Cavusgil et al., 2010). Economies have rapid and low growth (Hoskisson, 2000). However, as the emerging economies have institutional deficiencies, such as the created economies (Cuervo-Cazurra & Dau, 2009; Cuervo-Cazurra, 2016).

For De Moraes et al. (2008), despite finding new opportunities and difficulties, the companies that internationalize look to benefit in this new market. With globalization, the integration of economies drove the emergence of new demands and opened space for global competitiveness (Porter, 1993), requiring new business strategies (Hoskisson, 2000). Emerging countries seek to adapt or copy external actions, processes and modes of operation for technological development (Stal, 2010).

Narula and Zanfei (2005) in their studies list the international partnership in technology as a strategy that complements the internationalization of innovative activities, thus making companies contribute to each other. Ferreira et al. (2011) points out that "it was the MNCs of developed countries themselves that forced locations to grow in order to maintain partnerships in global operations." Thus, local firms had access to new technologies, capital knowledge of internationalization and international trade becoming more competitive.

Companies in emerging economies are increasingly taking up space in the global market, and that advanced economies managers must be careful and watch out for these emerging firms (Cavusgil et al., 2010). Studies have shown benefits associated with exploiting these markets as opposed to developed markets, both in performance (Pattnaik, Choe & Singh, 2015) and in innovation (Xie & Li, 2018).

However, the growing concern in international business literature is increasingly turning to the role of institutions (Luo & Wang, 2012). The authors state that not only institutions from the country of origin but also from the host country implies internationalization strategies. The input mode should be aligned with the chosen market, this way the acquisitions can be a good option, allowing learning of workflows, relationship company society and learning about the company's link with local markets (Ferreira et al., 2011). The reduction of transnational costs

and the adaptation of organizational processes are beneficial to international business and are related to environmental aspects.

Institutional distance between nations can affect the performance of the subsidiary rather than just the quality analysis of local institutions (Pattnaik, Choe & Singh, 2015). Defining a market with weak institutions is different from comparing institutions. In NIs the profile of the country receiving the investment is one of the aspects that are analyzed, however, the comparison between the differences and similarities of the institutions impact differently on the business (van Hoorn & Maseland, 2016).

### ***Institutional Distance***

Multinational companies need to deal with the institutional environments they find in the countries to which they internationalize (Guissinger, 2001), "the option of internationalization has challenges and risks" Ferreira et al. (2011). "Differences between countries require that business managers formulate approaches adapted to the conditions of each locality where they conduct business" (Cavusgil et al., 2010). For North (1990) each country has its own institutional environment and this environment shapes the way companies do business, so companies must prepare to deal with the environments in which they operate.

The difference between countries is notorious and the need to understand these differences as well. The institutional distance corresponds to the difference between the institutions of the host country and the country of origin (Xu & Shenkar, 2002). Zaheer (1995) has addressed in his studies that if a company is part of a global and integrated environment it faces what the author calls "foreign liability" that is treated as a liability of foreign companies. To minimize this liability the outside company must import or copy local business practices in order to establish themselves and succeed.

Berry et al. (2010) in their studies emphasize that "[...] our goal is to disaggregate the distance construct, [...]" the authors propose a group of "multidimensional measures, including economic, financial, political, administrative, cultural, demographic, knowledge, and global connectivity, as well as geographical distance." Berry et al. (2010) point out that one of the important characteristics of their studies at institutional distances is the possibility of calculating each dimension.

Economic distance has "three indicators: countries differ in terms of income (GDP per capita), prevailing inflation rates and trade intensity with the rest of the world." These indicators correlated with "consumer purchasing power and "and" economic openness to external influences." Thus, economic distance is used to help firms decide on the mode of entry into the external market, performance and survival of the business (Berry et al., 2010). "The level of economic development of a country allows us to infer wealth of the population and their ability to buy the products and services that the company proposes to market" (Ferreira et al., 2011).

The financial distance takes into account stock and credit market indicators Berry et al. (2010) include these two "market capitalization of listed companies" in the financial system, "the number of listed companies" in the financial system and "the amount of private credit available." The authors point out that "researchers in international business use this approach to examine governance, foreign investment, and procurement." Foreign direct investment can be done in order to fully or partially acquire a company; another option is the joint venture with a partner company (Ferreira et al., 2011).

The political distance is linked to the differences between the size of the government of each country, its fiscal and economic policies, if this government intends to control the companies

of the countries, if it is a solid democratic government and without autocratic and authoritarian inclinations by (Berry et al., 2010). In this paper, we will discuss the relationship between the state and the foreign trade, among other issues involving the state and its population and companies. "Countries with greater political risk discourage investments by foreign firms and, conversely, lower levels of political risk attract foreign investment" (Ferreira et al., 2011).

The administrative distance refers to the bureaucracy involved in business, commercial and institutional relations, according the authors. Refers to the colonial ties of the country. In the same way, the language that represents a great obstacle at the time of communication as well as the difficulty of learning a specific language from a foreigner and a right that emphasizes an immigrant's ability to acquire the rights provided to national workers (Berry et al., 2010). For Reimann (2015) the administrative distance between host and host countries refers to differences in social rules and regulations used by the government for control and enforcement.

The cultural distance of Berry et al. (2010) is based on the concepts of Hofstede (1980) and has the measures of avoidance, distance of power, individualism and masculinity, the measures were defined from the data World Values Survey (WVS; Inglehart, 2004). WVS allows greater assertiveness with respect to data analyzes as they are captured every 3 or 4 years. "Effectively addressing the intercultural interface is an essential source of competitive advantage for a company" (Cavusgil et al., 2010).

The demographic distance implies in the difference of size, population growth, and productive life expectancy. Berry et al. (2010) focused his analysis on the differences of life, expectation rates, birth rates and age structure of the population. In addition, as demographic behavior, it affects consumer buying patterns and behavior.

The distance of knowledge is measured by the ability of the country to produce knowledge, to innovate, as well as the patent registration number. The choices of the multinational take into account this capacity of the host country being a determinant when choosing where to opt for places where talent, innovation and creativity are more concentrated (Berry et al., 2010).

Distance connectivity is related to the ability of the country, companies and individuals to relate to the outside world. International tourism measures, percentages of GDP, tourism receipts as a percentage of GDP, and percentages of the internet user population (Berry et al., 2010) were surveyed.

Geographic distance however much countries cannot move on the globe, the geography of each of them interferes in order to affect transportation and communication costs. It can be understood as geographic distance the distance calculated by the latitude and longitude, but also the difference between the sizes can be related to the GDP there we have countries very close geographically, but with enormous distances when it comes to monetary values (Berry et al., 2010).

## **METHOD**

The objective of this study is to analyze the performance of companies that are based in countries considered as emerging economies and the effect of institutional distance within economic, financial, political, administrative, cultural, demographic, knowledge, connectivity and geographic dimensions. For this, data from the Orbis database and the calculation of the distances established by Berry et al. (2010). These data were downloaded and treated according to the countries fit the profile established by the study proposal.

Regarding the approach, this study is characterized as quantitative, a study that uses statistical tests and descriptive analyzes to establish results. "Quantitative approach is one whose data can be mathematically analyzed, that is, the analysis is done through statistical treatment" (Marques, 2008, p 39). Analyzes with multiple linear regressions were used. "Multiple regression involves a single dependent variable and two or more independent variables" (Malhotra, 2006, p.503).

The variables of this study are a total of 15, distributed as follows: 2 dependents, related to return on assets (ROA) and return on equity (ROE); 9 independent of the institutional distances being: Economic distance, financial distance, political distance, administrative distance, cultural distance, demographic distance, distance of knowledge, distance of connectivity and geographic distance; and 4 of control counting with inflows of foreign direct investment (SDI), gross domestic product (GDP), GDP growth and size.

In this section, the return on assets (ROA) is used to analyze the return that the company has on its available assets (Gitman, 2010). The Return on Equity (ROE) measures the return on investment made with shareholders' equity of owners and shareholders (Assaf Neto, 2012). These variables can be found in the studies of Berry et al. (2010), which aims to elucidate new perspectives for the subject of institutional distance, including economic, financial, political, administrative, cultural, demographic, knowledge, and global connectivity distances, as well as geographic distance.

As a control, some variables have been adopted as FDI inflows that represent foreign direct investment made through multinational companies that seek to benefit from some advantage that the nation has as "lower interest rates", emphasize Lacerda & Oliveira (2000). Another variable is GDP - gross domestic product "is an indicator that measures the economic activity of a country. It shows how much is produced, consumed or invested in the country, "says Velasco (2017) in a published article in the economy portal of the G1.

Finally, we have the GDP growth are the factors that interfere in the increase or not of the GDP. One of these factors are the inflows of internal and external capital besides. Other factors raised by the then Minister Guido Mantega (2009). In addition, the fourth variable is the size that can have both positive and negative effects since very large countries may become difficult to manage but have more space for agricultural production and smaller countries make it easier to administer, but generally have supply problems becoming dependent on imports.

The sample of this study is made up of 657 subsidiaries. The data were collected from the Orbis database complicated by commercial information publisher Bureau Van Dijk, secondarily by the researcher. The main features are divided into two tables. Table 1 shows the host countries and table 2 showing the countries of origin of the subsidiaries.

Table 1 shows that 11 countries are hosts of the 657 related subsidiaries in the study. China accounts for the largest share (37.9%) of the total number of companies. In second place with (28.2%) is in India. Moreover, in the third position the representative of Latin America with the largest number of subsidiaries is Colombia with 130 of them. Together with the three nations, a concentration of 564 subsidiaries represents an expressive 85.9%.

China, as expected, attracts many investments because of its size, market potential and growth that is increasing each year, raising its demands. As the need for fundamental technologies, which with the Chinese government created an investment fund to raise 200 billion yuan (\$ 31.7 billion), says Bloomberg News (2018).

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

Representing Latin America, Colombia, among the various factors related to Colombia's official investment portal shows a greater economic stability, GDP growth of 4.6% compared to 1.3% in the region, a 30% population for the middle class. Moody's Baa2 index, strategic position for maritime exports (due to proximity to the Panama Canal, making it easy to ship to Europe, Africa, America East coast, plus shipments to Asia, Oceania and West Coast America) among others related (Procolombia, 2018).

Therefore, analyzing the three countries that host the most subsidiaries, it is concluded that countries that have an educational investment in their workers, that governments encourage the development of new industries, and that they are partly strategically located tend to be larger investment hosts foreign direct. These conditions are factors that facilitate the attractiveness of subsidiaries and should not be taken as an absolute rule for such attraction, each emerging economy should highlight its attractiveness and differential before the others and invest correctly so that this differential becomes its competitive advantage before the too much.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

Table 2 shows the relation of countries of origin of the six 657 subsidiaries related in the study. In this universe, we have 28 related countries, which Singapore corresponds to 27.1% of the total companies, the Republic of Korea (popularly known as South Korea) with 17.5%, China has 9.1%, Brazil with 7.3%, Chile with 6.1% and Malaysia with 4.4%. These seven countries together represent the origin of 500 of the subsidiaries corresponding to 76.1%.

## **RESULTS**

Table 3 shows the descriptive statistics. In this model are presented the numbers related to the frequency of all variables, dependent, independent and control.

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

The dependent variables (ROA and ROE), independent (institutional distances) and control variables (FDI inflows, size, GDP, GDP growth) are presented in order to correlate each other. With this analysis can be raised the size of the influence of each of the distinct variables has on the other that it is correlating. The correlations can be observed in table 4, among them we can see that ROE and ROA have a positive relation. For each time the ROE increases 100% ROA increases 92.9% we can attribute this increase the direct relation of the indexes if based on the return on investment made in the company with one with the distinct characteristic.

Compared with the economic distance for each ROE increase by 100%, the distance decreases by -10.7%. With cultural distance, we have the value of -14.4% for each 100% evolution of ROE. The size has a 10.7% increase for every 100% ROE increase, this size can be analyzed as increased participation and recognition, since the physical space of the country can not be increased.

When we speak of ROA for every 100% increase, we have a reduction of -12.8% in cultural distance, a reduction of -9.2% in demographic distance, -8.9% in economic distance, and 5.8% in distance financial management. The political distance increasing 100% makes the cultural distance increase and 32.4%, the demographic distance in 15.2%, the economic distance in 26.5%, the geographic distance in 20.6%, the financial distance in 35, 4%, also an increase in FDI inflows of 51.8%, GDP by 48% and GDP growth by 32.2%.

Administrative distance increasing by 100% means that cultural distance increases by 43.1%, demographic distance increases by 14.8%, economic distance increases by 17.8%, connectivity distance increases by 59.8% the distance of knowledge increased by 60.8%. In addition, foreign direct investment inflows had 54.3% representing a higher reliability of investors with more efficient management, GDP has a 55.5% increase generating a higher return to the country with the improvement of administration. Therefore, GDP growth has increased by 56.9%, which represents a great importance and interest of a country that is to keep its GDP in constant growth, geographical distance decreases by 20.1% based on relations of transport costs it can be emphasized that better administration provides better transport conditions and lower costs.

The cultural distance doubling the demographic distance increases by 55.3%, the financial distance increases by 44.2%, GDP has a 23.1% increase. Demographic distance has a negative impact on GDP -7.6% for each 100% increase in distance, the financial distance has an increase of 26.2%. With the increase of economic distance in 100% we have a 45% increase in the distance of knowledge, 51.9% in the financial distance, the inflows of foreign direct investment have an increase of 41.3%, since the gross domestic product has an increase of 42.7% with an increase of 41.1%.

The geographical distance when we have a fall of -20.1% has a 100% increase in administrative distance, FDI inflows has increased by 54.3%, GDP has increased by 55.5% and growth in 56.9%. However, if the geographical distance has a 100% increase in FDI inflows has a reduction of 13.9%, GDP has a reduction of 15.8% and GDP growth has a reduction of 16.2%, this shows that the country should always work to reduce geographic distance, so improvements in infrastructure and communication become indispensable for the country.

The distance of connectivity has a positive relation with the distance of knowledge of 64.8% for every 100% increase, a positive relation with the financial distance of 38.2% for every 100%, FDI inflows increase by 44, 1% for every 100% GDP has an increase of 53.8% for every 100%. The distance of knowledge affects 45.2% of FDI inflows, 44.6% of GDP and 50.7% of GDP growth for each 100% change. The financial distance makes FDI inflows increase by 27.5%, and GDP by 30.1%. Foreign direct investment inflows represent an increase of 94.3% in GDP and 72.4% in GDP growth with each 100% increase cycle. GDP doubling its size generates GDP growth of 67.8%.

**\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\***

Table 5 shows the relationship between the independent and control variables with ROA, models 1 and 2 did not present significance. In model 3 there was significance with a beta of -, 111 which refers to the influence of cultural distance on ROA. A subsidiary, when settling in a new country has to adapt to local culture, adapting to a new language and new customs.

Model 4 did not present significance. Model 5 presented significance with a beta of -, 102 of influence of the economic distance on the ROA. When a subsidiary settles in a country that has an economy very different from its origin, it tries to control the investments, showing caution. Model 6 did not present significance. Model 7 presented significance with a beta of -, 111. Connectivity distance is related to the country's ability to communicate with the world around it. In this way, if this distance is very large MNCs tend not to be interested in the country, because the information to be transferred from the matrix to the subsidiary and vice versa will take a lot of time to be delivered.

Model 8 did not present significance. Model 9 presented significance with a beta of value - 080. This model portrays the financial distance that aims to establish if the stock market and

investments of the host country is similar to the country of origin. The subsidiaries have to pay attention to the financial market of the country of their choice because this market is one of the main responsible for bringing foreign direct investments to the country. With the stock exchange of a country operating to be healthy and staying with the score in minutes foreign investors have the confidence to deposit their investments in the country so companies can benefit if they present results that interest investors. Model 10 does the analysis in order to incorporate all the distances, and does not present significance in neither of the distances.

**\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\***

Table 6 shows the relation between institutional distances and ROE. Models 1 and 2 were not significant. The model 3 showed significance with a beta of - 081 as with ROA the ROE is also affected by cultural distance, which is understandable since they are a foreign shareholder living in a very different culture than that of the country. The company that is investing is located tends to restore sore investments which leads this shareholder to insure their investment and even invest only the minimum necessary to stay in the company. The tendency is that as the culture of the country is understood, investments are increasing and consequently the indices that are return on investment show a significant improvement compared to previous years.

**\*\*\*\*\* TABLE 6 ABOUT HERE \*\*\*\*\***

Models 4, 5 and 6 were not significant. Model 7 presented significance with a beta of -, 071 connectivity also exerts influence on ROE in the same way as in ROA. Communication is of utmost importance nowadays as a determinant factor for investments. When it comes to the ROE index that analyzes how much each investor has put in equity in the business, this communication facility should be increasing. Therefore, investors have greater security and control of how their own money is being used depending on the company. Models 8 and 9 are not significant. Model 10 does the analysis in order to incorporate all the distances, and does not present significance in neither of the distances.

## **DISCUSSION**

This paper aims to analyze the "Institutional distance and the performance of subsidiaries in emerging countries" using the concepts of institutional distance of Berry et al. (2010), which covers nine dimensions: Economic distance, financial distance, political distance, administrative distance, cultural distance, demographic distance, distance of knowledge, distance of connectivity and geographic distance. Thus forming the institutional distance together, in this way it is possible to analyze the impact of the distances besides the specific effects of each distance.

For performance issues literature shows that if companies that achieve a competitive advantage over their competitors will have the best performance (Porter, 2003; Barney & Hesterly 2008). For such a competitive advantage is acquired in companies with a well-structured strategic management (Wright, Kroll & Parnell 2000) taking into account the environment in which it is inserted (Alday, 2000) and corporate governance factors such as transparency that aims to improve performance of companies (De Carvalho Alves et al., 2018; Wong, 2009). Using control tools such as financial indexes (Gitman, 2010; Assaf Neto, 2012).

Subsidiaries are also paper imports and their performance is fundamental, so where to install the company is determinant for its proper functioning (Porter, 1993; Eden & Miller, 2004; Ferreira et al., 2013). Economies that have a high potential for growth and may harbor the

subsidiaries are emerging markets (Cavusgil et al., 2010). Searching its space and legitimacy in the environment of the country that is inserted (Vieira, 2003; Rosenzweig & Singh, 199). In this way, it is understood why multinational companies open subsidiaries in other countries.

With the need to search for new markets and to expand the companies, they end up internationalizing (Borini et al., 2006; Cavusgil et al., 2010). In the present study, it is possible to analyze the factors of internationalization (Ferreira et al., 2011; Cavusgil et al., 2010). The risks of administrative strategy activities are inherent to the theme, with internationalization being different from some risks of going to a different country (Cavusgil et al., 2010) as well as "disadvantages of international expansion" (Ferreira et al., 2011).

With a large number of countries growing and developing, the competition to attract more foreign direct investment is tightened, so companies opt for countries with the greatest advantages among nations (Porter, 1993). Ferreira et al., 2011). However, it is important to note that the use of natural resources, such as natural resources, physical assets, and intellectual assets (Cavusgil et al. Nevertheless, it is not because a nation is poorly located or has sometimes-scarce resources that it cannot create competitive advantage; Michael Porter explains using his diamond (Porter, 1993). In this way, we have the agglomerations of companies in certain places (Ferreira et al., 2011; Petry et al., 2018 and Porter, 1993).

Thus, with all the changes that are taking place in the world, some outlets are found, and in the case of multinational companies, this exit is the emerging countries that have the necessary production capacity to house their companies and the market sufficient to consume their products. In addition, they contribute to the international market by exporting products at a more attractive cost. (De Moraes et al., 2008, Meyer, 2004). However, companies in emerging countries also show their strength in the face of multinational companies, with the advantage of already knowing the market and even threatening the multinationals in the updated foreign market of innovation and creativity (Stal, 2010, Narula & Zanfei, 2005; Cavusgil et al., 2010; Ferreira et al., 2011).

Multinational companies are increasingly seeking to expand into emerging markets and look for ways to do so. Thus, the national companies of emerging economies increasingly show the potential to win the world by conquering their space in foreign markets gradually and taking advantage of the opportunities that appear. With this, there is an increasingly fierce competition among companies and the factors that affect their performance will always be on the lookout for action just enough each company to guard and prepare for the future with wisdom and ethics, seizing the opportunities and fighting the threats.

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**Table 1** - Host countries of subsidiary companies

Countries	Number of Subsidiary	Frequency	Perceptual
Argentina	12	48	1,8%
Brazil	18	72	2,7%
Chile	10	40	1,5%
China	249	996	37,9%
Colombia	130	520	19,8%
Ecuador	12	48	1,8%
India	185	740	28,2%
México	1	4	0,2%
Peru	20	80	3,0%
Uruguay	18	72	2,8%
Venezuela	2	8	0,3%
Total	657	2628	100,0%

Source: Prepared by the authors based on the research data.

**Table 2** - Countries of origin of subsidiaries

Countries	Number of Subsidiary	Frequency	Perceptual
South Africa	14	56	2,1%
Argentina	11	44	1,7%
Brazil	48	192	7,3%
Qatar	3	12	0,5%
Chile	40	160	6,1%
China	60	240	9,1%
Singapore	178	712	27,1%
Colombia	15	60	2,3%
Croatia	1	4	0,2%
United Arab Emirates	30	120	4,6%
Ecuador	7	28	1,1%
Filipinas	1	4	0,2%
Hungary	2	8	0,3%
India	6	24	0,9%
Indonesia	1	4	0,2%
Kuwait	4	16	0,6%
Malaysia	29	116	4,4%
México	19	76	2,9%
Oman	1	4	0,2%
Peru	12	48	1,8%
Poland	4	16	0,6%
Czech Republic	1	4	0,2%
Korea republic	115	460	17,5%
Russia	14	56	2,1%
Thailand	16	64	2,4%
Turkey	9	36	1,4%
Uruguay	9	36	1,4%
Venezuela	7	28	1,1%
Total	657	2628	100,0%

Source: Prepared by the authors based on the research data.

**Table 2 - Descriptive Statistics**

<b>Indicator</b>	<b>N</b>	<b>Mean</b>	<b>Standard deviation</b>
ROA	2269	4,44	16,19
ROE	2199	8,70	72,25
Administrative Distance	2628	74,15	50,93
Cultural Distance	2628	14,24	7,80
Connectivity Distance	2628	3,05	3,09
Knowledge Distance	2628	3,92	4,36
Demographic Distance	2628	4,46	5,57
Economic Distance	2628	11,05	14,32
Financial Distance	2628	3,96	3,40
Geographic Distance	2628	4765,19	4285,88
Political Distance	2628	11,35	9,36
FDI Inflows	2628	114144297332	115988866587
GDP growth	2626	5,93	2,17
GDP	2626	4476616661372	4354599284512
Size	2368	450625,10	1926206,41

Source: Prepared by the authors based on the research data.

**Table 3 - Correlations**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ROE	1,000														
2 ROA	,929**	1,000													
3 Political Distance	,013	,010	1,000												
4 Administrative Distance	-,066**	-,033	,097**	1,000											
5 Cultural Distance	-,144**	-,128**	,324**	,431**	1,000										
6 Demographic Distance	-,096**	-,092**	,152**	,148**	,553**	1,000									
7 Economic Distance	-,107**	-,089**	,265**	,178**	,295**	,167**	1,000								
8 Geographic Distance	-,044*	-,063**	,206**	-,201**	,422**	,387**	-,032	1,000							
9 Connectivity Distance	-,071**	-,039	,022	,598**	,360**	,040*	,289**	-,029	1,000						
10 Knowledge Distance	-,051*	-,032	,013	,608**	,202**	,024	,450**	-,181**	,648**	1,000					
11 Financial Distance	-,054*	-,058**	,354**	,049*	,442**	,262**	,519**	,186**	,382**	,327**	1,000				
12 FDI Inflows	-,010	,016	,518**	,543**	,215**	-,045*	,413**	-,139**	,441**	,452**	,275**	1,000			
13 Size	,107**	,079**	,065**	,209**	-,128**	-,192**	,063**	-,192**	,117**	,211**	,038	,228**	1,000		
14 GDP	-,023	,008	,480**	,555**	,231**	-,076**	,427**	-,158**	,538**	,446**	,301**	,943**	,214**	1,000	
15 GDP growth	-,060**	-,020	,322**	,569**	,363**	,162**	,411**	-,162**	,341**	,507**	,244**	,724**	,099**	,678**	1,000

Source: Prepared by the authors based on the research data.

**Table 4 - The influence of institutional distances on Return on Assets (ROA) in subsidiaries**

	$\beta 1$	$\alpha 1$	$\beta 2$	$\alpha 2$	$\beta 3$	$\alpha 3$	$\beta 4$	$\alpha 4$	$\beta 5$	$\alpha 5$	$\beta 6$	$\alpha 6$	$\beta 7$	$\alpha 7$	$\beta 8$	$\alpha 8$	$\beta 9$	$\alpha 9$	$\beta 10$	$\alpha 10$
1 Political	-,012	,601																	,004	,284
2 Administrative			,016	,511															,112	,167
3 Cultural					-,111	,000													-,165	,291
4 Demographical							-,027	,236											-,020	,670
5 Economic									-,102	,000									-,050	,217
6 Geographical											,034	,119							,083	,479
7 Connectivity													-,111	,000					-,092	,533
8 Knowledge															-,037	,152			-,047	,158
9 Financial																	-,080	,000	,056	,237
Size	-,019	,363	-,020	,335	-,019	,356	-,020	,347	-,020	,341	-,020	,348	-,019	,371	-,019	,372	-,020	,338	-,023	,969
GDP	,106	,000	,097	,001	,059	,039	,087	,003	,112	,000	,101	,000	,118	,000	,113	,000	,120	,000	,038	,224
GDP growth	-,079	,005	-,084	,004	-,012	,690	-,066	,024	-,060	,032	-,069	,016	-,050	,080	-,067	,020	-,067	,017	,043	,325
2013	,002	,936	,002	,945	-,003	,903	,001	,959	,001	,957	,001	,971	,000	,989	-,002	,944	,013	,636	-,015	,548
2014	,000	,997	,001	,978	,001	,956	,003	,901	,004	,876	,001	,983	,014	,613	-,004	,892	,013	,641	,006	,528
2015	-,007	,804	-,005	,857	,001	,956	-,004	,890	-,009	,733	-,004	,891	,031	,269	-,006	,823	,011	,694	,023	,486
R <sup>2</sup> adjusted	,003		,003		,013		,004		,013		,004		,013		,004		,009		,029	
F	2,068		2,091		5,294		2,231		5,212		2,378		5,181		2,323		3,796		5,486	
df	2266		2266		2266		2266		2266		2266		2266		2266		2266		2266	
sig	,044 <sup>b</sup>		,041 <sup>b</sup>		,000 <sup>b</sup>		,029 <sup>b</sup>		,000 <sup>b</sup>		,020 <sup>b</sup>		,000 <sup>b</sup>		,023 <sup>b</sup>		,000 <sup>b</sup>		,000 <sup>b</sup>	

Source: Prepared by the authors based on the research data.

**Table 5 - The influence of institutional distances on Return on Equity (ROE) in subsidiaries**

	$\beta 1$	$\alpha 1$	$\beta 2$	$\alpha 2$	$\beta 3$	$\alpha 3$	$\beta 4$	$\alpha 4$	$\beta 5$	$\alpha 5$	$\beta 6$	$\alpha 6$	$\beta 7$	$\alpha 7$	$\beta 8$	$\alpha 8$	$\beta 9$	$\alpha 9$	$\beta 10$	$\alpha 10$	
1 Political	,009	,713																	,057	,155	
2 Administrative			-,020	,414																-,037	,479
3 Cultural					-,081	,001														-,068	,086
4 Demographical							-,025	,288												,005	,860
5 Economic									-,042	,060										-,107	,019
6 Geographical											-,008	,730								-,009	,767
7 Connectivity													-,071	,003						-,054	,061
8 Knowledge															,011	,669				,101	,059
9 Financial																	-,022	,346	,034	,439	
Size	,014	,502	,016	,467	,015	,480	,015	,498	,015	,494	,015	,491	,015	,473	,015	,500	,015	,495	,013	,552	
GDP	,081	,008	,089	,002	,057	,049	,074	,013	,091	,001	,085	,002	,098	,001	,082	,006	,091	,001	,019	,679	
GDP growth	-,071	,013	-,065	,031	-,025	,420	-,063	,036	-,066	,022	-,075	,010	-,055	,058	-,076	,010	-,070	,015	-,017	,651	
2013	,010	,715	,010	,716	,008	,780	,011	,690	,011	,692	,011	,695	,010	,714	,012	,671	,014	,616	,007	,817	
2014	,026	,342	,025	,355	,027	,325	,029	,300	,027	,322	,026	,350	,034	,215	,027	,328	,029	,294	,044	,128	
2015	,001	,965	,000	,996	,005	,854	,001	,979	-,002	,938	,000	,988	,023	,425	,000	,996	,004	,883	,023	,458	
R <sup>2</sup> adjusted	,003		,003		,008		,003		,004		,003		,007		,003		,003		,012		
F	1,835		1,912		3,510		1,978		2,324		1,833		3,068		1,842		1,943		2,726		
df	2196		2196		2196		2196		2196		2196		2196		2196		2196		2196		
sig	,077 <sup>b</sup>		,064 <sup>b</sup>		,001 <sup>b</sup>		,055 <sup>b</sup>		,023 <sup>b</sup>		,077 <sup>b</sup>		,003 <sup>b</sup>		,075 <sup>b</sup>		,059 <sup>b</sup>		,000 <sup>b</sup>		

Source: Prepared by the authors based on the research data.

*Track 14 FDI and Internationalization*

**ID #591**

**Internationalization of state-owned banks: A case study of Banco do Brasil, Bank of China and Westlb.**

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Jorge Ferreira dos Santos Filho (ESPM, Brazil)

**Abstract**

*This research studies the process of internationalization of Banco do Brasil, Bank of China and WestLB as commercial SOBs following the proposition that state-owned banks have specific intangible assets that benefits their process of internationalization. The theoretical framework is based on the classical theories regarding internationalization of enterprises and its applications to the internationalization of banks; specific literature related to state ownership; institutional approach and intangible assets. Through a multiple-case study of the above-mentioned companies, this study explores the unique characteristics and the idiosyncrasies present in the internationalization of large state-owned banks. The result of emprirical research support the main proposition of this study that state-owned banks banks have specific intangible assets that influence in their process of internationalization as well as the empirical evidence that these intangibles are related to specific ownership advantages deriving from state ownership highly correlated to specific knowledge company's reputation and country's reputation.*

**Keywords:** International Strategy; International Business; Bank internationalization; State-owned banks..

**Acknowledgments**

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## INTRODUCTION

The 'Global Financial Report (2013)' asserts that the state has a crucial role in the financial sector, and regarding the ownership of banks, there is new evidence that state involvement can help in mitigating adverse effects of a crisis (WORLD BANK, 2013). As an example of the magnitude of state-ownership of banks, in 2016 the 'big four' Chinese commercial state-owned banks (Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, and Bank of China) were listed between the ten largest banks of the world (FORBES, 2016); in 2015 the largest bank of Latin America was Banco do Brasil (BANCO DO BRASIL, 2015); and during several years WestLB, also a commercial state-owned bank, was one of the four largest banks of Germany (DEEG, 1999).

However, despite the importance of globalization of state-owned multinational companies, the phenomenon has not received attention yet in the literature (Cuervo-Cazurra et al, 2014). Also, state-ownership of banks is a neglected aspect by both financial systems of many countries and academic studies (La Porta et al, 2002).

Despite the scant in the literature, the internationalization of state-owned multinational companies (SOMNCs) has become an important phenomenon in International Business (Cuervo-Cazurra et al, 2014). This lack of empirical studies of State-Owned Companies, and specifically State-Owned Banks (SOBs) is the motivation of this research.

As proposed by Rugman (2006), when banks internalize their ownership advantages by setting subsidiaries abroad, they generate new opportunities for the development of firm specific advantages. In addition, according to Qian & Delios (2008) banks internationalize in order to follow their domestic clients that go abroad and set up subsidiaries. Considering this rationale, bank internationalization is driven by maintaining the existing client base.

Qian and Delios (2008) also propose that banks undertake foreign direct investment to secure internalization benefits by following their existing clients, and to achieve economies of scale in the application of their intangible assets in international markets.

Complementing the argument proposed by Qian and Delios (2008), Wu (2009) states that brand is classified as an intangible asset of a company. Wu (2009) also argues that the literature mainly addresses the issue on brand equity of private firms and very little investigates the remaining effect with a particular focus on state-owned enterprises. But the author finds evidence that in recent years, state-run corporations began to respect brand value and assess its possible influence because the competitive environment grew more complex.

However, despite the importance of globalization of state-owned multinational companies, the phenomenon has not received attention yet in the literature (Cuervo-Cazurra et al, 2014). Also, state-ownership of banks is a neglected aspect by both financial systems of many countries and academic studies (La Porta et al, 2002).

While there is an entire field of Sociology and Economy devoted to institutional studies (Scott, 2001; North, 1999), and a solid foundation of IB studies dedicated to the role of intangible assets in the internationalization process of companies (Rugman, 1981; Dunning, 1980, 1993), there are considerably fewer studies dedicated to Multinational Banks (MNBs), because their difference from other multinational firms in terms of the nature of their product offerings, the information intensity embedded in their products, and the way that they internationalize (Qian and Delios, 2008).

The relevance of Commercial state-owned banks for the international financial system, the specificity of the phenomenon of intangible assets, and the lack of empirical studies on the internationalization of SOBs are the key drivers of this research.

## **THEORETICAL REVIEW**

There is already a major literature on the internationalization of banks, which focuses on the eclectic paradigm theory, that provides a discussion of the literature on the specificities of the firm - size and the efficiency - and location - related to the degree of economic integration, the regulations prevailing in each market, local markets opportunities, among others (Focarelli and Pozzolo, 2000). Other authors as Qian and Delios (2008) argue that the internalization together with the eclectic paradigm are the most widely applied theories for understanding internationalization of banks. However, they believe that, these theories use a very static approach to explain the phenomenon.

Multinational banks are treated separate from other multinational companies by literature, especially manufacturing companies, not just by the nature of their products, but also in how they internationalize Qian and Delios (2008). The fundamental hypothesis about the internationalization of banks is the hypothesis that MNBs follows the client that appears at the end of the seventies, which suggests that market imperfections MNBs they attach to a single, non-negotiable knowledge about their customers. Also, current relationship with multinational corporations considerably reduces information costs for banks, causing them to internationalize in accordance with the guidelines of internationalization of its customers (Sabi, 1988; Williams, 1997).

A significant part of the banking FDI would, as a consequence, dependent on non-banking FDI and the latter would be a precursor of the former (Qian and Delios, 2008). Because the information is specific to the very particular relationship between the client and the bank, the foreign market failure; since it is unable to broker a price for the information, even if a bank wanted to sell this information to enable their customers to be serviced by a bench outside Buckley and Casson (1991). Under a different, internalization-based perspective, Qian and Delios (2008) also see this market failure leading to high transaction costs in the information/knowledge intermediate products segment when the transaction takes place in a foreign market. However, they see an inconsistency since they propose bank's internationalization is no longer related to non-bank FDI as there is evidence that MNBs have been lending to non-home country borrowers.

Regulation is an important location factor since, as Sabi (1988, p. 437) points out, "the necessary condition of multinational banking a activities is securing the permission of host countries". In the context of remittances, however, the very nature of business is transnational and thus the institutional rules of two jurisdictions matter in the transaction. Multinational banking if appears in connection with transaction would have to deal with two regulations, namely the origin and destiny rules. This is more similar to trade financing lines, which are also cross-jurisdictional in nature. The findings by Sabi (1988) that U.S. MNBs are less interested in trade loans in LDCs than in domestic loans, possibly reflects this two- jurisdiction difficulty and could help to explain why banks from the developed world are less prone to succeed in the transfers business.

Cuervo-Cazurra *et al*, (2014) apply the concept of extraterritorial market imperfections to explain the phenomenon of multinational state-owned companies and propose that when state-owned companies invest abroad, the government is increasing the welfare of another country's

citizens. Combining this argument proposed by Cuervo-Cazurra *et al*, (2014) with the follow-the-client or defensive expansion (Qian and Delios 2008) concept already addressed in this study, it can be proposed that commercial state-owned banks like Banco do Brasil, Bank of China WestLB internationalize as a way to mitigate market imperfections for their clients and thereafter these companies provide solutions for market imperfections of local country citizens and companies.

Bank internationalization has also been studied in light of behavioral theories of internationalization of businesses generally. In particular, the *establishment chain* for internationalization of firms proposed by Johanson and Vahlne (1977), that was set up according to the psychic distance (*factors that make it difficult to understand foreign environments*), in a dynamic but non deterministic process that evolves over time with learning and incremental commitment building, under a bounded rationality assumption. The Uppsala model predicts a sequence of incremental steps in the internationalization process. Thus, a company's commitment tends to increase gradually as it acquires knowledge and accumulate experience in the host country (Johanson and Vahlne, 1977, 2009). The experience of a multinational bank in the destination country can be critical to a successful internationalization modifying decisions related to future expansions. The competitiveness of a multinational bank in an overseas market may be based on the accumulation of international experience in terms of experience in destination and general international experience Tschoegl (1982). The experience gained within a subsidiary, branch or local office can help the bank to reduce the liability of foreignness, thereby decreasing local uncertainty, and to search for new opportunities Mosakowski & Zaheer (1997).

According to Turolla (2012), the element currency transfers, was a missing piece in the existing literature of internationalization of banks and conclude that diaspora brings about externalities that may contribute to the internationalization of the banking sector not because of direct transfer of knowledge by migrant's movement or within their network as proposed by traditional analysis, but rather indirectly depending on how the financial services related to the transfers are captured by intermediaries.

Cuervo-Cazurra *et al*, (2014), propose that the existence of state-ownership is justified as one solution of market failures, whereas these governments are compelled to intervene to address market failures of allocation of resources. Dunning (1993) when addressing market imperfections related to FDI propose that firms tend to internalize their ownership advantages. The author proposes that intangible assets and brand property rights as ownership advantages and points that the option for internalization creates a specific set of advantages defined as internalization advantages.

Whereas the already exposed in this section, it is now up to mention that commercial state-owned banks compete in its local market with local private banks, and when internationalize, the state-owned banks have to compete with local banks abroad, even in a process of follow-the-client internationalization (Mico, Panniza and Yañez, 2007).

With regard to host-country, if institutions represent a restriction for agents in the course of their transactions (North, 1999), it's possible to infer that the regulatory aspects of financial systems in host countries are essential to define the entry decisions of bank in a foreign market.

Institutional characteristics of the destination country also play a role in the pattern of bank internationalization and act as determinant variables in bank's decision making about the separation between branches and subsidiaries. Economic integration, institutional characteristics, and profit opportunities are indeed the driving forces of bank

internationalization, but their effect may be different depending on the expansionary policy followed by the bank (Focarelli and Pozzolo, 2005).

A country can create many kinds of barriers to activities of foreign banks through increasing regulation. These barriers can be applied in several ways, the most common examples: mandatory hiring local managers, limiting for loans and difficulty in repatriating profits earned. Thus, a dense wire regulation can become a barrier to entry to banks (Buch and Delong, 2004).

Another point is based on the assumption proposed by Cantwell, Dunning and Lundan (2010), is that state-owned companies co-evolve with phases of institutional changings of their home-countries and they internationalize in a first moment to achieve political objectives without seek profitability, and gradually they start to pursue a higher degree of internationalization and independence from the government (Cahen, 2015).

In the last decades, several studies and empirical tests have been developed in an attempt to relate the level of FDI to the role of intangible assets in the internationalization process (Denekamp, 1995; Gande and Schenzler; Senbet, 2009). In a more assertive instance, Dunning (1993) states that intangible assets are the foundation of firm's motivation to go abroad, since they generate in home-country that can be exploited with the right configuration of specific location advantages and internalization advantages. However, ownership advantages and internalization advantages can collapse, since an ownership advantage have to be internalized on international markets to be effective (RUGMAN, 1986). Also according Rugman (1986), when a firm goes abroad enters by forming a foreign subsidiary in a host country, the subsidiary becomes a firm's agent for exploiting its intangible asset advantages (RUGMAN, 1982).

Delios and Beamish (2001) argue intangible assets are public goods that can be applied in new markets with smaller increments in cost and Morck and Yeung (1991) suggests that due their informational and intangible nature, firm-specific assets are like public goods in the sense that their value increases as a firm becomes multinational. In addition, firm's diversification in foreign markets does not depreciate the value of information-intensive assets (MORCK and YEUNG, 1998), Simultaneously, the value of intangible assets should increase with the degree of multinationalism of firms as the knowledge and firm-specific are transferred abroad (Delios and Beamish, 2001; Kogut and Zander, 1993).

Another explanation for the role of intangible assets related to internationalization of companies is provided by the Uppsala Model (Johanson and Vahlne 1977, 2009) in which internationalization is cumulative and path-dependent process. Internationalization is conceived like a process of incremental commitment based on the learning, the knowledge accumulation and in the increase of resources placed in the markets abroad (LI, 2007; JOHANSON; VAHLNE, 1977)

As a complementary view about the incremental commitment and sequential international model (JOHANSON; VAHLNE, 1977), CHANG; RHEE (2011) argue that intangible assets have a moderating effect related to internationalization speed and firm performance. Firms possessing superior resources, capabilities and knowledge may generate competitive advantages to overcome the liabilities of foreignness, which in turn facilitate rapid FDI expansion (CHANG; RHEE, 2011)

According to Resource Based View (RBV) intangible resources, such as brands, customer lists, knowledge and skills play a central role in explaining firm's competitive advantage (Barney, 1991). Another aspect of intangible assets related to internationalization is reputation. According to Spence (1974) reputation is a part of market-signaling process by which firms

communicate relevant characteristics to costumers and entry barriers in foreign countries would be lifted by companies with strong reputations.

According to Wang and Yang (2007) an important concept for brand differentiation, which influences consumer's decision making is the brand personality that is a phenomenon often associated with human personality which could increase consumer preference and usage, foster feelings of comfort and confidence in the minds of consumers and enhance the levels of loyalty. The authors found that COO image exert a significant positive effect as a moderator between brand personality and purchase intention which provides new managerial implications.

As mentioned before in this study, companies internationalize because they have or can obtain competitive advantages (DUNNING, 1993; CONTRACTOR, 2007; HENNART, 2007). More specifically, intangible assets and brand property rights as ownership advantages become relevant factors in the internationalization process of banks (CHEN; DANBOLT; HOLLAND, 2014).

Qian and Delios (2008) suggest that firm-specific assets provide ownership advantages for banks and Wu (2009) propose that brand intangible assets of state-owned companies play a crucial role upon the cognition of consumers. Therefore, within the scope of this research and supported by the concepts presented in this literature review related to the internationalization of state-owned banks, as well as the intangible assets ownership advantages, this chapter provides the theoretical discussion that fundamentals the propositions, the methodological procedures and field research that will be described in the following chapters

Based on the theoretical approach presented in this section, this study presents the following propositions.

***P1:** The internationalization of SOB follows the preceding movement of their home clients, but commercial SOBs have specific intangible assets that influence in their internationalization process.*

***P1a:** The flow of unilateral transfers resulting from migration/diaspora is directly related to the Banco do Brasil, Bank of China and WestLB internationalization strategy.*

***P1b:** The trade flow between countries is directly related to Banco do Brasil, Bank of China and WestLB internationalization strategy.*

***P2:** Banco do Brasil, Bank of China and WestLB co-evolved with phases of institutional changings of their home-countries and gradually they started to pursue higher degree of internationalization and independence from the government that reflected in their structure and profitability abroad.*

***P3:** Differences in the institutional environment of banking regulation between countries may influence the FDI of SOBs.*

***P3a:** The internationalization of SOBs follows an incremental sequence of steps that corresponds to the commitment of increase due to the reduction of psychic distance in a gradual process.*

***P3b:** The accumulation of experience in the destination country reflected in a higher level of commitment of SOBs.*

Figure 1 presents a synthesis of the literature review and provides the preliminary basis for the field research related to the internationalization of SOBs.

Figure 1: Synthetic representation of Theoretical Review. Elaborated by the author.

## **METHODOLOGY**

This section offers a detailed description of all activities and procedures adopted during the research process. In order to achieve the proposed objectives of this research, the method adopted is a case study within qualitative paradigm. Also, this section address the research method and the reasons for choosing the same. The data collecting method and data analysis chosen are detailed and an explanation about the propositions mentioned in the previous chapter is presented. Based on qualitative research tools, a thematic analysis of participant's data collected from in-depth interviews and documents analysis is employed (Eisenhardt, 1989; Bardin, 2010; Yin, 2010).

In a qualitative approach, the research starts with issues that define the extent as the studies advance and aims to investigate a phenomenon through the opinion of interviewees or in other words it aims knowing the significance of events and situations in which individuals play a relevant role (AUERBACH & SILVERSTEIN, 2003; KNOX & BURKARD, 2009).

In this study, as the main objective is to investigate the process of internationalization of Banco do Brasil, Bank of China WestLB as state-owned banks whereas the proposition that state-owned banks have specific intangible assets that benefits their process of internationalization, the investigation take place through interviews with executives of both banks and it was decided to apply the qualitative approach in this research.

This research uses the case study, as this is shown as the most appropriate in view of flexibility and depth that the method allows (EISENHARDT, 1989). The case study method has the capability to use multiple data collection methods and sources for studying the chosen case or a number of cases in an in-depth and holistic manner (PATTON, 2002).

Multiple-case study designs allow cross-case analysis and comparison, as well as an investigation of a phenomenon in diverse settings (YIN, 1994). In a multiple-case research, the cases need to be similar in some ways (YIN, 2010). For some studies the collection include all of cases that exist, but the most common procedure is a selection of cases (STAKE, 2006).

Following the similarity criterion (YIN, 2010) this multiple-case study choose Banco do Brasil, Bank of China and WestLB as the sample that composes the research, since they meet the condition of being Commercial SOBs that pursued internationalization as a business strategy (BANCO DO BRASIL, 2015, BANK OF CHINA, 2015, DEEG, 1999, OLIVEIRA, 2008) and reflect the theoretical propositions that have been formulated in this research (Yin, 2010). In addition, this research chooses the 'stratified purposeful and opportunistic' criterion which aims to describe information-rich cases, that manifest the phenomenon intensity (McDavid and Hawthorn, 2016).

The main collection technique proposed is conducting in-depth interviews with directors, executives and managers of organizations. Along with data collection through interviews, a triangulation is proposed by using secondary data sources such as articles in newspapers and internet sites, as well as reports published by Banco do Brasil and WestLB. According to Stake

(2007), these complementary procedures compose a triangulation that reliability for the research.

The main technique to be applied in this research collection is in-depth face-to-face interviews that will be conducted with individuals who took part in some way of the internationalization process of Banco do Brasil, Bank of China, and WestLB. As suggested by Molina (2012) the intended interviewees are: decision makers that were responsible for the adoption and implementaion of the internationalization strategy; managers that observed and took part at the time of the phenomenon and decision process, but had no active participation and held no decision-making Power; and managers who were not present at the time of internationalization decisions, but currently handle with the results of such decisions.

The questions to be posed to the interviewees are non-structured and opened in order to evoke point of views and opinions (CRESWELL, 2010). Godoi *et al* (2006) also reaffirm the validity of unstructured interviews model and point that this procedure matches with the explicit expectations of interviewees and set an ambience that encourages the research respondents to talk freely.

This study proposes a triangulation by using secondary data sources for description of phenomena. As secondary data source this research mentions: Annual Financial Reports of Banco do Brasil from 2000 until 2015 (BANCO do BRASIL, 2016); Annual Financial Reports of Bank of China from 2010 until 2016; Annual Financial Reports of WestLB from 1997 until 2006; Reports and Data Sources of Banco Central do Brasil (BRASIL, 2016); Documents provided by Banco do Brasil and WestLB; Internet sites; Academic Studies.

**Table 1: Describes job title, experience of respondents and date of interview.**

Name Code	Company	Job title	Years Worked In the Company	Date	Duration of Interviews in Minutes
E1	Banco do Brasil	Head of FI	18	24/03/2016	43
E2	Banco do Brasil	Chief Executive Officer of UK Subsidiary	22	16/06/2016	52
E3	WestLB	Former Chief Executive Officer	12	05/06/2016	67
E4	WestLB	Former FI Relationship Manager	20	21/07/2016	72
E5a	Bank of China	FI Relationship Manager	7	30/11/2016	48
E5b	Bank of China	Head of FI	12	30/11/2016	48

Source: Elaborated by the author

Content analysis is defined by Bardin (2006) as a set of analytical communication techniques (syntactic, lexical and thematic) in which systematic and objective procedures are employed to describe the content of messages by using qualitative or quantitative processes in order to infer the knowledge. That is to say, the objective of content analysis is to understand critically the meaning of communications, its manifest or latent content, as well as its explicit or implicit significance (Chiozzotti, 2006).

As described by Bardin (1977; 2011) the categorical content analysis comprises the following main steps: pre-Analysis, which consists of material selection, also known as *corpus* to be analyzed; encoding, step of transforming the data from *corpus*, by making use recording units (word, sentence, sequence of phrases and theme). categorization, which was the organization phase and classification of the *corpus*. In this step, the entire interviews were encoded; and, interpretation, which consists of the inferential, that means accepting a proposition linked to other propositions already accept as true (BARDIN, 1977) process presented in the section “Analysis of Results of Research”.

In order to improve the quality of categorical content analysis, this research applies the software ATLAS TI that has four principles of analysis: visualization, which allows the researcher organizing and maintaining ongoing contact with data; integration of database and elements, which allows the organization of data; randomness, which allows the discovery and insights without deliberate search; and, continuous manipulation of data through the interaction with the interface and software features, which also allows the discovery of insights (BANDEIRA DE MELLO e CUNHA, 2003)

Bardin (2011) argues that the use of computer assisted qualitative data analysis software, such as ATLAS TI, can speed up the process of cutting phrases and selecting codes, but the main decisions related to codification are responsibility of the researcher. In other words, a software will never replace the researcher’s creativity and sociological perspective (TEIXEIRA and BECKER, 2001).

## PRESENTATION AND ANALYSIS OF RESULTS OF RESEARCH

Pursuing the above mentioned analytical guidelines and the methodological approach proposed in the previous section, this section presents the results of research of each unit of analysis Banco do Brasil, Bank of China and WestLB in a narrative format that combines: codification of interviews provided by using Atlas TI that supported the main connections between categories related to internationalization of selected cases; evolution of internationalization of the banks, correlation between events and theoretical review; and other data, such as annual reports, internet news, academic studies, and other literature that support empirical data and provide contextualization for results. Table 2 presents a data summary containing information about the internationalization of selected cases.

**Table 2: Summary data table of cases**

Bank	Assets	Starting year of Internationalization	Foreign offices, Branches and Subsidiaries
<b>Banco do Brasil</b>	BRL 1,1 trillion (2016)	1929	44 (2016)
<b>Bank of China</b>	RMB 107,3 billion (2016)	1941	67 (2015)
<b>WestLB</b>	EUR 292 billion (2009)	1970	27 (2009)

Source: BANCO DO BRASIL (2016), BANK OF CHINA (2015), WESTLB (2009)

Currently abroad, Banco do Brazil’s service network consists of 49 own subsidiaries located in 24 countries. At the end of 2013, there were 1,200 banks acting as BB's correspondent in 134

countries. In Argentina, the network of the Banco Patagonia has been expanded to 374 points of service, growth of 7.5% in twelve months. Banco do Brasil Americas, in the United States, has a network of four agencies, and through established agreements, have available 40,000 shared ATMs, also offering internet services and mobile banking (Banco do Brasil, 2016).

In order to contextualize the categorical empirical result with the propositions of this research and the theoretical review, the next section presents description of internationalization strategy of Banco do Brasil, based on the interviews, annual reports, previous academic research, books and web sites news.

Santioni (2010) established a historical description of internationalization process of Banco do Brasil in three phases, also adopted by Aragão (2015): Instrument of Public Policies (1941-1986); Defining a competitive strategy (1987-2009); and, Hybrid Internationalization model (2009 -).

Besides not mentioned in the studies of Santioni (2010) and Aragão (2015), the above mentioned three phases of internationalization are highly correlated with the study of Cahen (2015) already discussed in the chapter Theoretical Review of this research. According to Cahen (2015) Brazilian SOE's co-evolve with the country institutional environment in three moments: pre-liberalization, after liberalization and after industry deregulation. Progressively Brazilian SOE's sought a higher degree of internationalization and independence from the government. Over the evolution of internationalization of Banco do Brasil.

Since 2010, the strategy of internationalization of Banco do Brasil is guided by three drivers: internationalization to countries where Brazilian companies have settled; internationalization to countries where there are significant Brazilian communities; and internationalization to countries that are important for Brazilian foreign trade, as stated in the Annual Reports (Banco do Brasil, 2012; 2015).

The first and the second drivers are consistent with the concept of defensive expansion or follow-the-client previously presented in the literature review (Qian and Delios, 2008; Forareli and Pozollo, 2005; Luo and Tung, 2007). But, for Banco do Brasil, follow-the-client is also a defensive strategy (Qian and Delios, 2008; Forareli and Pozollo, 2005, Luo and Tung, 2007, Williams, 1997):

*“E2: Our clients abroad were approached by our mark et competitors, so we had to provide banking services to them.”*

Still about the second driver, the interviews pointed a direct relation between follow-the-client and remittances (Turolla, 2012):

*“E2: The operation in Japan started when the flow of Japanese-descendants (the decaseguis) returned to Japan seeking employments. They had job, they had money, in fact abundant resources.”*

In the late 60's and early 70's Banco do Brasil opened agencies in New York, Tokyo, London and Frankfurt, although, this research has found a strong connection between Trade Finance for Brazilian companies and fundraising that is not related to follow-the-client. Indeed, this is a contingency internationalization effort to important financial centers similar

to other banks (Engwall and Wallenstal, 1988) :

*“E1: Another important factor we use, especially in New York, London and Tokyo, is to capture interbanking liquidity. We capture international interbanking liquidity to finance foreign trade.”*

Empirical data presented in this section support that propositions P1, regarding to follow-the-client approach, P1a and P1b are strongly related to the internationalization strategy of Banco do Brasil.

According to empirical data, there is an indirect correlation between the follow-the-client approach and intangible assets of SOB that support P1. The first movement is to follow Brazilian companies or Brazilian communities abroad. After starting to operate abroad, Banco do Brasil promotes events related to foreign trade like ‘Doing Business in Brazil’ and close deals based on knowledge, reputation and brand as state-owned bank:

*“E2: Yes. Of course! We frequently participate and also promote events related to foreign trade, such as ‘Doing business in Brazil’ with Apex and Chambers of Commerce. Banco do Brasil is leader in trade finance and we are committed to promote the country abroad. This is related to our brand and the reputation of Brazil. The correct word is that one: intangible. It’s not clear, but yes there is a correlation between the brand, the reputation and to the fact that we are state-owned.”*

Also, Trade Finance for Brazilian companies and fundraising that is not related to follow-the-client. Indeed, this is a contingency internationalization effort to important financial centers similar to other banks (Engwall and Wantenstall, 1988):

*“E1: Another important factor we use, especially in New York, London and Tokyo, is to capture interbanking liquidity.”*

Following the methodological approach described in the chapter Methodology of this research, the interviews were coded and categorized by using the software Atlas TI. The categories obtained and their connections are shown in the Figure below.

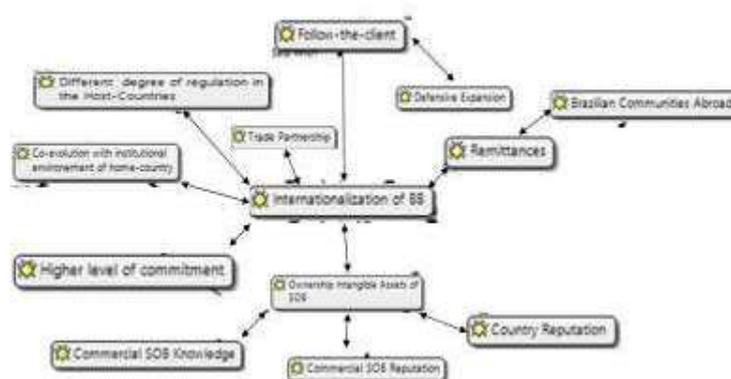


Figure 2: Empirical Results of Banco do Brasil. Elaborated by the authors

Internationalization is a core strategy for Bank of China, with overseas business contributing largely to the BoC’s development. By 2015, the total assets of the overseas institutions accounted for 27% of Bank of China Group’s total assets, and the contribution of the profit before income tax realized by overseas institutions further increased (BANK OF CHINA, 2015). The BoC’s overseas institutions cover 46 countries and regions, 5 more than the 2014, further enhancing its global service network.

Bank of China, also known as BoC, was established in 1912. From that date until 1949 the bank served as the country's central bank, international exchange bank and specialized international trade bank. After 1949 Bank of China became responsible for managing China's foreign exchange operations and provided support to the country's foreign trade foreign trade development as well as economic infrastructure through its offering of international settlement, overseas fund transfer and other non-trade foreign exchange services (BANK OF CHINA, 2013).

In the early 1980's Chinese government started the reform of the Chinese banking system with an institutional change of view. The first step was the creation, in 1984, of a multi-bank system, in which central banking functions were separated from the rest. The second step was the separation of commercial banking activities from those related to economic development. Policy lending banks were established in 1994 and a new Commercial Banking Law was approved in 1995 to regulate commercial banks. Third, the institutional design of the People's Bank of China (PBC) was strengthened in 1995, and its three main responsibilities were established: monetary stability, banking supervision and oversight of the payments system. China's banking reform was based on three main pillars: (i) bank restructuring, (ii) the reduction of government interference in the system, and (iii) strengthened financial regulation and supervision, coupled with efforts to improve corporate governance and transparency (HERRERO, GAVILÁ and SA NTA BARBARA, 2006).

As argued by this research, based on an study related to internationalization of Brazilian SOEs developed by Cahen (2015), Commercial State-Owned Banks co-evolve with their home-country institutional environment and this section presents evidence that Bank of China progressively sought a higher degree of internationalization and independence from the government (CAHEN, 2015), aiming profitability and this supports proposition P2.

In 1994, BoC was transformed into a wholly state-owned commercial bank. The bank was listed on the Hong Kong Stock Exchange and Shanghai Stock Exchange in June and July 2006 respectively, becoming the first Chinese commercial bank to launch A-Share and H-Share initial public offering and achieve a dual listing in both markets. Since 2010 and until 2015, Bank of China was enrolled as a Global Systemically Important Bank, becoming the sole financial institution from emerging economies to be designated as a Global Systemically Important Bank for five consecutive years (BANK OF CHINA, 2015; BIS, 2013; FSB, 2016).

About the strategies of internationalization and the role of Bank of China, the respondents say:

*"E5a: Yes, we follow our corporate clients. Chinese companies are going abroad and we are the Chinese bank for trade finance, so it's a strategical decision to establish branches in the core countries. We were the first Chinese bank going abroad and we are the most internationalized Chinese bank."*

Empirical data presented in this section support that propositions P1, regarding to follow-the-client approach and P1b regarding the trade flow between countries, but P1a is not fully supported for empirical and documental evidence.

Empirical data also correlates intangibility with tangibility, ownership advantages (DUNNING, 1980, 1993; BUCLEY; CASSON, 1976, 2003; GANDE; SCHENZLER; SENBET, 2009), and competitive advantages (CHANG; RHEE, 2011):

*"E5b: No, it's always about business. Our clients want credit, FX and credit in Renminbi. Being the Chinese bank of trade finance puts us ahead, because of the knowledge and the brand, a being state-owned too. We can't split these things. It's*

*everything together. We know and our client knows too. But at the end it's always about close the deal and improves our assets.*

The empirical data presented in this section supports the proposition P2 that Bank of China co-evolved (CANTWELL; DUNNING; LUNDAN, 2010; CAHEN, 2015) with phases of institutional changings of its home-country and gradually they started to pursue a higher degree of internationalization and independence from the government that reflected in their structure and profitability abroad.

Following the methodological approach described in the section Methodology of this research, the interviews were coded and categorized by using the software Atlas TI. The categories obtained and their connections are shown in the Figure below.

The first step of WestLB towards internationalization was still in 1970 by joining the Chase Manhattan Bank in starting up an international merchant bank called Orion Bank Ltd (POHL, 1982). Also, during the 1970's WestLB established branches in London (1973), New York (1975) Hong Kong (1975), and Tokyo (1976) (POHL, 1994). But it was in the 1980's after the appointment of Friedl Neuber as chairman of the bank that the internationalization process really started to gain focus (Deeg, 1999).

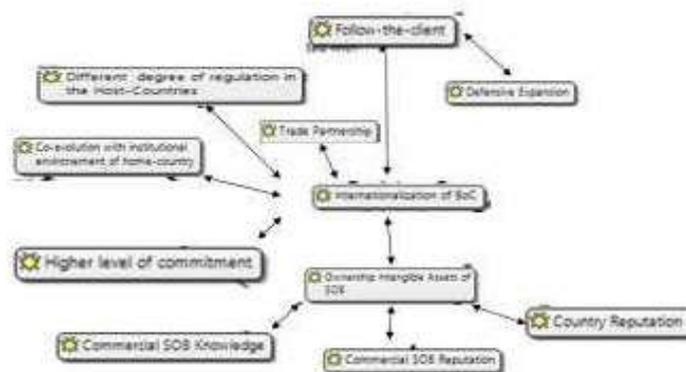


Figure 3: Empirical Results of Bank of China. Elaborated by the authors

Another motivation for internationalization is mentioned by E4:

*“WestLB was the bank of the most industrialized region in Germany, so there were a lot of German companies going abroad, so WestLB had to follow them, and by following them.”*

The above mentioned information highlights that the early internationalization movements of WestLB were highly influenced by German's government (CUERVO-CAZURRA, 2014; LA PORTA *et al*, 2002; Cuervo-Cazurra *et al*, 2014) and one of the main strategies was following German companies that were internationalizing at that moment (Qian and Delios, 2008; Nigh *et al*, 1986). This data support proposition P1.

About that commitment, respondents say:

*“E3: You may think ‘what is a state-owned German bank doing in Brazil?’ But it makes all sense. German companies were in Brazil doing huge business and Brazil is a trade partner of Germany. Once the bank, at that moment, was separating commercial bank from public bank, the commercial wing was trying to consolidate its international positions.*

The above mentioned information correlates P3, P3a and P3b with the WestLB's strategical restructuring decision in a way that the bank's decision to increase the commitment based on cumulative experience (JOHANSON; VAHLNE, 1977, 2009; LI, 2007) was directly related to trade partnership (P1b) and the degree of regulation of host-country directly influenced the bank's FDI (Miller and Parkhe, 1998, 2002).

In 2005 the Group WestLB reached EUR 294 billion on assets and this was the peak of the company in terms of asset results (WESTLB, 2006). Also, in 2005 reached an out-of-court settlement with European Banking Commission that provided the continued existence of public-law companies, however after a transitional phase ending on July of the same year, institutional liability and guarantor liability were eliminated (WESTLB, 2006).

At the beginning of 2008, even before the collapse of Lehman Brothers, WestLB was already in need of support due the portfolio of toxic assets that the bank had. From 2009 WestLB started receiving aid from EU (LIENEMEYER and MAGNUS, 2011).

The EU's aid was given through the shareholder's c commitment to sell the bank as a whole or in parts by the end of 2011. The liquidation plan was submitted to European Banking Commission in 30 June 2011 (LIENEMEYER and MAGNUS, 2011) and in 30 June of 2012 the bank was downsized and Portigon Financial Services became legal successor of WestLB (PORTIGON, 2016).

About the reputation and knowledge of WestLB abroad, respondents say:

*"E4: We had a very good reputation in relation with other banks. We were respected because of our expertise in investment bank. And, yes, there was that difference. WestLB was a government's bank. They are trustworthy. When the problems started, I used to hear from other banks 'How is this possible?'"*

The above-mentioned quotes highlight that WestLB had a specific knowledge related to its condition of SOB as well a reputation related to government's ownership (WANG and YANG, 2007; WU, 2009) that provided a specific intangible asset for the bank.

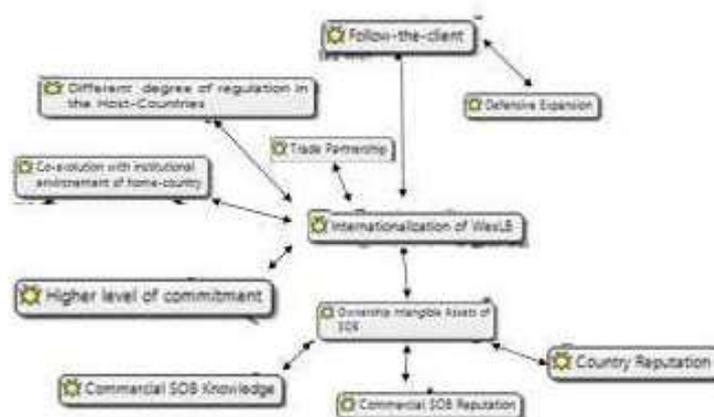


Figure 4: Empirical Results of WestLB. Elaborated by the authors

## FINAL CONSIDERATIONS

The objective of this research was to investigate the process of internationalization of Banco do Brasil, Bank of China and WestLB as state-owned banks considering proposition that state-owned banks have specific intangible assets that benefits their process of internationalization.

As discussed in the section Case Analysis, empirical evidence supports the main proposition of this study that the state-owned banks analyzed have specific intangible assets that influence in their process of internationalization as well that these intangibles are related to specific ownership advantages (DUNNING, 1980; 1998; DUNNING; LUNDAN, 2008) deriving from state ownership (CUERVO-CAZURRA *et al*, 2014; ESTRIN *et al*, 2016), highly correlated to specific knowledge, company's reputation and country's reputation (WANG and YANG, 2007; WU, 2009).

The findings of the multiple case study supported as the earlier literature for the most part but also presents an incremental theoretical contribution in the sense that based on previous theoretical studies related to bank internationalization (Qian and Delios, 2008; Williams, 1997; Buch and DeLong, 2004; Focarelli and Pozzolo, 2005); institutional environment (North, 1990, 1999; Scott, 2004; Cantwell, Dunning and Lundan, 2010; Cahen, 2015); ownership advantages (Dunning, 1979, 1980, 1998; Rugman, 1980; Dunning and Lundan, 2008) and state-ownership (Cuervo-Cazurra *et al*, 2014; La Porta *et al*, 2002; Micco, Panizza and Yañes, 2007); and intangible assets (Delios and Beamish, 2001) this research presents a theoretical explanation for the phenomenon of specific intangible assets of SOBs in their internationalization.

After conducting the study, it can be said that the limitations of this research concern to the scope of the empirical research and the generalizability of the results. Firstly, six interviews conducted in three case companies is relatively limited sample even though the cases chose are relevant due the relevance of the banks studied as already discussed. Secondly, this research has a limited generalizability of the findings since the study was conducted in the context of only three commercial SOBs. However, some of the conditions related to the main proposition of this study and institutional environment seems to be common to SOBs in general. Finally, this study cannot give explicit countably measurable to the research questions, as quantitative studies generally can, but a wider and deep explanation on the topics is provided in this research. However, it is important to state, that conducting a quantitative study in the context of this research was not possible due the nature of the propositions, especially those related to intangible assets. A larger pool of interviews, in a larger number of commercial SOBs, may have provided more accurate answers to the questions proposed in this study and this may be a study subject of a future agenda, especially related to commercial SOB from China given the relevance of these companies for international financial system as mentioned in research.

This study also proposes a scientifically useful contribution with a view that the research developed may contribute for future agenda related to SOBs and a practical contribution in the sense that decision makers of commercial SOBs may base their strategical decision based on the findings presented.

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*Track 14 FDI and Internationalization*

**ID #611**

**The role of organizational sustainability in the relationship  
between the degree of internationalization and the  
performance of multinational companies**

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**Abstract**

*Internationalization has been studied over the years as a business strategy that can improve the performance of multinational companies. However, despite much research, this premise has not proven right. Understanding whether there are other strategies combined with internationalization, which can contribute to positive performance, has become one of the focus of research in the area of International Business. On the other hand, sustainable actions have been adopted by many companies, either by understanding that they can improve performance or by noticing a market need for it. Therefore, the objective of this article is to verify if the sustainable actions carried out by multinational companies moderate the relation between their degree of internationalization and the performance. The results show that: (a) both the disclosure of sustainability and the adoption of environmental/social management systems have a moderating role in the relation between internationalization and performance, demonstrating a nonlinear effect in the first case of J-inverted and in the second U-inverted case; and (b) sustainable innovation does not influence the relationship between internationalization and performance.*

**Keywords:** Internationalization; Performance; Sustainability; Dissemination; Environmental / Social Management System; Sustainable Innovation..

**Acknowledgments**

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*Track 14 FDI and Internationalization*

**ID #625**

**Internationalization of Chinese company of medical devices products in Brazil**

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**Abstract**

*The medical device industry makes an enormous number of products and plays a crucial role in developing new medical technologies that can improve the ability to diagnose and treat illness. Brazil is the 8th biggest market in the world, and the large and diversified companies are present, mainly multinational companies from USA and Europe, that are mainly engaged in research and development of new devices for specific therapeutic areas. Recently, a Chinese company emerged in this area in a fast internationalization process, already present in 31 countries outside China. This company has Brazil market as an objective, and intends to use the same entry strategy, based on the industry distinctive both for its tendencies to make frequent, incremental changes to its products and its extensive ties with physicians. This research in progress aims to follow this process with academic methodology and approach, aiming to investigate the process of how Chinese organizations conduct the process of insertion in Brazil, in order to build a model that can help in understanding and minimize possible obstacles to the receipt of these investments, whether for reasons of slowness or due to cultural and market differences between the two countries, will contribute to greater dissemination and debate about the subject. Preliminary results based on ethnography approach, indicate that the same strategy based on extensive ties with physicians applied on other countries does not seem to work in Brazil.*

**Keywords:** Medical Devices; China companies in Brazil; Entry strategy; International investments; Globalization; China.

**Acknowledgments**

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## **PURPOSE**

The purpose of this paper is to present some preliminary and key insights of the process of internationalization of Chinese companies in Brazil. In this case, a Chinese company in the health sector, seeking to insert its medical products in an already existing market in Brazil, through import and distribution of products. This context is distinguished by the health sector having specific and high requirements as regulatory issues, quality, technology, market approach and logistics. It seeks to contribute about how the Chinese company plans, structure and seeks to operate in Brazil, and thus compare and add to the concepts and theories about the internationalization of companies in the country, as well as with the approaches already tried and studied.

## **RELEVANCE/CONTRIBUTION**

The benefits of Chinese investments in Brazil contribute to job creation, increase productivity, enable technology transfer and increase the relationship between Chinese companies and local suppliers – special in a development sector such as medical products. To investigate the process of how Chinese organizations conduct the process of insertion in Brazil, in order to build a model that can help in understanding and minimize possible obstacles to the receipt of these investments, whether for reasons of slowness or due to cultural and market differences between the two countries, will contribute to greater dissemination and debate about the subject. Undoubtedly, China, as the second largest economic power in the world and the country that buys the most from Brazil, has the justification of research on the subject proposed here. The project hopes to achieve the following results, in relation to the internationalization of Chinese health companies in Brazil:

Contribute to academics:

1. Generation of hypotheses to expand future projects resulting from this study;
2. Conceptual test experience in a Latin American regional insertion environment
3. Improvement of qualitative research method to describe and align concepts with business practice, specifically in the area of internationalization (China - Brazil)
4. Elaboration of a conceptual model for the process of adaptation / insertion of a Chinese company of medical products in Brazil

Managerial Contribution:

1. Understanding cultures of Brazilian and Chinese organizational management for alignment;
2. Conceptual basis for the standardization of information exchange under the same rational among international subsidiaries;
3. Insertion of the Brazilian subsidiary in the international context of the Chinese company

## **ORIGINALITY/VALUE THEORETICAL BASIS**

Usually, Chinese companies decide Brazil as country to invest due to seek natural resources, to install plants for the manufacture of consumer goods, to sell financial services and to acquire infrastructure in other countries. This research in progress aims to investigate Chinese companies that choose Brazil as a potential market for its products consumption, in a competitive and already installed base of suppliers, linked to high technology and responsibility, as medical devices are related to health. The originality is to understand a

Chinese company in a high regulatory and quality standard approach to become a new player, in an emerging economy country as Brazil, not through merger and acquisition, but based on the products that are produced in China and imported and distributed to Brazil.

## **DESIGN/METHODOLOGY/APPROACH**

The intended approach is to observe and collect data from all the process the Chinese medical device company, for earlier stages to start selling in Brazil. Methodology to be applied will be data collection of previous entries company did in other emerging countries, documents and report extensive reading and an ethnography approach into company office in Brazil, as an invited researcher by the medical device Chinese company.

## **PRELIMINARY RESULTS AND IMPLICATIONS**

The research is in an early stage, but the first data collection through interviews and observation indicate that a medical device Chinese company starts its strategy to enter Brazil market by promoting marketing events and opinion former leaders, in this case, physicians, experience in using its medical devices. The first use is through medical procedures sponsored by Chinese company as so publishing its results. This strategy was used in previous emerging countries entry as India, Bangladesh and Pakistan. All these previous experiences proved that making the products and company associated with international seminars and congress build the path to start selling in the countries. By the other hand, some difficulties are perceived in Brazil when applying the same strategy, and one of the reasons may be there are very important and big hospitals and health insurance companies with more power and influence than physicians. In previous other internationalization experience lived by the Chinese company, physicians were the ones that could accelerate hospitals consumption and increase demand.

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*Track 14 FDI and Internationalization*

**ID #630**

**Foreign direct investment after the 2008 financial crisis in  
Brazil**

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**Abstract**

*The objective of this article is to evaluate the effects of public economic policies, implemented in response to the economic crisis of 2008, on the flows of foreign direct investment in Brazil. It demonstrates, through the political sociology of public action, that the crisis generated a change in the references of Brazilian economic policies: from the policies of the so-called “macroeconomic tripod” to policies of the new economic matrix. The implementation of this change is expressed in multiple government actions, including the use of the National Bank for Economic and Social Development, to stimulate the internationalization of Brazilian companies. It seeks to identify the possible effects of public action through data on the evolution of direct foreign investment and the use of the Grubel–Lloyd index.*

**Keywords:** Financial crisis; Public policy; Brazil; Foreign direct investment.

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## **INTRODUCTION**

The objective of this research is to evaluate the impacts of the Brazilian public economic policies implemented in response to the 2008 crisis on foreign direct investment (FDI) inflows and outflows. In order to achieve the objective of this research, a characterization of the economic policy as public policy will be made, firstly by analyzing it according to the political sociology of the public action approach in its three key elements: the sector–global relationship, and the referential and dynamic interaction of actors. Subsequently, foreign direct investment will be described and defined along with its evolution (from the year 2000) and its importance to the Brazilian economy. Changes in public policies after the crisis will also be described. Finally, the impact of these policies on direct investment flows will be analyzed.

The economic policies adopted in response to the 2008 crisis will be analyzed through the political sociology of public action. These actions will be interpreted through their relations with other areas of government (the sectoral–global relationship), their reference as public policy (the legal, institutional and cultural parameters that form the referential), and the description of the actors and their interaction dynamics in the conception and implementation of the public policies considered here. In Brazil, there was a clear change in economic policy after the 2008 crisis, with effects on direct investment: The “macroeconomic tripod” was replaced by the so-called “New Economic Matrix.” This is a major public policy paradigm opportunity (or a referential opportunity) whose consequences have not yet been sufficiently measured.

In this scenario, the state should assume a more interventionist and protectionist role, not only reducing the real interest rate, but also expanding subsidized credit and devaluing the exchange rate, among other actions. This change has impacted both FDI flows and outflows, which will be duly identified through the application of the Grubel–Lloyd index adapted, according to Grubel and Lloyd (1975), with input data from foreign investment (FDI<sub>in</sub>) and local investment in the foreign country (FDI<sub>out</sub>) obtained at UNCTAD.

## **ECONOMIC PUBLIC POLICIES**

The economic crisis triggered at the end of 2007 determined a change in the conduct of public policies in Brazil. The reactions of the then President Luiz Inácio Lula da Silva’s government to mitigate the possible effects of the crisis, intensified in the government of his successor Dilma Rousseff, were expressed in a paradigm shift of public economic policy: from the macroeconomic tripod to the New Economic Matrix. It was a profound change and entailed a series of actions that made up the crisis of the Brazilian economy. We intend to proceed with an analysis of this change of economic policy using two complementary approaches: the political sociology of public action and the theory of the “three Is” – institutions, interests and ideas.

Like any public policy, economic policy can be described through its key constituent stages: defining the problem (the target of government action), public action formulation, decision-making, implementation, and finally evaluation of the actions carried out. This sequence can be found, with variations, in public policy theories since the early works of Lasswell (1951, 1956, 1970). Thus, economic policies implemented after the international crisis in Brazil will be describe in terms of their emergency conditions, public policy paradigm and political actor dynamics interaction.

According to Jobert and Muller (1987), the political sociology of public action assumes that public policy analysis must be integrated into a broader conception of state-society relations. Its composition is arranged in three elements: the sector-global relationship, the referential and the actor's interaction dynamics involved in the power relations and regulation of a specific public policy.

The sectorial-global relationship is primarily an attempt to manage the relationship that is established between the sector considered in public policy and the other areas and government and social life. Its logic consists in the constant exercise of adjusting different areas, interests and powers. In the study presented here, the sectorial is the economic policy adopted by the Brazilian government after the economic crisis. Sectorial-global relations happen in multiple arenas. First, to be successful, policy changes needed support and complementarity of the other government areas. Many ministries were involved, for example, in the design and implementation of the PAC – Growth Acceleration Plan, My Home, My Life Program, and other actions that made up the New Economic Matrix policy package.

Subsequently sectorial-global relations express how actors involved in public policy action articulate themselves. This relationship can also reveal the existents conflicts and power disputes inside public institutions. According to Jobert (1985, 2004), it is a mistake to consider the State as a unified and homogeneous entity and the public administration as a rational executor of governmental decisions. The various parts of government can represent, and often do, distinct, often complementary, and sometimes conflicting social and economic interests. Thus, government functioning and public policies actions fits into a logic of the sectoral-global and dialectical relationship between the demands of legitimacy and regulation.

The second key element is called a referential and covers a set of norms, learning and references that are expressed in a public policy. The referential can also be described as the representation made by the actors involved in this action. This representation is the way in which the various actors and social classes involved understand the origin, the development and the possible unfolding of the problem to be the target of the action of the State and it is also the expression of the perception of the role that must be played by the government in that time. They are norms and references built by the actors involved through their relationships, interactions, consensus constructions and decisions. To know how the referential is elaborated is to know how the actors themselves see their respective roles, functions, values and interests. The definition of the referential influences the way in which the relation with the power of the State will be guided and how the actions and decisions of the group of actors will take place.

The referential framework can be divided into three parts: global, sectoral and articulation. The first part is sectorial self-representation which is not always a coherent and rational one. It is the state role and type representations. The sectorial referential is the dominant image of economic, political and social sectors. The last part - the articulation - are the norms that integrate the two levels, the global and the sectorial. It is the way the government responds to the needs and demands coming from economic sectors and from political and social organizations. "The referential of a public policy, understood as the representation of global-sector relations, has the effect of structuring the field of a public policy. It determines the geographical or social extension and hierarchizes its objectives "(JOBERT and MULLER, 1987; 70).

The third and final key element is to look for and describe who are the actors who work in the construction of the referential. That is, knowing who the actors are that build the image of the system to be regulated. At this point, the set of actors encompasses the various state actors,

local, regional or national and non-state actors, representatives of specific sectors of the economy and society. Another question is how the system will be regulated, from which values, principles and mechanisms? The regulation refers to the norms, procedures and public power actions legitimation. And finally, what is the outcome of these actions in terms of old and news power relations. Constituents actors of public policies relations are marked by acts of cooperation, conflicts and power struggles.

In addition, the functioning and interaction of the key elements must be considered according to the action cycles. Pierre Müller (2015) and Faure (2013) identify four cycles. They are: the industrial liberal, the welfare state, the state-enterprise and sustainable governance. Cycles are social configuration processes that define the role of state action and public policies for society. Each cycle corresponds to different economic, citizenship and public policy regimes that express the referential in which the State is inserted. The basis of these cycles is the configuration of Western European states. In our case, the cycles are others and refer to other dispositions of the political and economic forces acting in public policies.

An approach complementary to the political sociology of public action (and its three key foundations) is the “three Is” theory: institutions, ideas and interests. According to Palier and Surel (2005), public policies analyses must cover the interaction between these three dimensions. Institutions concern to political organizations that shape and condition the actions of social actors. Durkheim (1919) defined institutions as being instituted by the collectivity and they impose themselves on us and we support them for the advantages we take by obeying them. Having a normative character (Rizza, 2008) they create the game rules and create, within the State, a system of (sometimes) contradictories decision-making in their spheres of action. Interests involve the objectives of each social actor in public policy. There is always an arrangement of interests between private and public action spheres. Finally, ideas refer to public policy actors’ self-images and representations as well as the values that legitimize the state action itself. The “three Is” are explanatory variables of public policies that, in interacting in different forms, shape and delimit the limits of state action.

The theory helps us to unveil the actions of the Brazilian State during the crisis of 2008 and their consequences. There was a change of referential (or paradigm) in this period: from the macroeconomic tripod to the new economic matrix. In a similar way, state self- image and role have also changed. It is seen and recognized as the responsible for minimizing the effects of the crisis and for being the inducer of economic development. The relationship between the state and the economic sectors of society has also changed. State and productive sectors began to act as partners in economic development actions. The field of political action in the sector presents norms and acts changes. Regarding the cycles of action, the change that has taken place has given new appearance to old political relations. It is a new version of the old patrimonialism (Campante, 2003; Faoro, 2005; Werneck Vianna, 1997), the so-called “capitalism of ties” (Lazzarini, 2011; Musacchio & Lazzarini, 2014).

## **THE SUBPRIME CRISIS AND THE TRANSITION IN BRAZILIAN ECONOMIC POLICY**

The crisis of 2008 was by far the most important crisis experienced by the international system since 1929. In this section will be exposed its origins and its repercussions that would end up driving changes in the Brazilian economic policy.

### ***The 2008 financial crisis: origin and nature***

The so-called “subprime crisis” brings important changes to world reality sometimes considered enough to anticipate structural changes in the economic system. It has promoted, by its systemic nature, scenarios and answers still circumscribed to the traditional theoretical and political postulates. Thus, the resurgence of renewed nationalisms represented by the rise of Trump, Erdogan, Orban and Duterte, among others, can be considered a response, for example, to the migration process, which, among other things, has increased significantly in response to geographically localized crises, which seem to result largely from the global crisis that began in 2008.

While the object of this article is not to analyze the development of world political history from the great crisis of 2008, leaving this issue to more in-depth studies, it is worth trying to understand this crisis ourselves from the economic point of view and how its effects gave rise to policies in this field in different countries in their relationship with the situation, in order to shape the current international reality.

Such a question necessarily refers to the study of the behavior of FDI flows from the crisis. In one globalized economy justified by a liberal conception of international economic relations the crisis would favor the rise of nationalism in the economy and the FDI flows would be reduced. The Brazilian case can be emblematic in this sense.

Thus, the crisis, according to Bresser-Pereira in 2009:

*is a deep crisis of confidence stemming from a chain of loans originally based on insolvent borrowers who, by leading economic agents to prefer liquidity and thus liquidating their claims, are leading banks and other financial firms to break even if they are solvent. (Bresser-Pereira, 2009, p. 133)*

For the author, this would be a banking crisis, and, moreover, taking place at the center of capitalism.

Corroborating this idea and looking more closely at the crisis, one can see that it did not begin in 2008, but earlier in 2007 with the bankruptcy of the British bank Northern Rock, a fact not particularly highlighted by the press in general. This bankruptcy, in turn, refers to the US government’s real estate policy in the 1990s, which, with the aim of increasing this market, would create the Federal National Mortgage Association, commonly known as Fannie Mae, and the Federal Home Loan Mortgage Corporation, or Freddie Mac, whose functions would be to provide liquidity to the mortgage market by purchasing real estate loans from banks.

Such loans would become assets sold to investors around the world, generating a secondary market quite sought after to negotiate securities guaranteed by the American government. The practice of securitization, fully endorsed by risk agencies, has exponentially increased speculation activities, involving large international financial organizations.

In addition, the US government pressured banks to carry out real estate lending by triggering the Central Bank to inject money into the banking system, a move that would intensify with the tumultuous events of technology companies and the terrorist attacks on the US at the beginning of the 2000s, leading to a fear of recession.

However, with the recovery of the US economy from 2004, this process would cease, causing interest to begin to rise, significantly affecting the real estate market by reducing the demand for real estate and increasing the level of default on bank loans.

Of course, this situation implied an absolute reduction in the revenues of banks that, by borrowing from the international financial system, granted real estate financing that generated mortgages sold to investment banks. With the reduction of real estate activity, the latter's demand would fall sharply, generating a serious liquidity problem for banks that would lead them to a halt in their credit activities in 2008. This is what would lead Roque (2019) to call it a perfect storm, initially manifested in 2007 by Northern Rock.

The depth and extent of the crisis would extend to the economy, so that the debate on economic ordering from the perspective of the international political economy would be reversed with a new round of discussions on the capacity for self-regulation of markets and the need for corrective state intervention.

According to Bresser-Pereira (2009), the crisis in question can be attributed to national financial systems that, deregulated in the 1970s and supported by the emergence of a neoliberal wave, with an ideological character, would allow, as is still observed today, a resistance to government actions by "markets," particularly financial ones.

According to Farh, Prates, Freitas, Cintra (2009), the principle of self-regulation can be expressed as follows:

*[...] corporate governance and risk management of banks have evolved to such an extent that their decisions can be considered the most appropriate and efficient in order to avoid the occurrence of episodes that could lead to systemic risk. It was he who guided, to a large extent, the changes of the Basle Accords [...] (Farh, Prates, Freitas, Cintra, 2009, p. 135).*

It is clear from this assertion that the markets, represented by the private agents, of the financial sector in this case, acquire autonomy in relation to the states in this reality.

Corroborating these positions, Ferrari Filho and de Paula (2009) affirm that the deregulation of financial markets, generating "volatility of exchange rates and interest rates," has made it difficult for domestic economic policies to be responsible for "balance of payments crises in emerging economies." And it goes without saying that Brazil is in this scenario.

From this, Oreiro and Correa Basilio (2009) would ask the question of whether Brazil would be shielded against this crisis. In their perspective, highlighting the point highlighted by the previous authors, they affirm the need to stabilize the exchange rate. And here is a simple question: When elaborating a foreign exchange policy, the Brazilian government would be facing the effects, but in that policy, is a concern implicitly inserted about the structural aspects of the Brazilian economy, such as the necessity of a policy of productive development consonant to the insertion of the Brazilian economy in the productive sector of the international economy?

Thus, the issue leads to studies on the different aspects of the problem and its consequences, such as the resurgence of nationalisms in the international system. But for the purpose of this article, the important thing to note is that the crisis of 2008, having a systemic character, presents a degree of depth and significant gravity. It extends from one sector and one specific location to the economy. And, mainly, it goes from the financial field to the real productive field, implying a recession that has devastated the lives of several nations, causing social impacts expressed in the levels of employment and income. It is therefore interesting to observe the responses to the crisis of 2008 by the Brazilian government, seeing the flows of FDI as an important element for reflecting on the possibilities of sustaining a process of development of the country.

### ***The transition of the Macroeconomic Tripod to the New Economic Matrix: the Brazilian economy in the period 1999–2018***

In January 1999, following the occurrence of three international financial crises since the beginning of the process of stabilization of the Brazilian economy with the Real Plan, the government promoted the exchange rate regime, from semifixed to floating. With the end of the exchange rate anchor used as one of the main strategies of price stabilization, an inflation targeting regime was implemented. The details of the functioning of the scheme were presented by Bogdanski, Tombini, and Werlang (2000). The target system basically consists of determining inflation targets to be reached by the Central Bank of Brazil with the use of monetary policy.

The inflation targeting regime, implemented months after the adoption of the floating exchange rate regime, was combined with a fiscal policy to generate primary surpluses. Thus, according to Oreiro (2015), the macroeconomic policy regime began to be known as the “macroeconomic tripod,” based on the combination of the primary surplus with the regime of inflation and floating exchange rate targets.

The aim of the scheme was to ensure price stability combined with the generation of fiscal surpluses to reduce public debt growth. The contractionary fiscal policy, coupled with an anti-inflationary monetary policy and an unfavorable international scenario resulting from the terrorist attacks of 2001, along with a negative supply shock caused by the energy crisis in Brazil between 2001 and 2002, promoted low economic growth in the four-year period from 1999 to 2002, with an average GDP growth rate of 2.3% per year.

The year 2002 was also marked by instability in the Brazilian foreign exchange market due to the electoral scenario, with the advance, in the polls, of the candidate Luiz Inácio Lula da Silva of the Workers’ Party. Historically, the candidate and the party advocated unorthodox economic policy measures with increased government spending and a renegotiation/suspension of external debt repayment. This led to capital flight and increased country risk, a situation that was reversed after the commitment of the government plan to maintain debt payments and the adoption of a macroeconomic policy of price stability combined with fiscal stability.

In 2003, with the beginning of the new government, the economic policy of generating fiscal surpluses was not only maintained but also amplified by the new economic team. In addition, anti-inflationary measures were adopted, as Giambiagi (2009) points out. According to the author, in the field of economic policies of an urgent nature, due to the adverse economic scenario, the following stand out: the increase from 3.75% to 4.25% of the government’s primary surplus target in 2003, the increase of basic interest rate to control inflation caused by the exchange rate devaluation and the negative energy supply shock of the previous year and the announcement of decreasing inflation targets.

In the period 2003–2006, according to Giambiagi (2009), there was a significant fiscal improvement in relation to the previous government. Inflation also showed a declining behavior (from 9.3% in 2003 to 3.14% in 2006). The “macroeconomic tripod” had been applied systematically in the Brazilian economy. However, according to Oreiro (2015), as early as in 2006 this regime underwent transformations, with the change in the accounting of investments of the primary surplus target. Complementary changes occurred in the economic team, with the entry of Minister Guido Mantega in place of Antonio Palocci. Other measures, such as the abandonment of the downward trend in inflation targets and the Brazilian Central Bank’s performance in the foreign exchange market to minimize the nominal appreciation of the

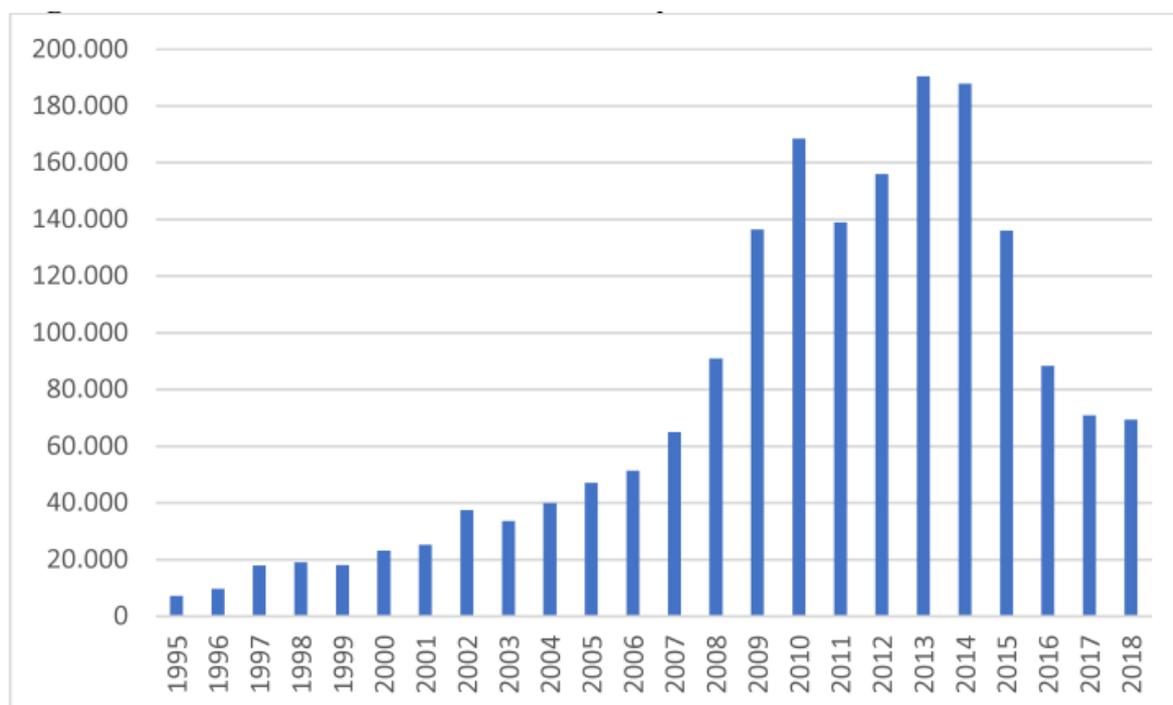
exchange rate, have made the tripod more flexible and stimulated the economy through incentives on the demand side.

In this context, according to Oreiro (2015), the expansion of aggregate demand through the growth of primary government spending coupled with a policy of appreciation of the minimum wage provoked a real appreciation of the exchange rate and deficit in current transactions from 2007. According to the author, appreciation of the exchange rate led to a loss of competitiveness and loss of dynamism in the industrial sector, which was reflected as a threat to the sustainability trajectory of the Brazilian economy.

Nevertheless, the international financial crisis of 2007/2008 impacted not only the developed countries but also the emerging economies. As a reaction to the effects of the crisis, the government deepened, even more forcefully, the flexibilization of the macroeconomic tripod, as highlighted by Oreiro (2015). According to Jorge and Martins (2013), the government postponed the collection of taxes, such as the Tax on Industrialized Products (IPI), the Social Integration Program (PIS), the Contribution for Social Security Financing (Cofins) of income withheld at source and accelerated the return of tax credits to companies. Expenses with the Growth Acceleration Program (PAC) and with social programs were maintained and increased, especially through Treasury loans, public banks (mainly the Banco do Brasil and Caixa Econômica Federal) and the National Bank for Economic and Social Development (BNDES).

Specifically, in relation to the BNDES, part of the disbursements was allocated to companies that increased investments abroad. The historical growth trend of BNDES disbursements showed acceleration as of 2006, when total disbursements were R \$ 51.3 billion. In 2010, disbursements totaled R \$ 168.4 billion. After a slight decline in 2011 and 2012, the year of 2013 registered a peak of R \$ 190.4 billion and, from then on, disbursements began to decrease, as shown in the following figure. The subsidized credit through the BNDES was one of the determinants for the expansion of Brazilian investments abroad.

**Figure 1:** Disbursement of the BNDES system – in R\$ million.



Source: BNDES

In this context, the “Macroeconomic Tripod,” which consisted of the combination of primary surplus with the regime of inflation and floating exchange rate targets, was replaced by the so-called “New Economic Matrix.” The term “New Economic Matrix” was cited by the Ministry of Finance for the first time in 2012 and was characterized by the combination of low interest rates with devalued exchange rates and fiscal policy favorable to public investment. Pessoa (2013) complements the New Economic Matrix context with the scenario in which the State assumed a more interventionist and protectionist role, not only reducing the real interest rate, but also expanding subsidized credit and devaluing the exchange rate to recover the dynamism and competitiveness of the industrial sector, among other actions.

Some of these actions were adopted immediately after the subprime international financial crisis and unequivocally allowed the Brazilian economy to resist the effects of the crisis. Despite the first drop in GDP in 18 years, since in 2009 the Brazilian economy showed a decrease of 0.2% in GDP, which had not occurred since 1992, the flexibilization of the macroeconomic tripod allowed the Brazilian economy to present a growth rate of 7.5% in 2010.

However, the intensification with a consequent perpetuity of the flexibilization of the macroeconomic tripod resulted in low growth in subsequent years. One reason was the loss of credibility of the Central Bank of Brazil, according to Barbosa Filho (2017). According to the author, the change in the conduct of monetary policy raised the cost of fighting inflation by allowing the acceleration of inflation combined with a reduction of credibility by the Central Bank of Brazil. Another factor, cited by Barbosa Filho (2017), was the deterioration of public accounts resulting from fiscal stimulus (subsidies and deregulation).

Carvalho (2018) made numerous criticisms regarding the expansionary fiscal policy of the Dilma government based on tax relief. In fact, the Brazilian companies that received subsidized loans from the BNDES benefited from the favorable condition and extended the internationalization process in the transition period from the Macroeconomic Tripod to the New Economic Matrix. Hence, it was verified that the period of inversion of the upward trajectory of BNDES disbursements coincided with the loss of dynamism of Brazilian investments abroad, as will be seen in the following section.

According to Oreiro (2015), the policy of the New Economic Matrix was doomed to failure from the outset, since it was not possible to eliminate the exchange rate appreciation of the economy in a concomitant manner with the permanent reduction of the interest rate level. This was because, with a process of nominal and real devaluation of the exchange rate, an inflationary acceleration would be expected that would require a contractionary monetary policy, interrupting or partially reversing the resumption of the competitiveness of the economy.

The views that point to the inconsistency of the New Economic Matrix are questioned by other authors based on determinants of an internal and external nature that were not the result of macroeconomic policy, that is, of exogenous factors in relation to the new matrix. Borges (2017), for example, believes that the low growth of the Brazilian economy in the first government of Dilma Rousseff (2011–2014), which had an average rate of 2.3%, compared to a rate of 4.6% in the previous four-year period (2007–2010), was also caused by issues such as falling commodity prices in the international market, among other factors. It is worth mentioning that the period 2015–2018 had even worse results, with an average GDP growth rate of -1.2%. The result is that, according to the Getúlio Vargas Foundation’s Economic Cycle Dating Committee, in the period from the second quarter of 2014 to the last quarter of 2016, the country faced the worst recession since the crisis of 1981–1983. In the recent recession, the

cumulative fall of 8.2% in 11 quarters was not greater than that in the debt crisis that Latin America faced in the 1980s, which did not have a significant impact on the attractiveness of the economy for foreign direct investment.

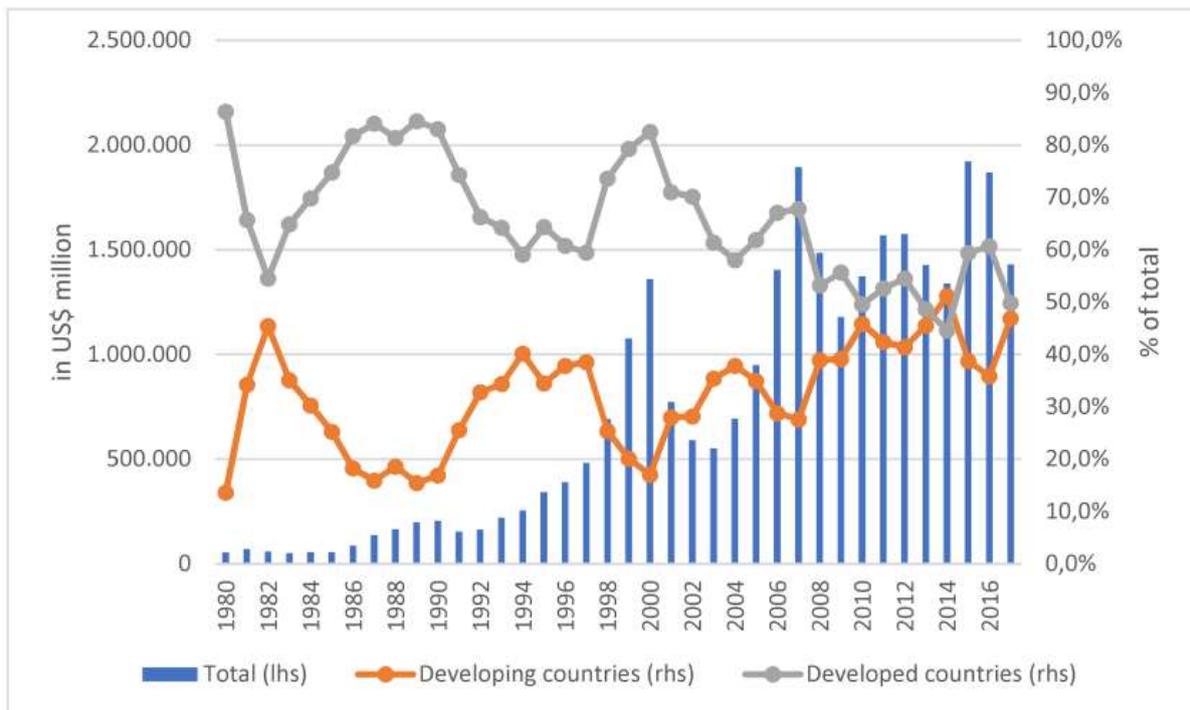
## FOREIGN INVESTMENT: EVALUATION OF INLET AND OUTPUT FLOWS

This section looks at the movements of FDI inflows and outflows of foreign capital, as well as analyze these balances based on the Grubel - Lloyd index.

### FDI in Brazil: an assessment of recent flows

At the end of the second half of the twentieth century, FDI inflows into Brazil were driven by the growth in demand stimulated by state action (Nonnemberg, 2003), a trend that was significant during the Brazilian military regime (1964–1985). This policy allowed the increase of income for the middle class and the increase of financing and loans for consumption. Between 1974 and 1981 the Brazilian government sought to direct these flows through the demand of the state for capital goods. Such approach has conditioned the entry of foreign companies into the most dynamic sectors of the Brazilian economy, so that most of the resources went to the manufacturing industry.

**Figure 2:** Global FDI flow (inputs) – 1980/2017 – in US \$ million (current values) and percentage share of developed and developing countries in the global flow (in %).



Source: Unctad Stat

Note: lhs = left scale; rhs = right scale

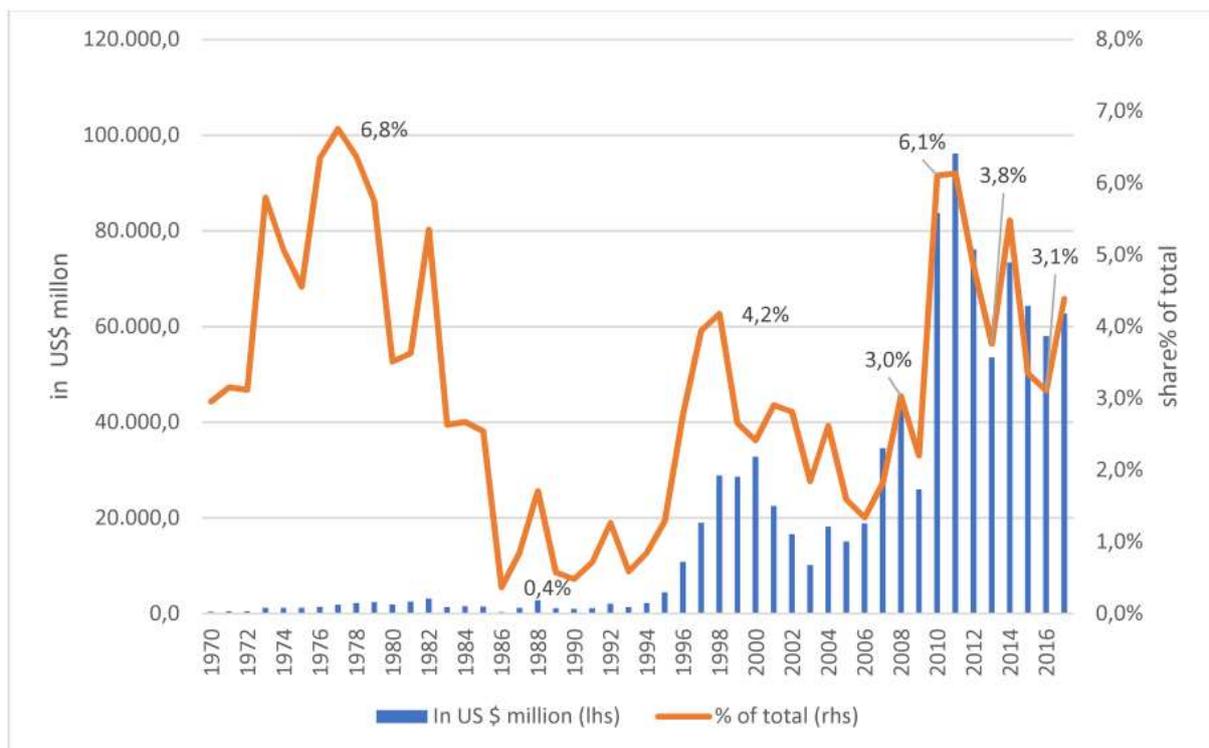
The Eighties were marked by a deep economic crisis, accompanied by an expressive drop in FDI inflows, a condition that was only reversed after the Real Plan (1993–1994), when Brazil returned to the international financial system. Another important context on which the interpretation of this capital movement should be based is the intensification of the process of

economic globalization, which is materialized, among other events, in the expressive growth of the global flow of FDI, as shown in Figure 2.

It is also worth mentioning the increase in the allocation of part of these capitals to the block of developing countries in this period, which also explains the reversal in the inflow of productive capital in Brazil as shown in figures 2 and 3, even though the country is among the main hosts of FDI.

Despite this new scenario, Brazil's participation in the overall volume of FDI is increasing, and the country cannot resume the levels of participation in foreign capital flows registered during the second half of the Seventies, a fact that can only be observed from 2010, as shown in Figure 3.

**Figure 3** FDI inflow in Brazil – 1970/2017 – in US \$ million (current values) and part. % in overall flow.



Source: Unctad Stat

Note: lhs = left scale; rhs = right scale

However, the growth rate of FDI in Brazil is quite significant, from US \$ 2.15 billion in 1995 to US \$ 96.15 billion in 2011 (current values).

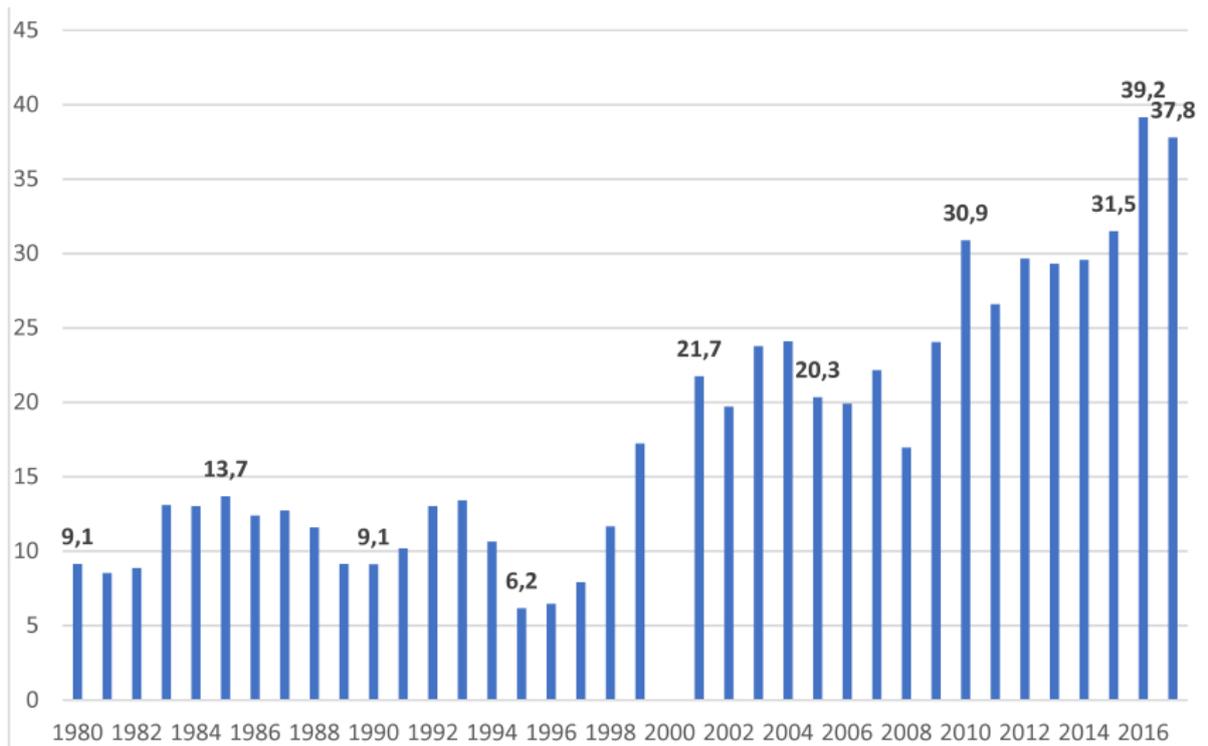
As regards the total flow between the years 2000 and 2016, Brazil was the sixth largest welcoming FDI, with an average participation in the period of 3.4%. The country that received most FDI was the United States, which received 16.9% of the global flow, followed by China, whose share in the total flow was 7.1% (UNCTAD STAT).

If we analyze only the years that followed the crisis of 2008, Brazil maintained the growth trend of FDI inflows in 2008, which was broken in 2009, but grew significantly in the years 2010 and 2011, when they were the largest inflows of capital throughout the series surveyed, as shown in Figure 3. It is worth noting that the decline in FDI inflows in Brazil in 2009 reflected the trend of global flows, as shown in Figure 2.

This new context of resumption of FDI inflows in Brazil obviously affects the productive structure of the country in terms of the participation of foreign companies in income generation, a fact that is evidenced by the ratio of FDI stock to GDP, which ranged from 9% in 1990 to 38% in 2017, as shown in Figure 4.

Although this indicator is important for assessing the degree of internationalization of domestic production, it should be noted that the ratio (FDI stock/GDP) does not represent how much of the domestic production is performed by foreign companies. However, reason is an indicator commonly used to assess the growth of the importance of these capitals to an economy.

**Figure 4:** Stock of FDI/GDP Brazil – 1980/2016 (in %).



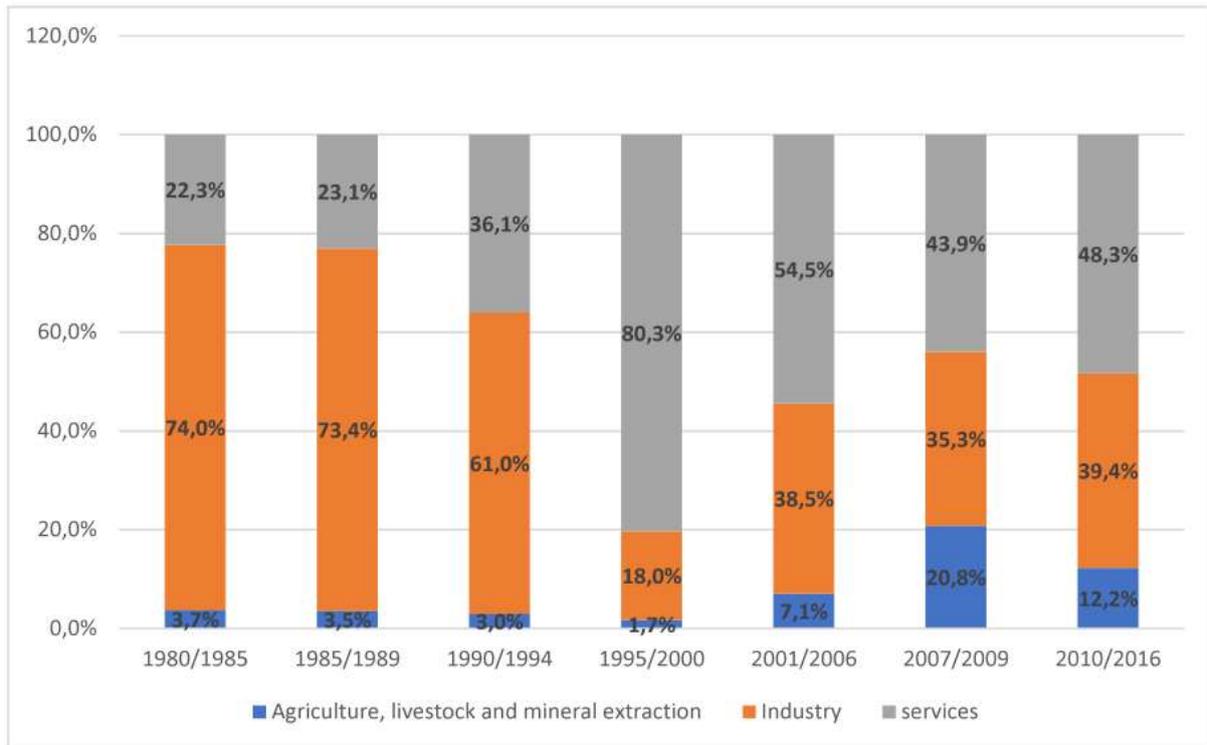
Source: Unctad Stat

As to the destination sectors of these FDI, up to 1985, about 75% of the capital received by Brazil was destined for the manufacturing industry, while utilities accounted for only 0.2% of total FDI (BCB).

Starting in the 1990s, with the return of investments to the country, a new reality began to emerge in relation to the sectors, with industry losing space to the services sector, emphasizing that during the two administrations Fernando Henrique Cardoso was part of these capitals, aimed at the acquisition of privatized companies of the sector of public utility services.

In general, Laplane et al. (2000) believe that the main determining factors for the attraction of these capitals to Brazil from the 1990s were access to the Brazilian domestic market, which is large and dynamic, deregulation of the national economy, the commercial opening and privatizations. Besides these factors, Gonçalves (1999) also highlights the importance of the economic stability achieved by the country from the Real Plan, in addition to the potential represented by MERCOSUR.

Figure 5: Sector distribution of FDI inflows (share % of total).



Source: Central Bank of Brazil (historical series of FDI)

Figure 5 shows the sectoral distributions of accumulated FDI flows by period, divided into three groups (Agriculture, Cattle Raising, and Mining, Industry and Services), confirming the assertion of investment in the target sectors of foreign productive capital, with the fall in the share of the industrial sector and the rise of the services sector.

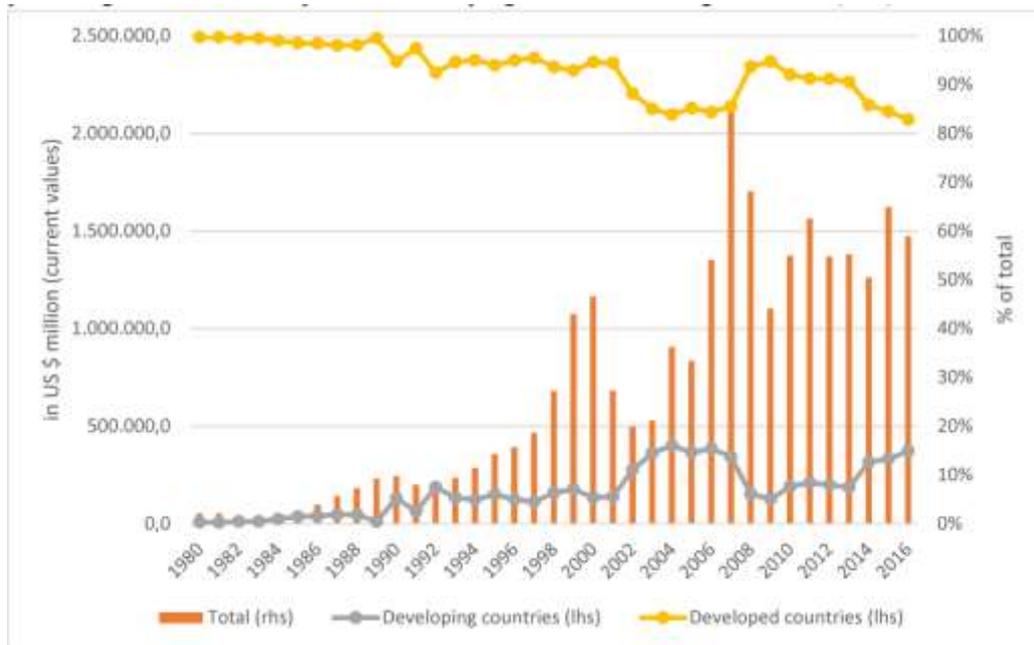
### **Investment (Brazilian) Direct Abroad: An evaluation of recent flows**

When analyzing the flows of outflow of direct investment in the country it is found that developed countries still predominate, despite the recent growth of developing countries share in the global flow.

On average, the share of developed countries as of 2000 was 88.7% of the global flow. Although the share of capital from developing countries is modest, there is a trend of growth of these flows from 2009. Also noteworthy is the fact that in the years of the crisis, the relative participation of developed countries reached 93.7% in 2008 and 94.7% in 2009. Only now have developing countries resumed their more active participation in the global flow. For more details see Figure 6.

As part of the block of developing countries, Brazil is not among the main “exporters” of productive capital, unlike what happens when FDI inflows are analyzed, in which the country was the sixth largest. When analyzing the behavior of Brazilian companies abroad, it is verified that the country is in 34th place in the ranking with a participation of only 0.4%, if the accumulated flow between the years 2000 and 2016 is analyzed. The United States is the main “exporter” of direct investment, concentrating 20% of the global flow, followed by Japan, which has a participation of 6.5% in the total flow (UNCTAD STAT).

**Figure 6:** Global flows of FDI (outflows) - 1980/2017 - in US \$ million (current values) and percentage share of developed and developing countries in the global flow (in%).

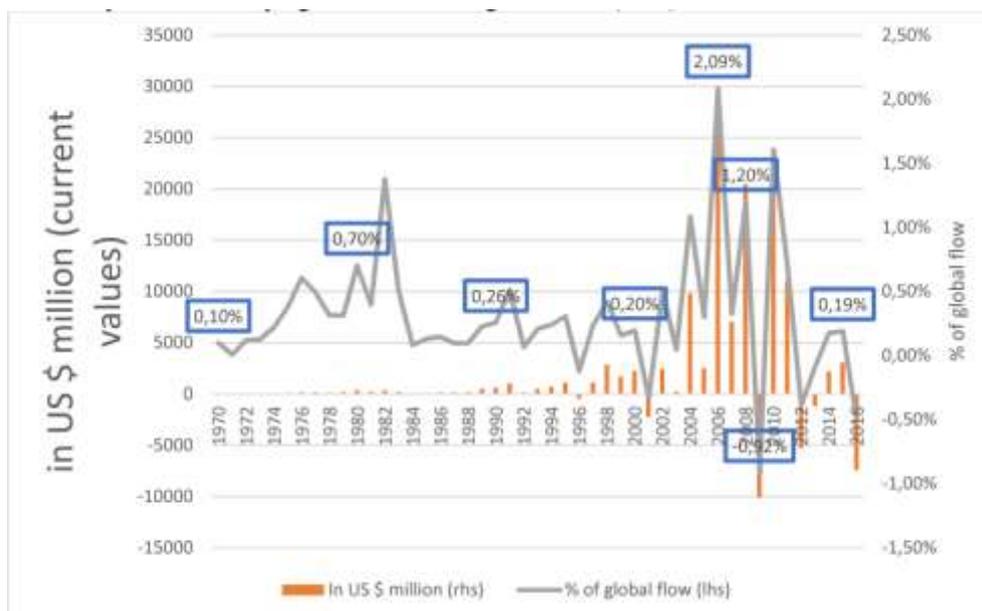


Source: Unctad Stat

Note: lhs = left scale; rhs = right scale

Analyzing the Brazilian direct investment abroad further, it can be seen that the national participation is very modest in the global flow, except for the years 2006, 2008 and 2010, when the Brazilian flow represented 2.1%, 1.2 % and 1.6%, respectively, which are specific situations for these years, since in the others, levels similar to the average calculated for the period 2000/2016 were recorded. For more details see the figure below.

**Figure 7:** Brazil – 1980/2017 – in US \$ million (current values) and percentage participation of developed and developing countries in the global flow (in %).

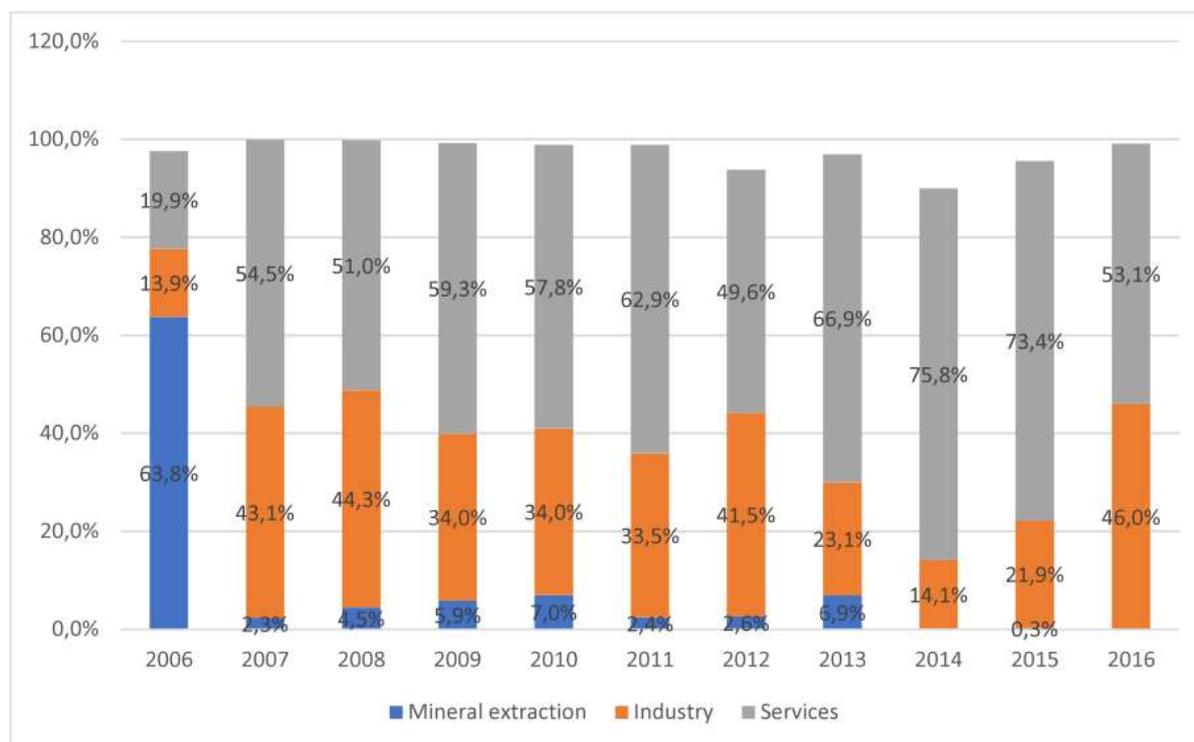


Source: Unctad Stat

Note: lhs = left scale; rhs = right scale

In sectoral terms, there is a higher incidence of “export” of capital linked to service activities, which on average represented 56.7% of the total flow between the years 2006 and 2016. The industry was present in 31.8% (on average) of the exported investments in the same period, while the mineral extractive sector had an average participation in this same total flow of 8.7%. The agricultural sector had a very modest participation, which did not reach 1% in the average of the period. For more details see Figure 8.

**Figure 8:** Sector distribution of FDI outflows’ (% of total)



Source: Central Bank of Brazil (historical series of FDI)

Next, the indicators of entry and exit of FDI will be confronted with the objective of analyzing the Brazilian reality based on the Grubel–Lloyd index.

### ***The Grubel–Lloyd index***

With the objective of broadening the evaluation of the internationalization process, through the inflows and outflows of FDI, this article applies the economic indicator called the Grubel–Lloyd index.

The index of Grubel and Lloyd (GL index) became popular in the late 1970s, with research related to the determinants of the pattern of trade between countries after numerous attempts to explain the determinants of international trade from a theoretical and empirical point of view, from the Ricardian model to the modern theories of international trade that consider markets of imperfect competition and the occurrence of economies of scale as an important source for commerce.

The present analysis is based on Grubel (2002), who made an adaptation in the GL index related to the trade flows for the flows of foreign direct investment. For the purposes of this study, the

GL index for foreign direct investment (FDI) is calculated for Brazil and for the block of developed countries according to the following expression:

$$GL_{FDI} = \frac{(FDI_{out} + FDI_{in}) - |FDI_{out} - FDI_{in}|}{(FDI_{out} + FDI_{in})}$$

where:

GLFDI = Grubel–Lloyd Direct Investment Index

FDI<sub>out</sub> = Brazilian direct investment abroad

FDI<sub>in</sub> = Foreign direct investment in Brazil

According to the adapted GL index, it is possible to calculate the inflows and outflows of FDI and to understand the dynamics of the flows for a given economy. The result of the GLIED equation will always lie in the interval [0, 1]. When the flow occurs only in one direction, or predominantly in one direction, the calculation result will approach zero. On the other hand, the closer the input and output values, the closer to one will the result of the equation be, emphasizing a process of economic internationalization that considers the degree of financial openness from the perspectives of entry and exit of productive capital.

### ***Results and discussion: Analysis of the inflows and outflows of FDI from the adapted Grubel–Lloyd index***

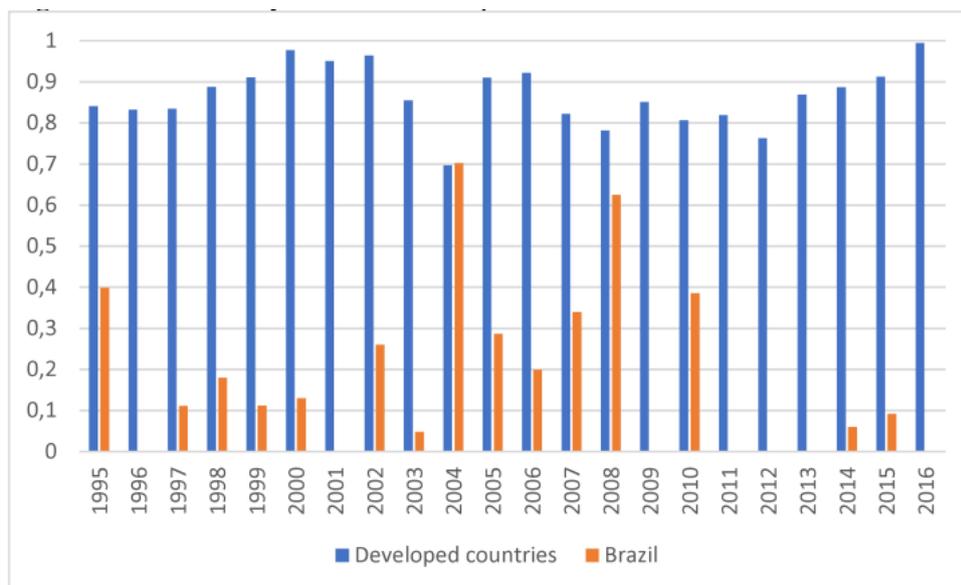
As shown in Figure 8, the GL index for developed countries shows relative stability when compared to Brazil, as well as a rather high result, which means a regular pattern when input and output flows are evaluated concomitantly.

As for Brazil, as was initially analyzed, it had significant inflows of FDI in periods other than the national economy. The period between 1997 and 2001 was marked by the process of privatization of state-owned enterprises, while in the second period, between 2003 and 2008, there was a strong increase in commodity prices in the international market and economic growth concomitant with price stability. After the fall in inflows during the international crisis of 2008, the 2011–2012 biennium resumed the growth trajectory, providing the largest inflows registered.

About the investment of Brazilian residents abroad (IED<sub>out</sub>), an upward trend can be seen from 2003, which was also interrupted by the 2008 crisis. We also note an oscillatory behavior of Brazilian investment abroad.

This erratic behavior of the GL index for Brazil differs from that of the group of developed countries. In addition, the index is well below that calculated for the block in question. For the period 1995/2016 the average GLIED for developed countries was 0.87, while the GLIED for Brazil was 0.26.

Figure 9: Grubel–Lloyd index – developed countries and Brazil – 1995/2012



Source: Prepared by the authors based on Unctad Stat data

Table 1: Mean, Standard Deviation and Coefficient of GLFDI– 1995/2016

Countries	Average	Standard deviation	Coefficient of variation
Developed countries	0.87	0.07	8.5%
Brazil	0.26	0.20	76.0%

Source: Prepared by the authors based on Unctad Stat data

As for the erratic movement of the indicator for Brazil, this assertion is confirmed considering that the coefficient of variation (in relation to the average) is 76%, while the same descriptive statistic for the block of developed countries is only 8.5%, as shown in the table above.

In general terms, it can be observed that in the post-crisis period, Brazil began to register negative results in the Brazilian remittance account abroad and an oscillating movement when FDI inflows are considered, which does not even allow for the calculation of the GL index in a few years.

These results show that there was a reduction in FDI inflows, but volumes remained significant, as shown in Figure 3. However, Brazilian companies did not continue their investments abroad, and even repatriated part of the funds remitted, as shown in Figure 7. However, the change in the strategy of internationalization of Brazilian companies as of 2009 does not exactly follow the trend of BNDES disbursements, which, reflecting the maintenance of the adopted economic policy, only started to register a decrease from the year 2015, as shown in Figure 1.

The GL index describes changes in the process of internationalization of the Brazilian economy as a result of the global crisis. There is a discrepancy between the intended objective of the public policies and the observed results. The new economic matrix was intended to stimulate the continuity of the process of internationalization of Brazilian companies, essentially by the BNDES' offer of resources. This continuity was not observed, which indicates a mismatch between the action of the government and the behavior of the economic agents. The passage of public policies based on the framework of the macroeconomic tripod for those based on the

new economic matrix expresses a change in the very role the state should play in economic development. The success of this action depended on the fulfillment of the expectations that underpinned this public policy. The failure of these actions would point to a lack of acumen on the part of the policymakers or an inconsistency in the response of the economic agents.

## **FINAL CONSIDERATIONS**

The article objective was to present public economic policy changes in Brazil stimulated by the economic crisis of 2008 and its possible effects on the flows of foreign direct investment. Two public policy approaches explaining the changes have been presented: the political sociology of public action and the theory of the “three Is.” The shift from the macroeconomic tripod to the new economic matrix is seen as a change in the referential; that is, it is a change in the foundations, legitimation and actions that make up public policies. Thus, it also changes the social representation of state actions obligations and scopes. Therefore, stronger state intervention in public policies were legitimized, because it began to be seen as the main inducer of economic development. In fact, these changes retook the references of the developmental approaches that marked the economic policies in Latin America countries on the twenty century second half. Thus, the proposition about the state’s cycles of action (liberal, social welfare, regulatory and governance) cannot be used to explain the Brazilian State’s pathways that constantly resume and resign models of action where he is the main actor. Actors dynamics interaction dynamics in the case studied was marked by questions of mismatch between expectations and actions between government and economic agents. Through the Three Is approach (institutions, ideas and interests), it was possible to realize that referential chances gave new directions of the governmental actions as well as to the ideas that legitimize them. The interests of the actors involved marked the mismatches described in the text.

The origins of the 2008 international crisis were described, as they were assimilated in Brazil, justifying public policies changes expressed in the passage from the macroeconomic tripod to the new economic matrix. Data were presented that show the historical variations of the flows of direct investment and its composition. The Grubel–Lloyd index was adapted to demonstrate the dynamics of investment flows and their possible relations with changes in public policies. It is concluded that the change of the referential in the economic policies was expressed in a mismatch between the government expectations and economic agents’ reactions.

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*Track 14 FDI and Internationalization*

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**The effects of cross-border merger & acquisition and  
greenfield projects on domestic investment in Latin  
America**

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**Abstract**

*This research examines the extent to which outward foreign direct investment (OFDI) from Latin America through greenfield and cross-border merger & acquisition (CBMA) crowds in or crowds out domestic investment (DI). The available literature of relevance on FDI and some recent empirical studies from developing countries suggest that the effects of OFDI on DI is beneficial to home economy. However, the crowding-in effect of OFDI from developing economies does not occur automatically, since it requires firm's specific mechanisms. Thus, we expand this theoretical framework by disaggregating OFDI into greenfield and CBMA; and providing empirical and theoretical support to defend the idea that the effects of OFDI on DI are by no means always favorable, but unfavorable depending on the entry mode in foreign markets and firm's absorptive capacity. Applying panel data analysis and using a data set containing seven countries from Latin America over the 2003–2016 period, the research finds that CBMA crowds out DI and there is no statistically significant effect of greenfield on DI.*

**Keywords:** Foreign Direct Investment; Internationalization; Merger & Acquisition; Greenfield; Absorptive Capacity; Entry Mode.

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## INTRODUCTION

The literature has devoted much attention to examine how inflow foreign direct investment (IFDI) contributes to economic development (Borensztein, De Gregorio, & Lee, 1998). These studies have focused on the impact of FDI by multinational enterprises (MNEs) from developed countries in host countries at earlier stages of the development process (Knoerich, 2017). However, this scenario has changed – with the increasingly important role played by multinational enterprises (MNEs) from developing countries – reasons being liberalization of FDI regimes, international competition, technological and logistical advancements, and public policies toward outward foreign direct investment (OFDI) (Sauvant, Maschek, & Mcallister, 2009). An increasing OFDI share now comes from MNEs based in developing countries (Cuervo-Cazurra, 2008). Hence, such a narrow focus on host economy development caused by IFDI needs to be revisited (Knoerich, 2017), for instance, focusing on home country development through OFDI, since OFDI may contribute in many ways directly or indirectly to home economy development.

Based on neoclassical growth model, FDI promotes economic development by increasing the volume of investment and its efficiency (Li & Liu, 2005) by generating technological diffusion from developed countries to developing ones (Borensztein et al., 1998). IFDI in developing economies is considered as a facilitator of economic development (Knoerich, 2012). Indeed, most IFDI in Latin America has originated from economic and institutional reforms that began in the 1980s and intensified in the 1990s, thereby attracting investment and helping to stimulate the economy (Gondim et al., 2017). Thus, the new environmental regulations and economic conditions started to push some Latin American multinationals towards international markets (Sauvant, 2004). Therefore, the main questions in the literature were no longer related to FDI economic benefit of host countries or its determinants, but to economic benefit from home countries' perspective and what are the domestic consequences of the internationalization process, which is in the interest of developing countries for their economic development.

The traditional theories on internationalization assert that MNEs go abroad to take advantage of ownership-advantages, but that is not the case of MNEs from developing countries literature (Dunning, 2001; Hymer, 1976; Kindleberger, 1969). MNEs from developed countries typically enjoy technological superiority and strong management capabilities and better technologies and management practices – compared to firms from developing countries (Y. Zhang, Li, Li, & Zhou, 2010). Moreover, as the strategic needs and absorptive capacity of the developing countries' firms are different than those of the developed economies ones (Cohen & Levinthal, 1990); it becomes necessary to investigate whether there exists a link between absorptive capacity and OFDI. Moreover, scholars now argue whether MNEs from developing countries deviate from the underlying theories (Cui & Jiang, 2012, p. 266), since they require aggressive asset-strategy to rapidly catch-up their latecomers' disadvantages (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2006).

In this vein, one major controversial issue on the internationalization of MNEs is whether OFDI crowds in or crowds out domestic activities (Borensztein et al., 1998; Feldstein, 1994). One of the main arguments in this debate is that OFDI replaces domestic activities and consequently domestic investment (DI), especially when firms shift some proportion of their production abroad (Ameer, Xu, & Alotaish, 2017). Theoretically, OFDI could affect positively, neutrally or negatively domestic activities (Dunning & Lundan, 2008). Empirical studies have provided mixed results (Al-sadiq, 2013; Ameer et al., 2017; You & Solomon, 2015). Some argues that OFDI supports economic development (De Propriis & Driffield, 2005; Driffield & Love, 2003, 2005; Gondim et al., 2018; Knoerich, 2017). Others have defended the negative spillover

(Aitken & Harrison, 1999; Al-sadiq, 2013; Haddad & Harrison, 1993). The positive benefit depends on various factors such as the level of development of a country, its policies and MNE's mode of entry or their management practices (UNCTAD, 2006b, p. 169). Moreover, it also depends on the ability of MNEs to absorb and exploit the external knowledge (Cohen & Levinthal, 1989).

Basically, there are two FDI modes of entry in a foreign market that are different in nature: cross-border mergers & acquisitions (CBMAs) and greenfield projects (Wang & Wong, 2009). The former occurs when a firm builds an operation abroad from the ground up. The latter involves a transfer of ownership in a foreign country of an existing asset. Essentially, both CBMA and greenfield projects involve foreign purchases of asset in foreign markets and are forms to expand internationally (Gopalan, Ouyang, & Rajan, 2017; Luo & Tung, 2007; Wang & Wong, 2009). Nevertheless, the differences may be related to costs, horizon of return, ownership structure or government support. Moreover, it is important to recognize that the macroeconomic implications of CBMA are quite distinct from greenfield investments (Gopalan, Ouyang, & Rajan, 2018).

The literature on internationalization of developing countries has privileged firms originated in Asian countries (e.g. Gopalan et al., 2018) and there is lack of empirical studies on the mode of entry decisions by MNEs from Latin America (Dias, Rocha, & Silva, 2014) and its impact on home economy (Knoerich, 2017). The lack of theoretical studies in this issue is understandable, since only when firms reach an advanced level of development, firms will have the international competitiveness necessary to undertake investments abroad (Dunning & Narula, 1996). Fortanier (2007) has argued that the studies investigating FDI have conceptualized FDI as homogenous flows of capital and have largely ignored the heterogeneous nature of FDI in terms of entry mode, the nature of the production techniques, and the country of origin. In fact, Gondim et al. (2018) argue that OFDI crowds in DI, but they have ignored the distinctive features of investment flows.

Because there are still gaps in the literature that connect CBMA and greenfield with effects on home economy, we investigate these effects. Further, we provide arguments on the association between absorptive capacity and OFDI. We defend the idea that CBMA is a way to force MNEs from developing countries to quickly find assets, resources, knowledge or capabilities that are not found in their home countries and speed up their internationalization process (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2006). However, the internationalization process may have a negative impact on home economy because of their weak conditions and low level of absorptive capacity to absorb and exploit external knowledge. In short, developing economies could not overcome their latecomer disadvantage only through asset-strategies acquisitions and benefit domestic market.

This study contributes to the literature in the following aspects. We argue that OFDI from developing countries may contribute negatively on domestic economy, especially if OFDI fails to contribute to capital formation on home economies. We expand the literature on OFDI adding the concept of absorptive capacity for better understanding the association of firms' capacity to absorb external knowledge through OFDI. Further, we apply a panel data analysis and use a data set containing seven countries from Latin America over the 2003–2016 period. The research finds that developing countries tend to have decreases in OFDI benefit because of low level of absorptive capacity. In addition, we find that CBMA crowds out DI; and there is no statistically significant effect of greenfield on DI.

## **LITERATURE REVIEW**

### ***FDI motives***

MNEs from developing countries tend to have weaker ownership advantages and firm-specific capabilities (Knoerich, 2017; Lall et al., 1983; Wells, 1983). The advantages and internationalization of MNEs in developing countries differ from those in developed country ones (Dunning, 2000). These findings have major implications for developing countries, in particular, regarding opportunities such investment offers for sourcing desired assets and advantages abroad (Knoerich, 2012). Furthermore, such an expansion strategy can be controversial for developing countries because the decision to invest scarce resources abroad inevitably reduces the likelihood of concurrent investments at home (Lipse, 2000). Earlier studies on multinationals from developing countries have investigated their low costs advantages and indicated that they were at a disadvantage in areas such technology and marketing (Cuervo-Cazurra, & Dau, 2008; Lall et al., 1983; Wells, 1983).

FDI is an instrument that allows business firms to transfer capital, technology, and organizational skill from one country to another (Hymer, 1976). Thus, MNEs, operating in diverse national settings and product settings could develop a rich knowledge structure and strong technological capabilities (Francis, Hasan, Sun, & Waisman, 2014). Dunning (2000) added 4 motive categories for FDI: (i) resource-seeking; (ii) market-seeking; (iii) efficiency-seeking and (iv) strategic-asset-seeking. In order to understand the mechanisms or the link between OFDI and DI, one must address the underlying motivations for investment in foreign market (Hejazi & Pauly, 2003). Hence, firms create proprietary assets that confer an identifiable advantage. It is particularly beneficial to the investing firm if it manages to combine the acquired assets with those that it already owns in such a way as to create additional value added. Firms may even undertake strategic-seeking FDI from a position of disadvantage vis-à-vis firms in the host economy, helping them to overcome these disadvantages (Knoerich, 2012; Wesson, 1999).

Studies suggest that developing countries engage into aggressive asset-strategies to rapidly catch-up their latecomers' disadvantages (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2006). Strategic-asset-seeking involves augmenting areas of perceived competitive disadvantage through the acquisition of a variety of intangible and other assets, such as brand names, technologies or managerial competency (Anderson, Sutherland, & Severe, 2015). The authors justify that a key bone of contention regards the question of whether asset augmenting strategies, as opposed to exploitation strategies, are common in developing countries' MNEs. Thus, MNEs from developing countries overcome their latecomer disadvantage through aggressive, proactive and risk-taking acquisitions (Kedia, Gaffney, & Clampit, 2012, p. 159), which is in contrast to conventional theory that argues that a firm's entering foreign markets occurs in stages (i.e. exports, sales through subsidiaries and manufacturing) (Brennan & Garvey, 2009) or in terms of ownership-advantages (Dunning, 2000; Hymer, 1976; Kindleberger, 1969; Vernon, 1992).

Theoretical focus on the pursuit of assets and advantages is more suitable than the asset exploitation-narrative for analyzing the contribution of OFDI to economic development in the developing countries from which the investments originate (Knoerich, 2017). The author asserts that this is because it enables the examination of how the assets or advantages pursued – such as markets, technologies, resources, networks, factories, linkages or other kinds of tangibles or intangibles – support the development of the home economy, either by means of direct transfer and utilization back in the home economy, or through more indirect channels. Moreover, the OFDI strategies are often thought to be different to those found in developed market MNEs,

which are considered to rely more upon exploiting existing ownership advantages (Anderson & Sutherland, 2015).

In respect to aggressive strategic-asset-seeking, it seems that MNEs from Latin America do not present the same behavior than other MNEs from developing countries such as from Asia. Latin America has shown a preference of greenfield over CBMA entry mode. Further, Latin American countries took more time to internationalize, reflecting the additional challenges and the need for sophisticated advantages for establishing FDI (Cuervo-Cazurra, 2008). Hence, all this suggest that the benefit of FDI operations abroad from MNEs from Latin America may have different impact from other countries.

### **FDI trends**

Most of the empirical and theoretical literature has not distinguished between the two types of FDI (Ameer et al., 2017), but both are quantitatively and economic important (Nocke & Yeaple, 2007). In particular, for developing countries, where international investment is indispensable for sustainable development (WIR, 2018). The majority of OFDI from developing countries is created through CBMA, which is a fast way of international expansion driven by diversification strategies (Deng & Yang, 2015). This acquisition internationalization strategy is true especially for Asian countries. In 2003, CBMA represents only 8% of the deals, while in 2017 this percentage has increased to 51% of the total CBMA transactions. For Latin America there is a significant difference compared to Asia figures, in relation to political structure or macroeconomic environment. The predominant strategy is still greenfield (81%), but CBMA is slowing increasing its share (see Table 1). These differences mean that Latin American firms are less aggressive than Asia, they target medium- and long-term investments and operations with accumulation of capital.

**Table 1.** CBMA and greenfield historical evolution (US\$ in millions)

	Latin America			Asia		
	CBMA	Greenfield	Total	CBMA	Greenfield	Total
2003	1.776 (16%)	9.645 (84%)	11.421 (100%)	9.149 (8%)	105.794 (92%)	114.942 (100%)
2017	1.058 (19%)	4.383 (81%)	5.441 (100%)	193.789 (51%)	186.027 (49%)	379.816 (100%)

Source: UNCTAD, own elaboration

MNEs from India, Malaysia and China are at the forefront of CBMA among developing countries (AT Kearney, 2018). Chinese MNEs have shown a greater interest in acquiring capacities, technologies and access to markets in advanced economies through the acquisition of strategic assets capable of delivering results in the short term (UNCTAD, 2018a). Another feature of China's internationalization strategy is related to the geographical location of investments, with Chinese greenfield investments mostly concentrated in Asia (UNCTAD, 2018a). Latin American firms invest less of its GDP in R&D (research and development) than any region except South Asia, and very few Latin American firms rank among the global leaders in R&D spending (BCG, 2018).

### **CBMA and greenfield**

Greenfield occurs when an investor builds and operates productive unit in a foreign market, that is, it is essentially accumulation of capital, while CBMA occurs when an investor gains control over existing foreign assets what is essentially a transfer of ownership (Calderón,

Loayza, & Servén, 2004). CBMA can be classified into two operation forms: merger occurs when two entities merge and acquisition when one entity buy another one. Therefore, the two forms of FDI are different in nature (Wang & Wong, 2009). In short, greenfield project is classified as a way of internal growth and CBMA as a way of external growth. Moreover, these forms are subject to various types of risks and difficulties, which can entail different source of costs and entry strategies (UNCTAD, 2006b).

Andersson and Svensson (1994) provide an analysis on the characteristics of firms that choose to undertake greenfield versus CBMA finding that those firms with better organizational capacity prefer to engage in CBMA, while those possessing higher technological skills will instead take the greenfield route. Nagano (2013) argues that a MNE will prefer greenfield entry mode rather than CBMA when the host country adequately enforces intellectual property rights laws also when the MNE already has regional networks in the host country. Greenfield investment attaches importance to make good use of the capacity of the enterprises' internal organization and resources, then in order to establish the new production capacity and obtain the scale, purchasing land, machinery and means of production from the market (Wang & Wong, 2009). In general, MNEs assume risks and invest in long run projects abroad in order to repatriate positive outcomes such technology, knowledge, management resources or profits.

For developing countries, the distinction between greenfield and CBMAs is particularly important, since the economic dependence of FDI has remarkably increased over the last years. FDI either by means of CBMA or greenfield is considered as a conduit of transferring physical capital and intangible assets, such as technology, skills and human capital development (Zhuang & Griffith, 2013). OFDI can help firms achieve various strategic objectives, such as expanding market access, enhancing efficiency and acquiring natural resources and strategic assets. However, a positive contribution of an OFDI project to a firm's competitiveness is not a sufficient condition for the project to be of net benefit to the economy at large (UNCTAD, 2006b). In all economies, whether developed or developing ones, the interaction of CBMA or greenfield with host-country enterprises and other economic agents is one of the key determinants of the economic impact (UNCTAD, 2006b).

### ***The rise of MNEs from developing countries***

MNEs from developing countries originate from an unfavorable environment, that is, no significant country-specific or firm-specific ownership advantages as predicted by traditional theories (i.e., Dunning, 2000; Hymer, 1976; Kindleberger, 1969; Vernon, 1992). MNEs from developing countries do not have ownership-advantage and have weak innovation systems, undeveloped supporting institutions, and poor protection of intellectual property rights (Khanna & Palepu, 1997). MNEs could have different levels of absorptive capacity that is its ability to identify, assimilate, transform, and apply external knowledge (Cohen & Levinthal, 1989; Lichtenthaler, 2016).

Unlike established MNEs, most of the sources of advantage at home, such as low operating costs, distribution systems, brands, customer relationships, government relationships, etc., are not particularly mobile (Gammeltoft, Barnard, & Madhok, 2010). Even though under these circumstances, MNEs from developing countries enter foreign markets. However, their competitive advantage abroad, in particular in the advanced economies, tends to be based on price competition, which is not so easily sustainable, rather than on technology or brand (Gammeltoft et al., 2010). The trajectories followed by MNEs from developing countries are often different from MNEs from developed countries and the differences have theoretical

consequences (Gammeltoft et al., 2010). Recent studies on internationalization of developing MNEs have exposed the weakness of this view on internationalization (Buckley et al., 2009; Child & Rodrigues, 2005; De Propriis & Driffield, 2005; Driffield & Love, 2003; Gammeltoft et al., 2010; Makino, Lau, & Yeh, 2002).

MNEs from developing countries suffer from comparative newness compared to more established MNEs from developed countries, which are already present in many markets. Their lack of international experience, lack of reputation, and the like put them at a disadvantage relative to the latter, and can further increase the liability of foreignness generally suffered by foreign firms (Zaheer & Mosakowski, 1997). Moreover, the strategic needs and absorptive capacity of the developing countries' MNEs are different than those of the developed economies ones (Cohen & Levinthal, 1990).

Stoian (2013) mentions that the patterns of OFDI from Russia challenge the propositions of the Uppsala School and the investment development path (IDP) and indicate the need to extend the eclectic paradigm to include home country institutions (Kalotay, 2008; Kalotay & Sulstarova, 2010). Moreover, Buckley, Clegg, Cross, Liu, and Voss Zheng (2009) argue that in order to explain Chinese OFDI, three special explanations (capital market imperfection, special ownership advantages and institutional factors) need to be nested within the general theory of the multinational firm. Cuervo-Cazurra & Rui (2017) find barriers of absorptive capacity such as low level of management or institutions qualities may influence internationalization process from MNEs from developing countries. Eren & Zhuang (2015) investigating FDI find that availability of absorptive capacity plays an important role in stimulating their growth effects.

Multinationals from developing countries are also prepared to make high risk investments to markets typified by large psychic distances (i.e. developed markets) (Anderson & Sutherland, 2015). Such strategies, it is believed, are distinct from incremental process models of internationalization, in so far as they consider the accelerated pace of internationalization as a central component (Luo & Tung, 2007). These ideas are considered somehow radical in the international business area, since it challenges the widely accepted theoretical framework that assumes firms in possession with ownership-advantages before entering new markets. It is also assumed that MNEs from developing countries are able to successfully tap the intangible assets of their acquired targets, including such things as innovation capabilities (Anderson & Sutherland, 2015).

### **Absorptive capacity level**

There are many concepts for absorptive capacity, but it is understood as the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends (Cohen & Levinthal, 1990, p. 218). To benefit from external knowledge in foreign markets MNEs from developing countries need to be able to integrate and use external knowledge; that is, they need a degree of absorptive capacity (Cuervo-Cazurra & Rui, 2017) reducing disadvantages and improving their competitiveness. MNEs from developing countries investing in developed countries benefit mainly from horizontal linkages such as collaborative strategies with host firms, so MNEs need to enhance their performance in order to uphold their competitiveness that is referred as 'competition effect' (Crespo & Fontoura, 2007). The variety and sophistication of technologies in an advanced economy are usually greater than in a developing country. For firms from developing countries, investing abroad, thus means

enhancing opportunities for organizational learning, generating additional benefits compared to staying at home (Knoerich, 2012). MNEs facing intense rivalry, globalization, demand for innovation, and time-to-market pressures, absorptive capacity is considered to be an imperative for business success (Lane, Koka, & Pathak, 2006). Absorptive capacity assumes elements of acquisition, assimilation, transformation, exploitation (Zahra & George, 2002).

According to Zhara & George (2002), acquisition is related to a firm's capability to identify and acquire externally knowledge. The key influencing factors are intensity, speed, direction, prior investments and knowledge. The intensity and speed of a firm's efforts to identify and gather knowledge can determine the quality of a firm's acquisition capabilities. Direction is related to the path that the firm follows for obtaining knowledge. Prior knowledge is related information of the acquisition that a firm will not be able to accurately determine the potential value of external knowledge. Prior investments usually are related to R&D or investments in human capital. Assimilation is how a firm absorb and understand the new knowledge. The key influencing factors are education, human resource, diversity of background. Transformation is how a firm develops and refines procedures to merge the new knowledge with the knowledge that already exists in the firms. The key influencing factors are education, organizational culture and communication. Exploitation is how the firm applies the new knowledge to achieve the organization's goals (Lane, Koka, & Pathak, 2002; Lane et al., 2006).

The notion of absorptive capacity has been increasingly studied, being one reason the existence of significant economic benefits. Most of dimensions of absorptive capacity is based on theoretical studies; and empirical testing confirm the theoretical approach in terms of usage and management (Schmidt, 2005). Schmidt & Rammer (2006) found that firms with greater absorptive capacity have more possibilities to carry out product, process, organizational or marketing innovations. Calero-Medina & Noyons (2008) found relationship between absorptive capacity and organizational innovation is significant. Chen and Chang (2012) found that a firm with a greater absorptive capacity has a greater degree of organizational structure. Commonly, the authors address the firm level of absorptive capacity, examining firms' performance or its determinants (Patterson & Ambrosini, 2015; Zahra & George, 2002). Thus, it is common to associate the level of absorptive capacity to firm's financial performance.

It is difficult to construct empirical measures of absorptive capacity from the available information (Becker & Peters, 2000), for instance, absorptive capacity depends on technological abilities of firms (Narula & Marin, 2003) and it varies according to sectors and country in which operates (Sánchez-Sellero, Rosell-Martínez, & García-Vázquez, 2014). Absorptive capacity has been used in theories of organizational learning, social cognition, resource dependence, networks, knowledge, and dynamic capability (Apriliyanti & Alon, 2017).

### ***Barriers of absorptive capacity in developing countries***

Some articles on absorptive capacity show that the exists positive effects of absorptive capacity on innovation and performance of firms (Lane et al., 2006; Lane & Lubatkin, 1998; Lichtenthaler, 2016). Regardless of whether an investment is an CBMA or greenfield investment certain mechanisms need to operate effectively to make obtaining any resources and knowledge through OFDI a success (Knoerich, 2012), which are commonly called barriers.

At the macro level (or at economy level), absorptive capacity requires an appropriate institutional and legal environment in the home country, supportive policy-making, a solid level of education and technological skills, sufficient quality of domestic labor and other economic and legal fundamentals (Mowery & Oxley, 1995). Cuervo-Cazurra & Rui (2017) classified the

barriers to absorptive capacity into two groups: internal and external, the former regards to management aspect and the latter is related to market aspect. MNEs from developing countries typically are less resource endowed, and they desire to search and learn technologies and managerial practices from their counterparts from developed markets that are better resource endowed (Hitt, Li, & Worthington, 2005). Cuervo-Cazurra & Rui (2017) have also identified developing market conditions such weaker contract protection or higher information asymmetries that limit MNEs success in integrating external technology.

The strategic orientation of firms is the deeply rooted set of values that guide their strategy-making (Gatignon & Xuereb, 1997). Strategic orientations of MNEs may be essential determinants of absorptive capacity because they may contribute to the utilization of relevant prior knowledge (Atuahene-Gima, 2005). It creates proper behaviors to interact with the marketplace (Noble, Sinha, & Kumar, 2002), and provides a critical mindset for firms to survive and prosper in the competitive global market (Knight & Cavusgil, 2004). Therefore, management is a necessary condition for sustained success in today's economy, which is characterized by features of absorptive capacity (Hsu & Chen, 2009).

Cuervo-Cazurra & Rui (2017) have interviewed managers of MNEs from developing countries operating abroad and categorized some common perception about absorptive capacity of MNEs from developing countries: “unable to obtain partners” most popular models”, “unable to learn from partners”, “managers lacked vision and ability”, “poor relationship between the partners”. These led to the confirmation that poor absorptive capacity was the key attributor of absorptive capacity, since it is related to failure in the acquisition, assimilation, transformation, and exploitation of its foreign partners’ knowledge (Cuervo-Cazurra & Rui, 2017). As exposed earlier developing countries are associated with low level of innovation system (i.e., R&D spending), weaker institutions or strategic orientation (Bartlett & Ghoshal, 2000; Cuervo-Cazurra & Rui, 2017; Khanna & Palepu, 2010; Ramamurti, 2012; Zhao et al., 2017).

R&D spending facilitates knowledge transfer in two ways: (1) it improves knowledge recipients’ absorptive capacity, that is, MNEs ability to recognize, assimilate and apply the external knowledge for commercial ends; (2) R&D spending transforms absorbed knowledge into innovation output (Cohen & Levinthal, 1990). For instance, Latin American firms invest less of its GDP in R&D than any region except South Asia, and very few Latin American firms rank among the global leaders in R&D spending (BCG, 2018). R&D is critical to benefit from external knowledge (Cohen & Levinthal, 1990). Schmidt & Rammer (2006) found that firms taking decisions to carry out product, process organization or marketing innovation have greater absorptive capacity level. One central idea in this discussion is the human capital or R&D that affect firms to absorb external knowledge (Cohen & Levinthal, 1990; Keller, 1996).

### ***Hypothesis development***

Once we have provided arguments in favor of the association between OFDI and absorptive capacity. We know development our hypothesis on the internationalization issue of developing economies. This is relevant because one major controversial issue on the internationalization of MNEs is whether OFDI crowds in or crowds out domestic activities (Borensztein et al., 1998; Feldstein, 1994). One of the main arguments in this debate is that OFDI replaces domestic activities and consequently DI, especially when firms shift some proportion of their production abroad (Ameer et al., 2017), which would slowdown economic development.

Gondim et al. (2018) examining developing countries have showed that OFDI positively impact the rate of domestic investment from the largest economy in Latin America. Their findings are in line with other recent studies (i.e., Knoerich, 2017). This result helps to better understand the

macroeconomic association between OFDI and DI, but Gondim et al. (2018) use FDI aggregate data, which clearly does not incorporate FDI strategic specifics or theoretical conditions for each of OFDI operation. Thus, we propose our hypotheses:

*H1. Outward foreign direct investment through cross-border merger & acquisition impacts positively domestic investment in Latin America.*

*H2. Outward foreign direct investment through greenfield impacts positively domestic investment in Latin America.*

## **METHODOLOGY**

### ***Data and variables***

This research uses the most extended aggregate annual data collected from the World Bank and United Nation databases. These sources collect data directly from central banks, statistical offices, national authorities and other international organizations. These data constitute the main source for reported data on FDI flows (UNCTAD, 2018b).

Initially, we use a cross-country data over the period 2003-2016 for all Latin American countries. However, there are problems of lack of transparency and data availability in the databases (specially from developing countries) that need to be considered in the final database selection. Hence, we did not include countries with more than half of missing observations in at least one time series because incomplete data could mislead the panel data results. It is worth pointing out that tax-haven, non-democratic and Caribbean countries were not included in the analysis for the purpose of the research. Therefore, the final selected countries are Argentina, Brazil, Chile, Colombia, Mexico, Panama and Peru.

The dependent variable is DI, being gross fixed capital formation (GFCF) a proxy for DI. We follow previous literature in this choice (i.e., Agosin & Machado, 2005; Al-sadiq, 2013; Feldstein, 1994; Gondim et al., 2018; Herzer & Schrooten, 2008; You & Solomon, 2015). GFCF allows measuring to what degree the allocation of resources to projects abroad leads to a fall or rise in DI. It is perhaps the most common benchmark of the impact of OFDI on DI (UNCTAD, 2006b, p. 180). It refers to the net increase in physical assets (investment minus disposals) by the business sector, government and households. In addition, GFCF is one of the main components of final expenditures to calculating GDP, which is a measure of a country development. In relation to FDI, it can be used to finance fixed-capital formation (Gondim et al., 2018). The independent variables are CBMA and greenfield projects that are the two components of FDI (in USD by country of investor). We used EViews 9.0 for the estimation procedures, which is a powerful econometric software for time-series analysis.

### ***Model specification***

We analyze the empirical relationship between CBMA and greenfield with DI by applying panel data regression with fixed effect and random effect, since it allows to consider individual heterogeneity. The pooled ordinary least squares (POLS) model, which is a type of panel data is not chosen for the purpose of research, since we consider differences in the countries and countries' unobservable individual effects are not controlled in POLS.

The fixed model allows for different constants for each group and the latter handles the constants for each section as random parameters and not as fixed. Moreover, random effects model has fewer restrictions to be estimated compared to the fixed effect model (Dimitrios,

2006; Greene, 2003). The crucial distinction between fixed and random effects is whether the unobserved individual effect embodies elements that are correlated with the regressors in the model, not whether these effects are stochastic or not (Greene, 2003). Therefore, unit analysis in this research is a group, consisting of seven selected Latin American countries. Time horizon is longitudinal (or panel data) meaning that it is longitudinal analysis of multi-dimension data with repeated measurement over a period of time.

According to Hsiao (2007), panel data analysis has several benefits such as increasing reliability regardless of given sample size, boosting degree of freedom, coping with multicollinearity among independent variables, reducing the effects of variable bias even with unbalanced panel data, and providing more complex analysis in comparison to stand-alone time-series or cross-sectional data analysis. Therefore, we propose the following static panel model:

$$DI_{it} = \alpha_i + \beta_1 CBMA_{it} + \beta_2 GREEN_{it} + \epsilon_{it}$$

Where

$DI_{it}$  is the domestic investment in USD for country  $i$  at time period  $t$ ,

$\alpha_i$  is an individual specific effect,

$CBMA_{it}$  is the cross-border merger and acquisition in USD for country  $i$  at time period  $t$ , and

$GREEN_{it}$  is greenfield investment for country  $i$  at time period  $t$  and  $\epsilon_{it}$  is the error term.

## **Diagnostic tests:**

### ***Stationarity analysis***

Before stepping into panel data analysis some diagnostic tests are necessary to be conducted in order to ensure the accuracy and reliability of the estimations. As a first diagnostic test, we verify for the order of integration of the time series. In the literature, there are two groups of panel unit root processes. The first one assumes a common unit cross-section: Levin, Lin and Chu (LLC) (Levin, Lin, & Chu, 2002) and Breitung test (Breitung, 2001) are the most popular. The second group assumes that parameters freely move across cross-section that is called an individual unit root process: Im, Pesaran and Shin (IPS) (Im, Pesaran, & Shin, 2003), Fisher-ADF and Fisher-PP test. From the results, we found that  $DI(2)$ ,  $CBMA(1)$  and  $GREEN(1)$ , so the time-series become stationary after  $d$  differences.

### ***Causality test***

In a bi-variate framework, the first variable is said to cause the second variable in the Granger sense if the forecast for the second variable improves when lagged values for the first variable are taken into account (Granger, 1969). However, this method cannot be used in panel data analysis. Recent theoretical developments have been made, so we employ the Dumitrescu and Hurlin (2012) panel data causality procedure. The introduction of a panel data dimension permits the use of both cross-sectional and time-series information to test any causality relationships between two variables (Hoffmann, Lee, Ramasamy, & Yeung, 2005). The only statistically significant relation is that the CBMA Granger causes DI, so it is a unidirectional relationship, which is in accordance with the theory. In the other cases, there is no Granger-causality in any direction.

### **Estimations**

The results of estimations are presented in Table 2. F-tests for both fixed and random models are significant at a 1% level of significance. The only insignificant coefficient is Greenfield for fixed model.

**Table 2.** Estimation results

	Random Model			Fixed Model		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	63130225	5.994496	0.0000***	1.21E+08	11.17653	0.0000***
GREEN	26804.10	7.334222	0.0000***	913.9301	0.204528	0.8385
CBMA	343.9541	0.153271	0.8786	-7140.999	-2.993713	0.0037***
R-squared	0.263809			0.775478		
Adjusted R-squared	0.245631			0.751529		
Durbin-Watson stat	0.584226			0.394774		
Prob. (F-statistic)	0.000004***			0.000000***		

Note: \*\*\*, \*\* and \* denote significance at the 1 %, 5 % and 10 % level.

According to Tiwari and Mutascu (2011), there may be an association between countries' unobservable individual effects and OFDI. If there is no association between countries' unobservable individual effects and OFDI, the most appropriate way of carrying out the analysis is using a panel model of random effects. On the contrary, if there is a correlation between countries' individual effects and OFDI, the most appropriate way of carrying out the analysis is to use a panel model of fixed effects. Therefore, we need to perform a test in order to choose between random and fixed effect models. Hausman test (Hausman, 1978) was performed to decide between fixed and random effects, using unlagged regression panel with random effect model. These tests the null hypothesis of non-existence of correlation between unobservable individual effects with other regressors, against the alternative hypothesis of correlation existence. Thus, if the null hypothesis is accepted, then we concluded that correlation is not relevant so a random effect is the most correct method, on the contrary, the fixed effect model is the most appropriate model (Wooldridge, 2015).

### Estimations for Asian countries

In order to compare our results, we also perform panel data analysis to Asian countries (China, Singapore, Thailand, Malaysia, India, Philippines and Indonesia) for the period between 2003 to 2016. We have tested for all diagnostic tests as for Latin American regressions to make sure that we do not have any data problem. Also, the most appropriate model is the fixed one. The estimation results are shown in the following table.

**Table 3** Estimation results.

	Random Model			Fixed Model		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	53536718	0.447292	0.6557***	82442264	1.476338	0.0051***
GREEN	35249.61	2.984431	0.0036***	15358.70	2.869066	0.0051***
CBMA	15725.80	6.060624	0.0000***	31986.24	5.427951	0.0000***
R-squared	0.663110			0.893865		
Adjusted R-squared	0.663110			0.884325		
Durbin-Watson stat	0.978012			1.011069		
Prob. (F-statistic)	0.000000***			0.000000***		

Note: \*\*\*, \*\* and \* denote significance at the 1 %, 5 % and 10 % level.

Table 2 provides estimation results from panel data analysis for Latin American countries during the period 2006-2013. We have conducted several sets of tests for robustness checks to assure our findings accuracy. The only significant coefficient is CBMA and it indicates that the macro association is negative, that is, CBMA crowds out DI. Hence, we rejected Hypothesis 1, which was based on the literature indicating that the effects of CBMA on DI would be positive.

Moreover, we cannot reject Hypothesis 2, since the coefficient is insignificant. Table 3 shows the same estimation for Asian countries for the purpose of comparison with other developing markets. The Asian results point to the opposite direction of Latin America estimation's results because both coefficients are positive and significant.

## **DISCUSSION OF THE FINDINGS**

In this research, first, we provide a conceptual justification of how absorptive capacity interferes in firm's capacity to absorb external knowledge. We have discussed that Latin America firms tend to have weak absorptive capacity level because of factors such as low level of human capital or managerial skills, undeveloped supporting institutions and low level of R&D spending (or innovation) (Bartlett & Ghoshal, 2000; Cuervo-Cazurra & Rui, 2017; Khanna & Palepu, 2010; Ramamurti, 2012; Zhao et al., 2017). Absorptive capacity is a dynamic process in which firms operating in a global setting must quickly assimilate and apply external knowledge acquired from internationalization process for commercial ends (Cohen & Levinthal, 1990). The weak managerial orientation, which interferes in the absorptive capacity, may compromise MNEs survival and success in the competitive global market (Knight & Cavusgil, 2004). Furthermore, we have argued that firms from Latin America do not have strong institutions that could improve their level of absorptive capacity. Strong institutions can provide stability and business stimulation for firms to increase their management skills or innovation capacity, but developing countries do not have supportive government (Carlos Zalaf Caseiro & Masiero, 2014; Lall et al., 1983; Wells, 1983). These facts heighten the feeble appropriability regime negative impact on the absorptive capacity of MNEs from developing countries (Cuervo-Cazurra & Rui, 2017). Therefore, we have concluded that the low level of absorptive capacity in Latin America adversely affects OFDI.

Second, we provide distinguishing characteristics of CBMA and greenfield operations to show that one cannot consider an aggregate view of OFDI when investigating its association with DI because the investment characteristics are different in terms of strategy, risks and returns (Gopalan et al., 2017; Luo & Tung, 2007; Wang & Wong, 2009). In particular, we expand Gondim et al. (2018)'s work showing that Latin America firms do not implement aggressive acquisition strategies to enter foreign markets as Asian firms do (see Table 1). It is often argued that MNEs from developing countries use acquisitions to psychically distant developed markets to acquire strategic assets (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2006) and the impact on home economy is positive (Knoerich, 2017). However, this is none of the case in Latin America. As discussed earlier, the reasons could be due to political conditions, lack of government support, weak institutions or low level of firms' capabilities to operate abroad. For this reason, it is important in analyzing the effect of two components of OFDI on DI separately. CBMA presents a feature of a risky and short-term strategy also it refers to ownership transfer, on the contrary, greenfield is more oriented to long-term strategy (Luo & Tung, 2007; Wang & Wong, 2009). Our findings show crowding-out effect of CBMA on DI and no significant association between greenfield and DI. Moreover, our causality test indicates unidirectional causality running from CBMA to DI. This means that internationalization through CBMA does not bring positive benefit to home economy.

We also compare our results to Asian countries and the results are opposite (see Table 3). CBMA and greenfield are significant for Asia and the coefficients are positives, indicating a beneficial effect of internationalization process on home economy. Thus, Asian countries may overcome the ownership disadvantage by engaging in OFDI operations. However, Latin American firms do not overcome their disadvantages by only acquiring assets from foreign

markets. It must be accompanied by certain conditions to improve their capacities to absorb knowledge from OFDI.

## CONCLUSION

OFDI from developing countries has received increasing attention in the literature. Further, it is an important issue for governments around the world as one of the cornerstones for the economic development. We examine the effects of OFDI through CBMA and greenfield on DI for seven Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, Panama and Peru) for the period between 2003 and 2016. Recent studies on this matter have shown a positive association between OFDI and DI, but these studies examine the association of OFDI with DI without considering firms' influencing factors to absorb external knowledge from abroad operations. Moreover, these studies consider aggressive asset-strategy countries that search for catching-up their latecomers' disadvantages by quickly expanding their operations to global market. Herein, we have approached this gap by conceptually adding the absorptive capacity concept to point out that in developing markets, in particular in Latin America, firms face higher barriers to absorb external knowledge, which decreases OFDI's benefit in foreign markets. The main conclusion of this research is that positive impacts as expected by the literature is not assured when analyzing Latin Americas because the benefit depends on entry mode, which incorporates different risks and strategies and firm's absorptive capacity level that interferes in the firm ability to absorb external knowledge. In short, we have identified that CBMA has negative effect on DI in Latin America. On the contrary, CBMA and greenfield have positive effect on DI in Asia. This may indicate that Latin American countries take more time to internationalize, reflecting the additional challenges and the need for sophisticated advantages for establishing FDI (Cuervo-Cazurra, 2008). In short, Latin American countries could not overcome their latecomer disadvantage only through asset-strategies acquisitions and benefit domestic market.

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*Track 14 FDI and Internationalization*

**ID #664**

**The internationalization in the innovation process in  
Information and Communication Technology (ICT) Brazilian  
startups**

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**Simone Vasconcelos Ribeiro Galina** (University of São Paulo (USP), Brazil)

**Abstract**

*This article sought to broaden the understanding of the impact of the internationalization strategy on the startup innovation process. The object of study was the information and communication technology (ICT) Brazilian startups. These companies are created with global technologies and the search for innovation is as competitive strategy. The competition on a global level makes this kind of organization finds in internationalization a way to remain competitive in the market. Interviews were conducted with founders of seven Brazilian startups that completed the internationalization process. These were focused in the innovation process and analyzed through the lens of each item of the internationalization strategy. The motivation, the choice of the country, the time, the internationalization and the way in which the startups arrived in overseas countries impacted the innovation process of these nascent companies. However, it was observed that the choice of the country and the way of entering the new country contributed more to the innovation process of these companies. This work was restricted by the sample, but it contributes to the understanding of how internationalization strategy can impact innovation in startups. This subject is scarcely addressed in the academic literature, especially considering emerging countries. The results suggest new approaches in this way.*

**Keywords:** Internationalization strategy; Innovation process; Startups; Information Technology and Communication (ICT).

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*Track 14 FDI and Internationalization*

**ID #669**

**An institutional perspective on the effects of  
diversification type in post-acquisition performance**

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**Abstract**

*Acquisitions can have different degrees of diversification, being related to the core business of the firm acquiring, or unrelated. The more unrelated the acquisition is, the more willing to diversify the firm is. Even though on average related diversification strategies seem to be a better choice, increasing post-acquisition performance, it has been brought to attention that a more diversified strategy can be a favorable strategy in specific conditions. We argue that there is more than meets the eye when it comes to the effects over post-acquisition performance and diversification. Specifically, we propose that the conditions that allow higher returns are related to the institutional context. We use the institution-based view in order to understand the effects of the context on post-acquisition performance. We propose that diversification strategies differ in its impact on post-acquisition performance, when it is moderated by the institutional inefficiencies of economies. This proposition implies that the effect on post-acquisition performance regarding the diversification type will differ in developed economies. The impact on diversification strategy will negatively or positively impact post-acquisition performance, and that impact will alternate in different economies because of the strength of the institutions in the studied economy.*

**Keywords:** Institution-based view; diversification; strategy; unrelated diversification; related diversification; institutional inefficiencies..

**Acknowledgments**

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## **INTRODUCTION**

Research on diversification is an important subject in strategic management studies (Singh & Montgomery, 1987). The association between diversification and performance of enterprises is one of the questions that call further attention in the area of strategic management (Chatterjee & Wernerfelt, 1991). Most literature regarding diversification strategies and performance have shown that related diversification strategies outpace unrelated diversification strategies (e.g., Bettis, 1981; Jose, Nichols, & Stevens, 1986; Lubatkin & Rogers, 1989; Palepu, 1985; Rumelt, 1982; Varadarajan, 1986; Varadarajan & Ramanujam, 1987). However, there have been studies where the opposite has been supported (e.g., Chatterjee, 1986; Elgers & Clark, 1980; Michel & Shaked, 1984), or even that unrelated diversification versus related diversification strategies showed no significant difference in returns for shareholders (Lubatkin, 1987). We argue that these variations occur according to the institutional framework the economy is inserted.

The industry-based view argues that the conditions in the industry determine the strategy and performance of the firms (Porter, 1980). The resource-based view suggest that it is the firm specific resources and conditions that will drive the firm's strategy and performance (Barney, 1991). More recently, Peng, Sun, Pinkham, & Chen (2009) proposed the institution-based view as the third leg for the strategy tripod, adding the institution-based view altogether with the industry-based view and the resource-based view to bring new perspectives regarding the strategy and performance of the firms.

The institution-based view focuses on the dynamic interaction between the organizations and the institutions and see the strategic choices as the outcome of the interaction of these both (Peng, 2002; Peng et al., 2009). Institutions are normally known as the rules of the game (Peng et al., 2009). They are the constraints created by humans that structure political, economic, and social interaction. These constraints are consisted of informal ones (e.g., taboos, customs, traditions, codes of conduct, and sanctions) and formal ones (laws, constitutions, and property rights). These constraints were created throughout history by people in order to reduce uncertainty in the exchange actions (North, 1991).

Recently, researchers have been examining emerging economies with the institution-based view in order to provide different and useful insights regarding enterprise strategies in emerging economies (e.g., Hoskisson, Eden, Lau, & Wright, 2000; Wright, Filatotchev, Hoskisson, & Peng, 2005). Some researchers have been convincingly compelling that IB researchers should concentrate their attention on the context of the institutions (e.g., Leung, Bhagat, Buchan, Erez, & Gibson, 2005; Redding, 2005) in order to get better insights regarding strategies and performance.

Due to the lack of consistence in this field, Chatterjee & Wernerfelt (1991) raised an important question where they wondered if unrelated diversification can be a better choice in some specific instances, even though on average related diversification seemed to be superior. This question was important to be raised because it brought to attention a new field of research, which was regarding why sometimes the performance of the firm can be better in different diversification strategies.

The main reason for this work is to consider context one of these reasons that can help better understand these variations. This study will use the institutional inefficiencies to help explain why in some Latin countries the unrelated diversification strategy a better option might be, even though it is not, on average. Therefore, the object of this paper is to propose that diversification strategies differ in its impact on post-acquisition performance, when it is moderated by the institutional inefficiencies of Latin American countries. This proposition implies that the effect

on post-acquisition performance regarding the diversification type will differ e.g. in developed economies.

## **THEORETICAL BACKGROUND**

In this paper, we use the institution-based view perspective as theory, based on the economic view of institutions. We use the economic perspective in order to contextualize the new institutional economics and its influence in the social sciences area. Therefore, the institution-based view used to formulate the propositions are only based in the economic view, following essentially the work of North (1991).

### ***Theoretical Positioning***

New institutional economics has been a significant movement throughout social sciences in recent decades (North, 1990, 1991, 2005). It has been seen by strategic management researchers as more than background conditions (Oliver, 1997; Peng & Heath, 1996). For Ingram & Silverman (2002, p.20), “Institutions directly determine what arrows a firm has in its quiver as it struggles to formulate and implement strategy, and to create competitive advantage.” Consequently, an institution-based view has emerged in strategic management research (Peng, 2002, 2003). Peng et al. (2009) argues that the institution-based view can be considered the third leg of the strategy tripod, overcoming Porter's (1980) long-standing limitations of the industry-based view and the lack of context explanation in Barney's (1991) resource-based view.

The institution-based view focuses on the dynamic interaction between the organizations and the institutions and see the strategic choices as the outcome of the interaction of these both (Peng, 2002; Peng et al., 2009). Institutions are normally known as the rules of the game (Peng et al., 2009). They are the constraints created by humans that structure political, economic, and social interaction. These constraints are consisted of informal ones (e.g., taboos, customs, traditions, codes of conduct, and sanctions) and formal ones (laws, constitutions, and property rights). These constraints were created throughout history by people in order to reduce uncertainty in the exchange actions (North, 1991).

Literature on institutions and transaction costs have focused on the elucidation of how institutions are an efficient solution to organization problems in a competitive framework (Williamson, 1975, 1985). Transaction cost economics (TCE) (Williamson, 1975) has been broadly applied to entry mode concerns (Zhao, Luo, & Suh, 2004). Although, TCE tends to devalue the importance of factors regarding context in the choice of a foreign investment mode (Yiu & Makino, 2002). Therefore, in this paper, we follow North's (1990) approach. We correspondingly agree with Dikova & Van Witteloostuijn (2007) that this approach best relates with the essential function of the larger environment constraining the optimality of a firm's activities.

Market exchange, vertical integration, or franchising are considered as efficient solutions that are used in complex problems that entrepreneurs must face in various competitive conditions, according to TCE (North, 1991). We believe that the diversification strategy can be a factor altered by the institutional inefficiencies of a country. as vertical integration (more unrelated diversification) might be a noteworthy solution to overcome problems in countries less institutionally developed. The vertical integration (internalization of processes) can be an interesting in order to solve failures regarding the provision of supplies related to raw materials, products, and logistics (Li, Ramaswamy, & Pécherot Petitt, 2006).

We know that in countries less institutionally developed, the contract compliances can be less rigorous than in institutionally developed economies. Therefore, we believe that in order to avoid contracts, unrelated diversification strategies can be an effective solution to contract problems. Moreover, a more diversified strategy can be applied for another reason. According to Chatterjee & Lubatkin (1990), sometimes the best strategy to avoid market fluctuations can be the unrelated diversification strategy, e.g. “putting the eggs in different baskets”. This perspective matches perfectly when dealing with institutionally inefficient environments, considering that a more diversified strategy may help avoid the risks of the environment regarding different industries.

### **Acquisitions**

Acquisitions have been a popular strategy for many years (Hitt, Harrison, Ireland, & Best, 1998; Hoskisson & Hitt, 1994). Acquisitions became increasingly common during the 1970s and 1980s (Kogut & Singh, 1988; Lamont & Anderson, 1985). It has been an important topic in finance and economics, with many important research studies related to the acquisitive growth strategy (e.g., Auerbach, 1989; Coffee, Lowenstein, & Rose-Ackerman, 1988; Jensen & Ruback, 1983; Roll, 1986; Varian, 1988). It has also been an important topic in strategic management studies (e.g., Barney, 1988; Chatterjee, 1986, 1990; Hitt, Hoskisson, Ireland, & Harrison, 1991; Lubatkin, 1983; Salter & Weinhold, 1979; Singh & Montgomery, 1987).

When a multinational enterprise (MNE) decides to make investments in foreign countries, it must choose between two entry mode choices (Chen, 2008). On one hand, it may opt to establish a foreign operation and create its own facility (greenfield facility), or to engage in an acquisition (Anand & Delios, 2002; Dikova & Van Witteloostuijn, 2007; Hennart & Park, 1993). On the other hand, it must choose whether it establishes wholly owned subsidiaries or forming joint ventures with local partners (Beamish & Banks, 1987; Dikova & Van Witteloostuijn, 2007; Hennart, 1991). Wholly owned subsidiaries implies that the acquisition must be total, while joint ventures are partial acquisitions where the totality of the company is split through different ownership entities (Chen, 2008).

An acquisition is defined as the takeover of an existing company (Vermeulen & Barkema, 2001). It is represented by buying equity shares in an existing foreign corporation (Dikova & Van Witteloostuijn, 2007). It differs from greenfield because the latter is the doing of setting up a subsidiary from scratch (Vermeulen & Barkema, 2001). There are basically two types of acquisitions. The company may opt to do it alone, where a wholly owned subsidiary is established, or it may choose to involve a local partner, where a subsidiary with shared ownership is established (Dikova & Van Witteloostuijn, 2007).

Acquisitions are an important vehicle for corporate strategic redirection and renewal (Jemison & Sitkin, 1986). They allow firms to achieve greater market power, overcome barriers to entry new markets, and it is a great form of acquiring new knowledge and resources (Vermeulen & Barkema, 2001). Although there are a variety of benefits that can be achieved through acquisitions, evidence suggests that in general acquisitions happen so firm's value is maximized (Salter & Weinhold, 1979). Ansoff (1965) suggested that firm's value can be amplified through synergy, where the firm acquires other firms with some sort of relatedness, which will help increase efficiency. According to the author, synergy usually infers that gains accumulate through two main sources for the acquirer: (a) first, operational efficiency can be improved based on economies of scope or scale; (b) second, the transfer of skills can happen.

It is therefore believed that synergetic efficiencies can gain market power and overcome the competitors (Bradley, Desai, & Kim, 1983; Eckbo, 1983; Montgomery, 1985; Stewart, Harris,

& Carleton, 1984). There is an important amount of studies that have been describing how these sources of strategic relatedness happens between the acquiring and the target firm before value is actually created (Chatterjee, 1986; Porter, 1987; Salter & Weinhold, 1979; Singh & Montgomery, 1987). Therefore, related diversification strategies are overall considered the best option to increase firm performance, due to the synergetic efficiency it may cause.

### ***Diversification***

Research on corporate diversification is an important subject in strategic management (Singh & Montgomery, 1987), and further attention is needed (Chatterjee & Wernerfelt, 1991). The term diversification is related to a change in the characteristics of the company's product line or market (Ansoff, 1957). The significant role of diversification in the strategies of large industrial firms has been acknowledged and it has been associated with structural change (Chandler, 1962).

It has been discovered by Rumelt (1974) that part of these changes in large firms vary not only in terms of diversification of products, but also in the configurations of relationships that they establish between different lines of business. Variations of corporate profitability was also noticed to be significantly different in diverse groups of firms, due to its different strategies of diversification. High levels of profitability were discovered in firms that have diversified primarily on areas that were related with its core skill or resource, whereas low levels of profitability were found when a more unrelated strategy of diversification was intended, mainly on the vertically integrated businesses (Rumelt, 1974). Diversification takes place when a firm expands its business to make and sell products or a line of products that has no connection with the firm's other products (Rumelt, 1982).

The act of diversifying is usually taken as a form of reducing the firm's exposure to cyclical and secular uncertainties or risk (Lubatkin & Chatterjee, 1994). Diversification strategies can vary, and their outcomes may also implicate different results. There have been studies where it was found that related diversifiers outperform unrelated diversifiers (Bettis, 1981; Jose et al., 1986; Lubatkin & Rogers, 1989; Montgomery, 1982; Palepu, 1985; Rumelt, 1982; Varadarajan, 1986; Varadarajan & Ramanujam, 1987) Although, some other studies have found the opposite of this result (Chatterjee, 1986; Elgers & Clark, 1980; Michel & Shaked, 1984). The study of Lubatkin (1987) for instance, has found no significant difference between related versus unrelated firms, showing no difference in returns for the shareholders. Due to the lack of consistence in this field, Chatterjee & Wernerfelt (1991) raised an important question where they wondered if unrelated diversification can be a better choice in some specific instances, even though on average related diversification seemed to be superior. This question was important to be raised because it brought to attention a new field of research, which was regarding why sometimes the performance of the firm can be better in different diversification strategies.

Chatterjee & Wernerfelt (1991) proved that under specific situations, unrelated diversification is also able to create value. More specifically, it was proved that the resource profile of the firm can partially explain which type of diversification strategy the firm will be willing to implement. For future research, Chatterjee & Wernerfelt (1991) proposed that there was a need to identify systematic factors that could perhaps influence the type of markets entered in order to get alternate explanations. In their work, they believed the alternate explanations were regarding the resources of the firm. We believe that another alternative explanation can be context. Therefore, the institution-based view can be used in order to understand the variations

under specific situations and bring another perspective of the influence of the type of markets entered.

### ***Post-Acquisition Performance***

Post-acquisition performance research has frequently observed the effect of four variables on performance (King, Dalton, Daily, & Covin, 2004). First, whether or not an acquisition was made by a conglomerate firm (e.g., Agrawal, Jaffe, & Mandelker, 1992; Berger & Ofek, 1995; Lubatkin, 1987). Second, if the acquisition was or not of a related firm (e.g., Hayward & Hambrick, 1997; Lubatkin, Srinivasan, & Merchant, 1997; Walker, 2000; Wansley, Lane, & Yang, 1983). Third, the method of payment (whether it was cash or equity) used for acquiring (e.g., Franks, Harris, & Mayer, 1988; Travlos, 1987; Walker, 2000). Lastly, the subject related to whether or not the acquiring firm had prior acquisition experience (e.g., Franks, Harris, & Titman, 1991; Halebian & Finkelstein, 1999; Hayward, 2002; Kroll, Wright, Toombs, & Leavell, 1997). In this study, we will focus on performance regarding the question about the relatedness of the firm.

The relatedness of the acquired firms and their acquirer is usually connected to the impact on the post-acquisition performance (King et al., 2004). The relationship between firm's diversification strategy and its economic performance has been examined in important studies such as Rumelt (1974, 1982). Rumelt was able to demonstrate a linkage between the diversification of the firm and its performance. Post-acquisition performance is an extremely important subject given the emphasis on the acquisition strategy of the firm (Krishnan, Hitt, & Park, 2007).

M&A literature indicate that the preponderance of findings suggest that acquiring related firms will lead to an increased post-acquisition performance (King et al., 2004). There are many studies that will sustain this affirmation (e.g., Capon, Hulbert, Farley, & Martin, 1988; Kusewitt, 1985; Palich, Cardinal, & Miller, 2000; Rumelt, 1974, 1982). It is understood that business relatedness will enable the acquiring firm to focus on their "dominant logic" (Pralhad & Bettis, 1986), which makes it possible for the company to focus on its core business and improve it better. This occurs because industry familiarity can eliminate or significantly reduce the need for manager of the acquiring firm to learn about the business concerning the acquired firm, which will facilitate the acquisition process because there is not as much to learn as it is in unrelated acquisitions (Hitt, Harrison, & Ireland, 2001). When management involvement is required in the acquisition process, the familiarity with the acquired firm's market is usually taken as a the key to a successful post-acquisition incorporation of the acquired firm (Roberts & Berry, 1984).

## **CONCEPTUAL DEVELOPMENT**

We suggest that even though on average post-acquisition performance is leveraged by more related acquisitions, we still need to understand why sometimes unrelated acquisitions are a superior choice, increasing post-acquisition performance. Our assumption is based on the question raised by Peng (2002) and Rumelt, Schendel, & Teece (1996) who wondered why strategies of firms from different countries and regions differ. We believe that the main reason that strategies differ in different countries and regions is regarding the institutions of these countries and regions. Therefore, since the firm cannot be immune from the institutional frameworks of which it is embedded, there is no reason to doubt that institutions matter (Peng, 2002), and that the institution-based view can help us understand why strategies differ (Peng,

Wang, & Jiang, 2008). Chatterjee & Wernerfelt (1991) raised the question of why unrelated diversification can sometimes be a superior strategy, since variations were empirically proven regarding this subject.

In institutionally developed economies, contracts are better firm, and they are not avoided, since it is most likely for suppliers to fulfill the contracts. Thus, a more related diversification strategy can be seen as a way of the acquiring firm to focus on their “dominant logic” (Prahalad & Bettis, 1986), which makes firms choose this strategy in order to improve its core business. Therefore, the following proposition is state:

***Proposition 1:** When dealing with more institutionally developed economies, a more related diversification strategy will positively influence post-acquisition performance.*

We do expect that a more unrelated diversification strategy might negatively influence post-acquisition performance. Since the company will be able to focus on a “dominant logic” of the business, it is therefore expected that managers in more institutionally developed economies will seek to choose a strategy aiming the improvement of its core business activity, not considering it feasible to practice in more industries, since contracts are well held and market is not as fluctuant as in less institutionally developed economies. Therefore, we propose the following:

***Proposition 2:** When dealing with more institutionally developed economies, a more unrelated diversification strategy will negatively influence post-acquisition performance.*

We propose that these diversification strategies variations and the effect on post-acquisition performance of these deviations are affected by the context in which the country is inserted. Consequently, in the Latin American environment, a more diversified strategy can be followed in order to avoid contracts with suppliers, overcoming contract problems. Moreover, in order to avoid market fluctuations, a more unrelated diversification strategy can be applied (Chatterjee & Lubatkin, 1990). Therefore, the following proposition is suggested:

***Proposition 3:** When dealing with less institutionally developed economies, a more unrelated diversification strategy will positively influence post-acquisition performance, since the effect of institutional inefficiencies will negatively moderate post-acquisition performance.*

We propose, of course, that the contrary is true. Meaning that a diversification strategy in less institutionally developed economies that are a more related diversification will therefore affect post-acquisition performance. Therefore, the following proposition is stated for the less institutionally developed economies:

***Proposition 4:** When dealing with less institutionally developed economies, a more related diversification strategy will negatively influence post-acquisition performance, since the effect of institutional inefficiencies will positively moderate post-acquisition performance.*

Based on our four prepositions, we propose the following research model:

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

## **DISCUSSION**

The main objective of this study was to propose that the effects of the diversification types on the post-acquisition performance are moderated by the institutional inefficiencies of the economy. This assumption is regarding the effects of the context in the diversification strategy choices, and it is interpreted by the institution-based view. This article attempted to make the

connections of institutions, organizations and strategic choices as in (Peng, 2002), in order to understand the diversification strategy choices taken in different economies, and its dissimilar impact on performance.

This study can contribute to institutional theory regarding the Latin American context and its opposite reality. It reassures the idea proposed by Peng (2002) that institution matters and therefore context, too (Peng et al., 2009). Studies such as (Chatterjee, 1986; Elgers & Clark, 1980; Michel & Shaked, 1984). It also supports the idea that the direction and forms of economic activities that organizations have are reflected by the opportunities that the institutional framework provides them (North, 1991). Therefore, the structure of the firm can change regarding the institutional environment it is facing, meaning that organizations that are more willing to make unrelated acquisitions will have different structures of the ones that are willing to make related acquisitions. Empirical evidence on that would help us understand the strategic attitudes of the entrepreneurs in a given environment.

For future research avenues, we highly recommend that the concepts used in this paper are used, in order to test our propositions empirically. The empirical evidence regarding any economy can help test our propositions to understand the impact of the institutions on the post-acquisition performance better. Evidences on Latin American economies can provide benefits since they are seen as institutionally weak economies. Even though in the 1990s it was proposed that emerging economies like Brazil has improved significantly in its economic institutions or in its market support (North, 1990), we can see that Brazil is still facing many dynamic market fluctuations since then, as it is other Latin American economies. This contribute with the view that in some economies, vertical integration (more unrelated diversification) can be seen as an efficient solution used to combat complex problems faced by entrepreneurs in competitive conditions in economies less institutionally efficient.

Our work agrees with the views of Peng et al. (2009) that context matters and the institution-based view can give sustenance to the industry-based view Porter (1980), and the resource-based view Barney (1991), bringing a new perspective that can overcome some issues regarding the insights of the other views. Context matters and institutions matters (Peng, 2002; Peng et al., 2009) and it is hard to contest this argument. The contextual approach can give us better insights on the strategic choices regarding related or unrelated diversification and the choices regarding acquisitions, as well as its impact on the firm performance.

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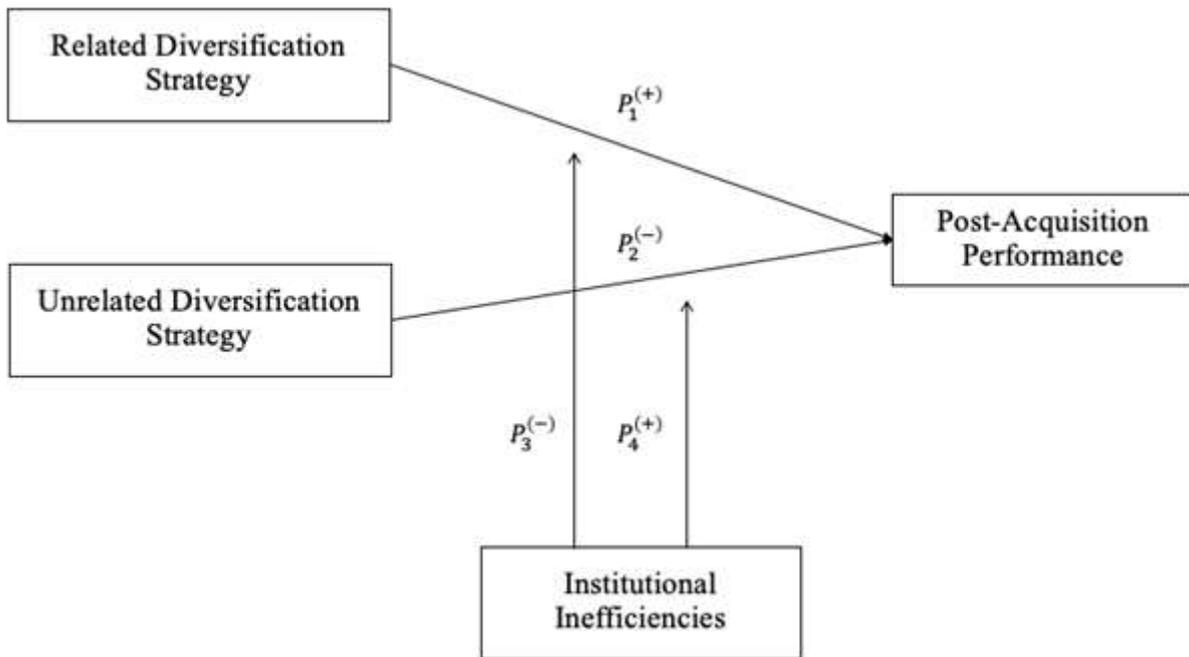
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Figure 1 - Research Model



Source: Prepared by the authors.

*Track 14 FDI and Internationalization*

**ID #672**

**Transaction costs in the banking financing to the infrastructure: Reflections on the literature and proposal of new studies**

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**Abstract**

*The present study has one main objective and three accessories. The main one is to gather the most relevant contributions of the academic literature, seizing the transaction costs of the banking financing to the infrastructure. The effort is permeable to the vast literature that deals with the three issues separately - transaction costs, bank financing and infrastructure – but especially the one that grasps them together. Especially based on academic articles, this review will not, however, exempt some examples from management reports (such as working papers) in order to highlight the practical interest in the subject. In addition to positioning itself as a central focus, literary revision is the foundation for the accessory objectives, namely, the propositions of a methodology, a theoretical model and a hypothesis test that, together, seek to deepen scientific and practical knowledge regarding to the transaction costs of this type of financing, usually called project finance. Targets of greater depth in future research, the accessory objectives terminate the present study in an indicative way, but not before the necessary reflection on the reasons that justify its persecution. To a large extent, interest stems from corporate strategy and more clearly concerns about better financing strategies for large projects. If, on the one hand, the theoretical model and the hypothesis test are based, respectively, on knowledge of the literature and classical techniques of quantitative data analysis, the proposed methodology, as well as the study material (real infrastructure financing contracts) and the focus of attention (financial and non-financial conditions established in said contracts) consolidate novelties within the theme. Although it addresses the Brazilian experience at various moments, given the greater abundance of available examples, the study transcends national boundaries, since infrastructure opportunities account for a large part of country-oriented Foreign Direct Investment (FDI).*

**Keywords:** Infrastructure; Financing; Banking; Transaction Costs.

**Acknowledgment**

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*Track 14 FDI and Internationalization*

**ID #697**

**Are we talking about country profile or distance?**

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**Abstract**

*Since its introduction in International Business research, Distance has been an important topic but recently there is an ever growing concern related to the country profile and distance conflation. Studies investigating the implications of distances should include a sufficiently diversified sample. In order to provide adequate assessments for the implications of country profiles and distances, it is essential to consider that firms may be affected in different ways depending on the direction of the distances. We argue that the asymmetric effects of distances might result not only from the ability of foreign subsidiary firms adapting to the host country's conditions, but also on the characteristics of the host country environment that may be more or less receptive to foreign firms' operations. We test these assumptions in Latin America due to its diversity in terms of cultural and formal institutional conditions and also because it includes a great number of emerging market and developed country foreign subsidiaries. Data comes from Orbis database, totaling 1466 subsidiary firms being 1216 from developed countries and 250 from emerging markets operating in 10 host countries in Latin America and a combination of 168 different home and host countries over a period of 3 consecutive years ranging from 2013 to 2015. By measuring distances in opposite directions independently we are able to verify the asymmetric effects of both Cultural and Formal Institutional Distances. Additionally, results show that the expertise in dealing with formal institutional conditions at the home country can be converted more easily into firm specific advantages in foreign host countries whereas cultural distances seem to affect firms in similar ways, depending more on the cultural characteristics at the host country than by the distances between home and the host countries.*

**Keywords:** Institutional Distance; Cultural Distance; Subsidiary; Performance; Latin America.

**Acknowledgments**

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## INTRODUCTION

Despite of its popularity there is a growing concern related to the depth (Dow, 2017), conceptual and methodological aspects of the distance construct (Verbeke, van Tulder & Puck, 2017). There are arguments pointing to potential limitations of empirical studies in a sense that “the large amount of institutional (distance) studies in international business research that have adopted a single reference point research design are potentially invalid” (Van Hoorn & Maseland, 2016, p. 379). The same authors argue that there seems to be a problem related to the distance–profile conflation leading to the assumptions of asymmetry in distance research. As a result, the “observed asymmetric effects may be a result of direct profile effects being mistaken as distance effect” (Maseland, Dow & Steel, 2018, p. 9).

This study contributes to this discussion by attempting to disentangle the distance and profile effects to the performance of foreign subsidiary firms operating in Latin America. Latin America can be considered an ideal setting to test the implications of distances due to its diversity in terms of cultural and formal institutional conditions and also because it includes a great number of emerging market and developed country foreign subsidiaries. Data comes from Orbis database and includes 1466 firms being 1216 foreign multinational subsidiaries from developed countries and 250 foreign subsidiaries from emerging markets operating in 10 host countries in Latin America over a period of 3 consecutive years ranging from 2013 to 2015. This leads to a total combination of 168 different home and host countries which provides the diversity needed to discuss the effects of distances (Franke & Richey, 2010).

Although being the Kogut and Singh (1988) composite index the most popular alternative for measuring distance, we argue that it restricts the analysis as the different impacts for each dimension may offset each other when combined in a single variable. By asymmetric we mean that the effects in opposite directions are neither the same nor the opposite, thus when combined in a single scale (variable) the effects in opposite directions may either offset or reduce the statistical power of the variable. In addition to the asymmetric assumptions, others have indicated that “empirical pattern of the KS index may be described as ‘jack of all trades but master of none’. It appears that the index is broad enough to partially capture many of the effects described above, but captures none of them well” (Maseland, Dow & Steel, 2018, p.8). In order to provide a more adequate representation of distances capable of capturing its asymmetric effects, in this study distances are measured in opposite directions independently using separate variables.

Furthermore, it is shown that the distance-profile effects are necessarily related to each other, meaning there is not an easy (possible) way of disentangling the implications for distances from the effects for the country’s profiles. Several contributions can be highlighted. Results reveal that regardless of the unquestionable country profile effects, when the direction of the distance is included, it provides accurate indications regarding its effects on the performance. Moreover, emerging market and developed country firms are affected in different manners by IDs due to their ability in dealing with specific formal institutional conditions in the host country, whereas the effects of CD depend more on the cultural characteristic at the host country rather than the distances between the home and the host countries. The expertise in dealing with formal institutional conditions at the home country can be more easily converted into firm specific advantages (FSAs) when compared to the less formal and more tacit characteristics of national culture. We provide additional evidences to support these findings by testing the regional effects and investigating how multinational subsidiaries from Latin America compare to emerging market firms from other regions. Results confirm the advantages of these firms in dealing with formal institutions while there is not a positive effect when facing the implications of cultural

characteristics at the foreign host country. This shows the complexity of attempting to disentangle the effects of distances from the countries profiles as both complement each other in the way they affect the performance of firms in foreign host countries.

## **LITERATURE REVIEW AND HYPOTHESIS**

Since Johanson and Wiedersheim-Paul (1975) included the psychic distance to explain the internationalization behavior of firms, the concept of distance gained increased popularity particularly with the contributions of Hofstede (1980) and Kogut and Singh (1988) which provided a practical way of comparing countries using the Cultural Distance construct (CD). Since its introduction, Cultural Distance proved to be an important aspect for explaining the internationalization strategy and outcomes, and when it comes to its implications, the majority of research points to its negative implications (Beugelsdijk, Kostova, Kunst, Spadafora & van Essen, 2018; Cuervo-Cazurra & Genc, 2011; Stahl & Thung, 2015).

Furthermore, studies have indicated that some cultural characteristics might be associated to economic growth and institutional development (Gorodnichenko & Roland, 2011; Klasing, 2013; Maseland, 2013) showing that some cultures may provide better conditions for doing business (Zaheer et al., 2012). Alternatively, although some cultures may provide better conditions for doing business, foreign firms from a different culture may not be able to immediately benefit from operating in such environment. This is mainly because accessing and taking advantage of these cultural characteristics requires not only understanding but also being accepted and legitimized in the foreign host country context. In that sense, we argue that the implications of CD depend on the direction as different cultural characteristics can be more or less receptive to foreign firms' operations.

*H1. The effects of Cultural Distances depend on the direction.*

### **Formal Institutional Distance (ID) Hypothesis**

When it comes to the implications of ID Cuervo-Cazurra and Genc (2011) argue that formal institutions can support business operations. In their assessment, ID towards countries with more supportive institutions should contribute to the performance of firms. It is assumed that emerging market firms benefit more as they are exposed to an environment where they can access superior resources not available at their home country. When the distance is in the opposite direction, the same authors posit that developed country firms are used to have supportive institutions and lack the expertise for operating in their absence (Cuervo-Cazurra & Genc, 2011; Ramamurti & Singh, 2009). Emerging market firms however, from birth are exposed to unreliable power, congested ports and roads, corrupt bureaucracies, political and regulatory uncertainties, weak educational institutions (Ramamurti & Singh, 2009), and a range of other "institutional voids" (Khanna and Palepu, 2005) which force these companies to develop creative strategies and capabilities to deal with such precarious conditions. Thus, we argue that there are differences in the way ID affect the performance of emerging market and developed country firms. The effects of ID depend not only on the direction of the distance but also on the similarities between home and the host countries in terms of formal institutional conditions. Therefore, we hypothesize:

*H2. The effects of ID depend on the direction and the similarities between home and host countries.*

In addition to testing the implications of cultural and formal institutional factors we include firms' resources and industry characteristics in our analysis.

## METHOD AND MODEL ESTIMATES

### *Sample and Procedures*

Subsidiary data was obtained from the Orbis database. Although Orbis database has data for thousands of foreign subsidiaries operating in Latin America, the criteria adopted for the present study in order to perform a balanced panel model required to select only firms with complete data available for the period from 2013 to 2015. The final sample includes 1466 foreign subsidiaries from which 250 from emerging markets and the remaining 1216 from developed countries. There are 10 host countries in our sample include Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Panama, Peru, Uruguay and Venezuela. There are several home countries total 168 combinations of different home and host countries.

### *Panel data method:*

This study uses panel data which combines cross-sections with time series according to (Baltagi & Raj ,1992). By performing the tests using a balanced panel data permits evaluating the relationship between several variables by following the same individuals over a particular period of time.

### *Computing Distances*

In order to demonstrate the limitations of attempting to capture distance using a single scale, tests include a variable calculated as a single component of the Kogut and Singh (1988) index for each of the National Cultural Distances dimensions. Distances in opposite directions are calculated using two separate and independent variables identified by “LH” (Low score in the home country and High score in the host country) and “HL” (High score in the home country and Low score in the host country). Thus, for each dimension of Formal Institutional and Cultural Distances there are two specific variables, one measuring the distance in the LH and the other measuring the distance in the opposite HL direction. When the conditions HL or LH are satisfied, the specific variable receives the value calculated by the single component Kogut and Singh (1988) index. Otherwise, distance in that direction becomes 0 (zero).

Distances in the LH and HL directions are calculated as presented in the conditional Equations 1 and 2 respectively.

**Equation 1.** Distance in LH Direction

$$DIST\_LH_i = \mathbf{IF} (I_{ij} < I_{iu}) \mathbf{THEN} \frac{(I_{ij} - I_{iu})^2}{V_i} \mathbf{ELSE} 0$$

In Equation 1,  $I$  = value for the dimension;  $i$  = distance dimension  $i$ ;  $j$  = home country;  $u$  = host country, “ $V$ ” stands for the variance of each dimension of the index.

**Equation 2.** Distance in HL Direction

$$DIST\_HL_i = \mathbf{IF} (I_{ij} > I_{iu}) \mathbf{THEN} \frac{(I_{ij} - I_{iu})^2}{V_i} \mathbf{ELSE} 0$$

In Equation 2,  $I$  = value for the dimension;  $i$  = distance dimension  $i$ ;  $j$  = home country;  $u$  = host country, “ $V$ ” stands for the variance of each dimension of the index.

### ***Dependent Variable:***

#### ***Financial Performance (Profit Margin)***

When considering the alternatives for assessing firm performance, particularly in turbulent contexts such as in emerging markets, sustaining the company's profit margins becomes even more challenging and reflects management's effectiveness at investing in projects that add value (Chopra & Mier, 2017). Therefore, financial performance is measured in terms of subsidiary profit margin which was obtained from Orbis database.

### ***Independent Variables:***

#### ***Cultural Distance***

We compute CDs for each of the 4 dimensions of Hofstede (1980) which include: Power Distance (PDI); Individualism versus Collectivism (IDV); Masculinity versus Femininity (MAS) and Uncertainty Avoidance (UAI). The fifth and six dimensions were not included because data is not available for many countries in our sample.

#### ***Formal Institutional Distance***

In order to measure the institutional quality of a country, Kaufmann et al (2008) developed the World Governance Indicators (WGI) which utilizes more than 340 variables provided by approximately 32 different sources which are used to compute the six dimensions of the WGI. Additionally, the WGI dimensions are closely related to the normative and regulatory pillars and been extensively employed by different authors (Wernick et al., 2009, Gani, 2007, Globerman and Shapiro, 2003, Mengistu and Adhikary, 2011, Stein and Daude, 2001) to represent the formal institutional framework of nations.

The WGI dimensions include: Voice and Accountability (VA) which represents the freedom of speech and the participation of the society in selecting their government. Regulatory Quality (RQ) indicates the quality of the laws formulated and implement by the government which promote the development of the society and the economy. Rule of Law (RL) measures the perception of the quality related to contract enforcement and to what extent agents follow the rules of society. Political Stability and Absence of Violence/Terrorism (PE), accounts for the political stability and absence of violence in the country. Government Effectiveness (GE) represents the effectiveness of the public services provided by the government. Control of Corruption (CC) reflects to what extent corruption exists in the society. The authors attribute a score of between -2.5 and +2.5, with higher scores indicating higher levels of quality of governance.

### ***Control Variables:***

#### ***Industry Sector Performance (Annual % Growth)***

The data for the host country industry sector growth was collected from the Organization for Economic Co-operation and Development (OECD) website for each of the host countries and years. Codes from Orbis reported in NACE were matched to the ISIC used by the OECD to report the annual growth for each industry sector.

#### ***Subsidiary Size***

Subsidiary size was computed using the total assets for the subsidiary in each of the periods covered by this study. This data was collected from the Orbis database.

### *Industry Sector (Industry of Service)*

Additionally, we control for the industry sector by considering if the firm is an industrial or service firm. Companies were separated in service or industry based on the NACE code recorded in the Orbis database.

### ***Preliminary tests***

Before presenting and discussing the results, some preliminary issues must be discussed. First, regarding the risk of regressor endogeneity, it is assumed that the institutional variables are known (formal institutions) and are consequently exogenous.

In order to test for multicollinearity, we verified the variance inflation index (VIF) which for all the models tested had individual values below 2.0 which is well below 10.0 which is the maximum recommended by Neter, Wassermann and Kutner (1990).

To improve the characteristics of the model estimation, the correct specification of how to deal with unobserved effects is required. These effects can be eliminated when the estimation is carried out with fixed effects. Another technique is to estimate via random effects, which implies that the unobserved effects are not correlated with all independent variables. The choice between fixed or random effects estimation depends on a formal test, the Hausman test. Therefore, we performed the Hausman test which indicated Random Effects to be the most consistent estimator for our models.

## **PRELIMINARY RESULTS AND DISCUSSION**

Table 1 presents the results for the models intended to test the implications of CDs on the performance of foreign multinational subsidiaries in Latin America. Tests are performed including the Full sample and sub-samples including only developed country and emerging foreign multinational subsidiaries. In addition to testing the implications of CDs to the performance of emerging market and developed country foreign multinational subsidiaries, tests are performed first using the Kogut and Singh (KS) metric for each of the 4 dimensions of Hofstede (1980) and afterwards distances are computed in separate direction with the LH and HL metric. Presenting the results for the 2 alternatives for computing distances highlight the asymmetric properties of cultural distances and allows discussing how distances in specific directions affect performance.

The first important consideration when analyzing the results in Table 1 is the improved explanatory capacity of the models when cultural distances are measured in specific directions. Being a foreign multinational subsidiary from Latin America do not affect performance in a significant manner, showing that emerging market firms from the region are not in advantage when dealing with cultural distances when compared to foreign subsidiaries from home countries outside Latin America.

**Table 1.** Cultural Distances - Full, Developed Country and Emerging Market Subsidiaries Samples  
Heteroskedasticity-corrected estimates  
Dependent variable: PROFIT\_MARGIN

	FULL KS	FULL LH-HL	DEVELOPED KS	DEVELOPED LH-HL	EMERGING KS	EMERGING LH-HL
Const	7.94** (1.00) [0.000]	8.33** (1.08) [0.000]	10.6** (1.00) [0.000]	10.3** (1.13) [0.000]	8.50** (3.63) [0.019]	7.71** (3.33) [0.021]
INDUSTRY_GROWTH	4.51 (15.4) [0.770]	8.78 (13.7) [0.521]	3.45 (22.8) [0.880]	13.5 (22.3) [0.544]	-7.68 (20.1) [0.703]	-0.932 (17.3) [0.957]
ASSETS_SIZE	2.39e-07** (5.39e-08) [0.000]	2.31e-07** (4.26e-08) [0.000]	2.53e-07** (5.01e-08) [0.000]	2.51e-07** (4.21e-08) [0.000]	3.18e-07 (2.04e-07) [0.119]	3.67e-07** (1.33e-07) [0.006]
DUMMY_INDUSTRY	-0.566 (0.729) [0.437]	-1.09 (0.687) [0.114]	-0.323 (0.791) [0.683]	-0.612 (0.769) [0.426]	-0.476 (1.65) [0.773]	-0.837 (1.37) [0.543]
DEVELOPED_DUMMY	2.54** (1.20) [0.035]	1.20 (1.25) [0.336]				
LATAM_DUMMY					0.199 (3.25) [0.951]	1.63 (2.65) [0.539]
DIST_PDI_KS	0.873** (0.209) [0.000]		0.812** (0.216) [0.000]		0.841 (0.563) [0.136]	
PDI_LH		<b>1.17**</b> (0.201) [0.000]		<b>0.801**</b> (0.212) [0.000]		<b>1.82**</b> (0.297) [0.000]
PDI_HL		0.440 (0.735) [0.549]		<b>29.5**</b> (14.1) [0.036]		-0.638 (0.785) [0.416]
DIST_IDV_KS	-0.382** (0.136) [0.005]		-0.419** (0.134) [0.002]		-4.38** (1.20) [0.000]	
IDV_LH		2.01 (7.77) [0.796]		54.9 (95.6) [0.565]		2.35 (7.36) [0.749]
IDV_HL		<b>-0.295**</b> (0.133) [0.027]		<b>-0.431**</b> (0.142) [0.002]		<b>-4.25**</b> (1.22) [0.001]
DIST_MAS_KS	-0.133 (0.156) [0.394]		-0.310** (0.151) [0.040]		0.885 (0.698) [0.205]	
MAS_LH		<b>-0.332**</b> (0.134) [0.014]		<b>-0.481**</b> (0.137) [0.000]		0.576 (0.642) [0.369]
MAS_HL		<b>2.05**</b> (0.434) [0.000]		<b>1.87**</b> (0.461) [0.000]		<b>2.63*</b> (1.37) [0.055]
DIST_UAI_KS	-0.353** (0.174) [0.043]		-0.205 (0.210) [0.327]		-0.650 (0.474) [0.171]	
UAI_LH		<b>-0.734**</b> (0.141) [0.000]		-0.124 (0.236) [0.600]		<b>-0.693*</b> (0.388) [0.075]
UAI_HL		<b>-4.65**</b> (1.45) [0.001]		<b>-12.5**</b> (3.31) [0.000]		-1.38 (1.31) [0.293]
N	4226	4226	3545	3545	681	681
Adj. R <sup>2</sup>	0.010	0.030	0.013	0.032	0.029	0.118
P-value(F)	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses; p-values in brackets; \* indicates significance at the 10 percent level; \*\* indicates significance at the 5 percent level

Next, we plot the results for the regression and the analysis based on the mean score for each CD dimension and discuss the effects of distances in specific directions. This allows verifying the effects of country profiles combined with the effects of distances towards specific directions.

### Power Distance Index

Results show that developed country firms are able to take advantage of distances in terms of Power Distance in a way that regardless of the direction, there is a statistically significant and positive effect on performance. These findings reveal the ability of developed country firms to accommodate differences in terms of Power Distances regardless of its direction in a positive manner. However, by analyzing the magnitude for the coefficients, results show that when operating in host countries that score lower (HL direction) in terms of this cultural dimension, the positive effect on performance increases.

Figure 1. Effects for the Direction of Power Distance

	Full Sample	Developed Country	Emerging Market
<b>Power Distance</b>	Home Country mean score 50.296	Home Country mean score 45.868	Home Country mean score 71.836
<b>(High Power Distance) 100</b>			
75	↑ +**	↑ +**	↑ +**
50	↓ +	↓ +**	↓ -
25			
<b>(Low Power Distance) 0</b>			

### Individualism versus Collectivism

Findings reveal that Distances in terms of Individualism in a HL direction has a negative effect on the performance of both, developed country and emerging market firms in Latin America.

Figure 2. Effects for the Direction of Individualism

	Full Sample	Developed Country	Emerging Market
<b>Individualism</b>	Home Country mean score 64.206	Home Country mean score 72.511	Home Country mean score 23.812
<b>(Individualistic) 100</b>			
75	↑ +	↑ +	↑ +
50	↓ -**	↓ -**	↓ -**
25			
<b>(Collectivist) 0</b>			

There is a negative and significant effect on performance when distances are towards Collectivist host countries.

### Masculinity versus Femininity

The asymmetrical properties of Cultural Distance can be verified in the results for Masculinity, particularly for the case of developed country firms. The results for Masculinity LH show that developed country firms are affected in a negative and statistically significant manner by this condition. When the distance is in the opposite direction, (Masculinity HL) the impact on performance is positive for both developed country and emerging market multinationals.

Figure 3. Effects for the Direction of Masculinity

	Full Sample	Developed Country	Emerging Market
<b>Masculinity</b> <b>(Masculine) 100</b>	Home Country mean score 53.132	Home Country mean score 53.706	Home Country mean score 50.336
75	↑ -**	↑ -**	↑ +
50	●	●	●
25	↓ +**	↓ +**	↓ +*
<b>(Feminine) 0</b>			

Cultural Distances in terms of Masculinity indicate that when distances are towards countries with lower scores for Masculinity (i.e. more feminine host countries) there is positive effect on performance. On the other hand, when Distance in this dimension is towards host countries with higher Masculinity scores when compared to the firm's home country, there is a negative and statistically significant effect on performance.

Table 4. Effects for the Direction of Uncertainty Avoidance

	Full Sample	Developed Country	Emerging Market
<b>Uncertainty Avoidance</b> <b>(High Uncertainty Avoidance) 100</b>	Home Country mean score 65.145	Home Country mean score 63.954	Home Country mean score 70.940
75	↑ -**	↑ -	↑ -**
50	●	●	●
25	↓ -**	↓ -**	↓ -
<b>(Low Uncertainty Avoidance) 0</b>			

Regardless of the direction of the distance, when there are differences between the firm's home and host country in terms of Uncertainty Avoidance, the effect on performance will be negative.

## FORMAL INSTITUTIONAL DISTANCES

Table 2 presents the results for the implications of Formal Institutional Distances for the sample that includes foreign multinational subsidiaries from developed countries.

**Table 2.** Formal Institutions Distances – Developed Country Subsidiaries  
Heteroskedasticity-corrected estimates; Dependent variable: PROFIT\_MARGIN

Developed Country Sample						
Const	11.6** (0.959) [0.000]	11.8** (0.900) [0.000]	11.3** (0.897) [0.000]	8.23** (0.657) [0.000]	9.58** (0.892) [0.000]	8.82** (0.782) [0.000]
INDUSTRY_GROWTH	37.1* (22.0) [0.092]	43.9** (21.1) [0.037]	28.4 (22.4) [0.206]	20.6 (21.6) [0.340]	16.9 (22.0) [0.443]	15.3 (21.8) [0.483]
ASSETS_SIZE	2.79e-07** (4.92e-08) [0.000]	2.44e-07** (4.55e-08) [0.000]	2.60e-07** (5.11e-08) [0.000]	2.40e-07** (4.20e-08) [0.000]	2.46e-07** (4.97e-08) [0.000]	2.30e-07** (4.03e-08) [0.000]
DUMMY_INDUSTRY	-1.36* (0.774) [0.078]	-1.06 (0.776) [0.174]	-1.56** (0.792) [0.049]	-1.80** (0.810) [0.026]	-1.84** (0.793) [0.021]	-1.74** (0.789) [0.027]
Voice and Accountability LH	<b>345**</b> -114 [0.002]					
Voice and Accountability HL	<b>-0.547**</b> (0.156) [0.000]					
Political Stability and Absence of Violence LH		3.11 (2.68) [0.246]				
Political Stability and Absence of Violence HL		<b>-0.263**</b> (0.0560) [0.000]				
Government Effectiveness LH			<b>19.9**</b> (10.0) [0.048]			
Government Effectiveness HL			<b>-0.265**</b> (0.109) [0.015]			
Regulatory Quality LH				<b>18.8**</b> (4.19) [0.000]		
Regulatory Quality HL				<b>0.453**</b> (0.144) [0.002]		
Rule of Law LH					<b>24.4**</b> (6.10) [0.000]	
Rule of Law HL					0.0379 (0.116) [0.745]	
Control of Corruption LH						<b>11.8**</b> (3.04) [0.000]
Control of Corruption HL						0.175 (0.121) [0.148]
N	3545	3545	3545	3545	3545	3545
Adj. R <sup>2</sup>	0.017	0.018	0.011	0.018	0.012	0.014
P-value(F)	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses; p-values in brackets; \* indicates significance at the 10 percent level; \*\* indicates significance at the 5 percent level

Next, in Figure 5, the signal and statistical significance of the results presented in Table 2 are discussed based on the mean scores for the home country profiles. This representation of the findings allows discussing and verifying how similarities between home and host country profiles can help explaining the effects of distances in specific directions.

Figure 5. Home Country Profile and Distance Effects (Developed Country Subsidiaries)

Scale	Voice and Accountability (home country mean score = 1.20)	Political Stability and Absence of Violence (home country mean score = 0.62)	Government Effectiveness (home country mean score = 1.44)	Regulatory Quality (home country mean score = 1.28)	Rule of Law (home country mean score = 1.45)	Control of Corruption (home country mean score = 1.30)
+2.5						
0						
-2.5						

Figure 5 shows that the performance of foreign multinational subsidiaries from developed country firms is affected in a positive manner when distances are towards more developed host countries. In addition to that, results show that when formal institutional distances are towards less developed countries there is a negative effect except for distances in terms of regulatory quality.

Table 3 presents the results for formal institutional distances on the performance of subsidiaries from emerging markets.

**Table 3.** Formal Institutions Distances – Emerging Market Subsidiaries  
Heteroskedasticity-corrected estimates; Dependent variable: PROFIT\_MARGIN

	Emerging Market Sample					
Const	4.33** (1.10) [0.000]	3.29** (1.08) [0.002]	2.73** (0.897) [0.002]	4.41** (1.08) [0.000]	3.26** (1.01) [0.001]	3.47** (1.03) [0.001]
INDUSTRY_GROWTH	23.4** (11.6) [0.043]	25.5** (11.0) [0.020]	33.3** (10.0) [0.001]	18.3 (11.2) [0.105]	21.2* (11.1) [0.057]	21.7* (11.2) [0.054]
ASSETS_SIZE	-5.57e-08 (3.66e-08)	-5.27e-08 (3.47e-08)	-2.95e-08 (2.80e-08)	-5.31e-08 (3.98e-08)	-5.74e-08 (3.52e-08)	-6.11e-08* (3.57e-08)
DUMMY_INDUSTRY	-0.130 (0.758) [0.864]	-0.0766 (0.770) [0.921]	0.0416 (0.631) [0.947]	-0.211 (0.771) [0.784]	0.165 (0.742) [0.825]	-0.198 (0.761) [0.795]
LATAM_DUMMY	2.12** (1.04) [0.042]	2.67** (0.875) [0.002]	3.59** (0.763) [0.000]	2.36** (0.881) [0.008]	3.01** (0.829) [0.000]	2.82** (0.847) [0.001]
Voice and Accountability LH	-0.103 (0.0697) [0.140]					
Voice and Accountability HL	0.00485 (0.221) [0.982]					
Political Stability and Absence of Violence LH	0.00427 (0.0631) [0.946]					
Political Stability and Absence of Violence HL	0.122 (0.0825) [0.139]					
Government Effectiveness LH	-0.423** (0.0881) [0.000]					
Government Effectiveness HL	0.0405 (0.105) [0.701]					
Regulatory Quality LH	-0.257* (0.139) [0.066]					
Regulatory Quality HL	0.0751 (0.0745) [0.313]					
Rule of Law LH	-0.327** (0.0974) [0.001]					
Rule of Law HL	0.214** (0.0674) [0.002]					
Control of Corruption LH	-0.207 (0.317) [0.515]					
Control of Corruption HL	0.180** (0.0789) [0.023]					
N	533	533	533	533	533	533
Adj. R <sup>2</sup>	0.038	0.037	0.394	0.037	0.130	0.034
P-value(F)	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses; p-values in brackets; \* indicates significance at the 10 percent level; \*\* indicates significance at the 5 percent level

Next, on Figure 6 the signal and direction of formal institutional distances on the performance of emerging market firms is presented in relation to the characteristics for the home country profiles in each dimension.

Figure 6. Home Country Profile and Distance Effects (Emerging Market Subsidiaries)

Scale	Voice and Accountability (home country mean score = 0.08)	Political Stability and Absence of Violence (home country mean score = -0.19)	Government Effectiveness (home country mean score = 0.31)	Regulatory Quality (home country mean score = 0.31)	Rule of Law (home country mean score = 0.03)	Control of Corruption (home country mean score = 0.02)
+2.5						
0	↑ -	↑ +	↑ -**	↑ -**	↑ -**	↑ -
-2.5	↓ +	↓ +	↓ +	↓ +	↓ +**	↓ +**

Results show that foreign subsidiaries from emerging market firms operating in the region are affected in different manners by Formal Institutional distances when compared to subsidiaries from developed country firms. Foreign emerging market multinational subsidiaries seem to be in advantage due to their ability to cope with the institutional voids in less developed countries (Ficici et al., 2014).

Contrary to what would be expected, firm size measured in terms of total assets has a negative impact on the performance of subsidiaries operating in Latin America regardless of being from an emerging or a developed country. The results also indicate that for subsidiaries from developed countries, industrial firms will perform better when compared to service firms. The positive and statistically significant results for the industry sector growth variable show that subsidiaries from developed countries are better able to capture opportunities in the industries they operate.

## CONCLUDING REMARKS

This study contributes to the debate regarding the distance-profile conflation (Maseland et al., 2018), by considering the direction of the distances and including a sufficiently diversified combination of home and host countries, making it possible to discuss the effects of distances on the performance of foreign multinational subsidiaries. In addition to that, by including the home country profile in combination with the results from the panel data regression, it is possible to discuss how firms may be able to convert the experience in dealing with specific national cultural and formal institutional conditions at their home countries into FSAs that can lead to superior performance in the host country. We show that for some national cultural dimensions, distances towards host countries with more similar cultures seem to affect the performance in a positive manner, while for other dimensions the effects of distances in specific directions are the same regardless of home country profile characteristics. Thus, when it comes to the implications of CD results indicate that host country profile might provide better indications for the impact on foreign subsidiary performance.

The expertise in dealing with formal institutional conditions at the home country can be more easily converted into firm specific advantages (FSAs) when compared to the less formal and more tacit characteristics of national culture. We provide additional evidences to support these findings by testing the regional effects and investigating how multinational subsidiaries from Latin America compare to emerging market firms from other regions. Results confirm the advantages of these firms in dealing with formal institutions while there is not a positive effect when facing the implications of cultural characteristics at the foreign host country. This shows the complexity of attempting to disentangle the effects of distances from the countries profiles as both complement each other in the way they affect the performance of firms in foreign host countries.

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*Track 14 FDI and Internationalization*

**ID #704**

**Value chain upgrading in the context of bank internationalization: A systematic review of literature**

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**Abstract**

*Banking activities have particularities that are translated to the bank internationalization literature which introduced novel elements and bank internationalization analysis may contribute to a better understanding of upgrading, a major construct within the Global Value Chains (GVCs). Based upon a systematic literature review methodology, we examine upgrading and bank internationalization literatures. We find some gaps in the literature: (i) there is a lack of a structured analysis of banks' global value chain, and (ii) there is clearly a well-defined separation between those literatures. We propose that bank upgrade in the internationalization context is a promising research agenda. The advent of fintechs and the potential entry of large technology companies can create new paths to achieve a better deal in the GVC.*

**Keywords:** Global Value Chain; Upgrade; Internationalization; Banks; Globalization.

**Acknowledgments**

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## INTRODUCTION

This article makes a systematic review of the literature on upgrading of Global Value Chains (GVC) in the context of internationalization of banks.

The global value chain represents the spatial organization of activities for production and trading of a product or service (Gereffi, 1994).

Two key constructs arose within the GVC's theory as an answer to the intense disaggregation of value chain activities in the 1990s: governance and upgrading. Governance was defined by Gereffi as "authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain" (1994, p. 97). Upgrading refers to how to get the "best deal" in the value chain, and it is strictly related to a company's ability to increase the value of its products, improve its processes, and undertake new activities in the value chain with more profitability (Humphrey & Schmitz, 2002; Kaplinsky & Readman, 2001; Ponte and Ewert, 2009).

GVC's governance structure is seen as a major determinant for the level of success of companies that wish to undertake higher value-added activities (Humphrey and Schmitz, 2000). Global chains are defined as "inclusive" or "exclusive" depending on how easy it is for companies with lower positions in the chain to upgrade (Gereffi and Lee, 2012). Other elements also condition the upgrading of firms, including regulatory aspects, government support, and internal capabilities.

Usually, more advanced value chain researches indicate, particularly, the logic of value creation for manufacturing companies to the detriment of service companies (Stabell and Fjeldstad, 1998; Jensen and Petersen, 2014). To a certain extent, this is a limitation that is also commonly found in international business literature. Service companies' internationalization prospects are usually based on studies on manufacturing companies (Coviello and Martin, 1999; Villar et al., 2012).

We believe that the analysis of bank internationalization may contribute to a better understanding of the upgrading process, particularly in the services segment, given that banking operations share service attributes - heterogeneity, intangibility, perishability and inseparability between production and consumption (Jensen and Petersen, 2014) – but also have particularities.

These specificities are reflected in the development of the literature on bank internationalization. Multinational banks literature has introduced ancillary elements including strategies for internationalizing following their own customers (known as follow-the-client) and the creation of mechanisms to capture information in a different jurisdiction (bridgehead strategy).

Accordingly, this article proposes the following research questions:

- *How does the upgrading of banks take place in the value chain?*
- *How and to which extent does the internationalization of banks contribute to upgrading within the value chain?*

To answer these research questions, we structured a systematic review of the literature on GVC's upgrading in the context of internationalization of banks. A systematic literature review is an in-depth analysis of literature contents in order to identify the stage of development of a given point in the literature by indicating gaps and directions for the research. This research method is different from bibliometric analyses that apply mathematical and statistic procedures

to identify and quantify scientific research processes. (Baumeister and Leary, 1997; Tranfield, Denyer and Smart, 2003).

We are not aware of the existence of a systematic literature review that addresses the questions above. None of the articles analyzed in this investigation assessed the configuration of the global value chain of banks. In fact, in the context of international business, we could not find a single study directly relating internationalization of banks to upgrading.

This article is structured as follows. First, we present a theoretical review on upgrading in global value chains and internationalization of banks. Second, we discuss the methodological procedures implemented to select and analyze the database for the systematic literature review and to perform the analysis. Third, we present the key outcomes. The main attributes of the revised literature (such as theories used, empirical design, industry focus, etc.) are identified, and the key arguments and results of the literature are analyzed. Finally, we identify aspects of the internationalization of banks that may contribute to the literature on upgrading and make considerations on future research possibilities.

## **THEORETICAL REVIEW**

### ***Upgrading in the Global Value Chain***

The concept of GVC traces back to the idea of value chain (Porter, 1990, Kogut, 1985). The value chain describes the activities carried out by companies and their employees to take a product from its creation to its final use. This includes activities such as research and development, design, production, marketing, distribution and support to final users. The GVC construct added an international dimension to the value chain, and includes three main pillars: (i) the input-product structure; (ii) territoriality; and (iii) governance structure. (Gereffi, 1994).

Global Value Chains have become a dynamic research agenda in the past decades. The analytic structure of GVC's was applied to several contexts linked to the spatial organization of company activities. These applications include estimates on the appropriation of value among different value chain agents; identification of the appropriate conditions for participation of small and midsize companies in GVCs; preparation of public policies; and ways to promote workforce development (Gereffi and Fernandez-Stark, 2016). Two main constructs originated from the literature on GVC: governance and upgrading.

The governance structure describes “the authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain.” (Gereffi, 1994: 97). Governance is a top-down construct in which leading companies exercise their power and influence. It usually involves the definition of private standards (such as the definition of quality levels) for the activities of suppliers within the chain, hence using non-economic relationships to coordinate these activities.

The second construct mentioned in the literature on GVC involves a bottom-up perspective. (Gereffi e Fernandez-Stark, 2016) Upgrading was initially related to the response of developed countries to a new environment so as to maintain returns on capital and labor. “The most viable response [for an environment with increased competition] is to ‘upgrade’ - to make better products, make them more efficiently, or move into more skilled activities.” (Gereffi et al., 2005). The discussion on upgrading in the GVC gained momentum when developing country firms faced the opportunity (or challenge) to improve its position in the global chains. These

companies began to move from mere suppliers to perform higher value-added activities, capturing larger shares of the value generated in their chains.

Economic improvement is defined as companies (countries or regions) move into higher-value activities in GVC's to increase the benefits (for example, safety, profit, added value, capacities) of participating in global production (Gereffi et al., 2005: 171). Upgrading refers to the ability of a company to innovate, increase the value of its products and processes, and undertake new activities in the value chain, aiming at higher profitability. In summary, how to get a "better deal" in the value chain. (Humphrey and Schmitz, 2002; Kaplinsky and Readman, 2001; Ponte and Ewert, 2009). "The challenge of economic upgrading in GVCs is to identify the conditions under which developing and developed countries and firms can "climb the value chain" from basic assembly activities using low-cost and unskilled labor, to more advanced forms of "full package" supply and integrated manufacturing." (Gereffi and Fernandez-Stark, 2016: 13)

The upgrading typology developed by Humphrey and Schmitz (2002) – process, products, functional and inter-sectoral – was a milestone in the literature for the analysis of possibilities of improvement in the value chain. New upgrading categories were built up on this typology departing from a stream of empirical studies and the observation of diverse environments that GVCs are embedded. However, that typology remains as the core of upgrading analyses.

Chain governance is described in the literature as a crucial element for upgrading perspectives. Placed simply, the question is: "under what conditions are lead firms in global value chains likely to facilitate upgrading by lower-tier suppliers?" (Gereffi and Lee, 2012). The relation between upgrading and governance becomes clear when the learning process is inherently influenced by economic power. (Parrilli and Sacchetti, 2008).

Going beyond value chain governance, these questioning advances investigating firm or environment attributes in which firms are inserted that promote upgrading in GVCs.

The exposure to more than one chain (global, regional or local) – results in higher or lower probability of functional upgrade (Navas-Aleman, 2011; Gereffi and Lee, 2012). The differences in the information and knowledge exchanged, and significant gaps between national leaders and suppliers originate this pattern. (Pietrobelli and Saliola, 2008)

Institutions and regulation are also seen as relevant aspects for upgrading dynamics and perspectives. According to Ponte, Kelling, Jespersen, and Kruijssen (2014) "the strength of the domestic regulatory framework and of public sector support has had an important influence on upgrading trajectories" (p. 62). Better regulation may encourage upgrading. However, this does not seem to play the same role as a stimulus for all types of upgrades.

Firms' internal attributes also play a significant role in economic upgrading. Two elements stand out in this respect. Ownership, meaning the origin of parent or controlling shareholders, manifests itself in significant disparities in local levels of embeddedness (Morris and Staritz, 2014). Those competencies that a firm has already developed (firm's own capabilities) also determine the probability of upgrading taking place (Pananond, 2013; Jer, 2014) as well as its conformation

### ***Bank Internationalization***

We consider in this article bank activities those activities related to retail, wholesale, investment bank and private bank.

A retail bank is a mass-market focused institution offering services as savings and checking accounts, loans, payment systems and certificates of deposit. “The core activity is to act as intermediaries between depositors and borrowers.” (Heffernan, 2005: 1)

Wholesale banking are those services typically provided to large clients - corporations and other banks – and includes currency conversion, working capital, trade financing and other types of services.

Investment banking has a main focus on providing long term capital for its clients, acting as advisers or intermediaries in underwriting new equity shares or raising other kinds of funds. The investment banking services are usually provided for medium and large companies, as well for other financial institutions.

Finally, private banking involves a series of wealth management services targeting wealthy, high net worth individuals (HNWI). Private banking comprises asset growth and protection services, solutions to transfer wealth on to future generations and other specialized services. The solutions provided are usually tailored and proprietary and highly based on privacy.

A bank can operate on one or several of these segments. In some countries, there are regulatory restrictions forbidding an institution to engage in some of the activities simultaneously (in general, with restrictions on simultaneous operations in retail and investment banking). However, a form of organization frequently found in many jurisdictions is the universal bank, when all these activities are brought together under one roof.

The literature on the internationalization of banks share elements of the traditional literature on internationalization. However, it has not followed the same path and introduced ancillary elements arising from the specific dynamics of multinational banks (Berger et al., 2004; Focarelli and Pozzolo, 2001, 2006; Moshiran, 2004).

A reason for bank internationalization, as well as for manufacturing multinational companies, is to find new markets, to add and diversify sources of revenue. Banks with an international presence have competitive advantages over those operating only in the domestic market since they can avoid being subject to the idiosyncratic risks of a single financial market. When they internationalize, they may also gain access to more flexible regulations (Aliber, 1976).

As in the mainstream literature, bank internationalization may be motivated to access resources not available in-home countries. Securing cheaper financial resources to fund operations explains operations in global financial centers (such as the United States or the United Kingdom). This may reduce overall funding costs and leverage competitiveness in the local market (Slager, 2006). Bank internationalization is also seen as a way of exploiting non-competitive destination markets (Tschoegl, 1987), using resources held by the firm to appropriate extraordinary gains in other countries.

In its turn, bank internationalization theory brings novel discussions. One reason for international expansion is to keep an advantage of an existing relationship with domestic customers who also operate abroad. This is known as the “follow-the-client” strategy, in which the international expansion of companies precedes or triggers the internationalization of banks. Nigh, Cho and Krishnan (1986) produce evidence that the presence of US companies leads to the involvement of US banks in the same countries. The same phenomenon occurs with Japanese companies and banks (Qian and Delios, 2008)

## **METHOD**

To fulfill the objectives of our research, we have undertaken a systematic review of the literature. The purpose of a systematic review is to answer a question or test a specific hypothesis. It is also a method of mapping an area of uncertainty and identifying where little or no proper research has been done, determining where new studies are needed (Petticrew and Roberts, 2006, p. 2) and indicating areas of research where there is insufficient certainty about results, or where they lack legitimacy – in other words, areas where there is little convincing evidence in support of the results (Petticrew and Roberts, 2006).

Our systematic review of the literature has been guided by the procedures presented on Tranfield et al. (2003), Baumeister and Leary (1997) and Fink (2010)

We seek answers to the following questions:

- *How does an upgrade in the global value chain occur in the case of a bank?*
- *How and to what extent does the internationalization of banks contribute to their upgrade in global value chain?*

The database selected for the analysis was the Web of Science (ISI Web of Knowledge). We grouped the keywords “value chain”, “upgrading” “banks” and “internationalization” in twos, giving a total of six combinations, coding them as Boolean variables: i) “value chain” and “upgrad\*”; ii) “value chain” and “bank\*”; iii) “value chain” and “internationali\*”; iv) “upgrad\*” and “bank\*”; v) “upgrad\*” and “internationali\*”; vi) “bank\*” and “internationali\*”. We used the term “value chain” instead of “global value chain” to avoid eliminating observations which could bring aspects of upgrading in the value chains but which were not clearly related to the international (or global) dimension.

The research covered all languages in the search period 1945 to 2017 and all the citation indices for the areas of Business, Management and Economics.

The initial search returned 424 articles, books and chapters of books. The sample was then restricted to articles in periodicals which include blind reviews and whose knowledge has already been validated (Klang, Wallnofer and Hacklin, 2014). Repeated articles were eliminated and only those published in mature periodicals, with international credibility, were selected. Only articles with an impact factor in the Journal of Citation Reports (JCR) of 1.5 or above (as in Calixto and Fleury, 2015) were selected, giving a new sample of 197 articles.

The final step was to assess the articles contents. By reading the titles and abstracts, we eliminated those articles that could not be found; those which did not use the firm as the unit of analysis (i.e. focusing on countries); those which dealt with aspects of the banking sector not applicable to international business or the value chain (such as resource management, risk analysis). After this stage of selection, 73 articles remained. In-depth reading of the articles led to the exclusion of a further 17 articles, leaving a final sample of 56 articles.

The final sample was reviewed and analyzed in detail. We used a data extracting form, in a database format, covering the key points of interest: title, authors, source (periodical), research methods (e.g. econometric methods, case studies, interviews, mixed methods), elements affecting the upgrading, sectors and types of upgrading, etc.

## **RESULTS**

The selected articles show a wide range of investigations on upgrading in GVCs and bank internationalization.

The discussion on the upgrade side focuses on two main topics. First, how upgrade happens, that is, what different upgrade strategies are adopted by companies. Second, the factors that stimulate, facilitate or constrain the upgrading in the value chain and their different impacts on each type of upgrade.

New strategies and upgrading patterns going beyond the typology described in Humphrey and Schmitz (2002) were developed: the incorporation of social upgrading, corporate social responsibility and environmental aspects follows this trend (Lee and Gereffi, 2015, De Marchi, Di Maria and Micelli, 2013) as well as other strategies linked to direct economic gains from value chain improvements (Fernandez-Stark, Bamber and Gereffi, (2014) apud Gereffi and Fernandez-Stark (2016)). However, the typology developed by Humphrey and Schmitz (2002) is still the centerpiece of the analyses on upgrading. Functional, process, product and inter-chain upgrading strategies (in this order of number of appearances in the revised articles) are found in 27 of the 31 articles that address types of upgrading.

Value chain governance is the most frequently conditioning factor for upgrading in our sample (8 observations), followed by institutional aspects and internal capabilities (3 observations each) and international trade relations (i.e., presence of trade agreements and/or privileged access to markets) with 2 observations.

Some conditioning factors stand out despite a low numbers of observations. The first is the institutional and regulatory framework. For example, local institutions influence the extent to which companies can improve their capabilities when education, research and innovation systems affect international flows of knowledge, broadening or restricting firms build up of new knowledge and skills (Ramirez and Rainbird, 2010). Regulatory aspects are important conditions for upgrading in GVCs since they restrict actions and define standards and may foster or hinder firms upgrading alternatives.

The role of ownership and embeddedness in upgrading strategies is receiving more attention. They matter to upgrade as they affect the ability of companies to switch between different markets and meet requirements of leaders in the GVC. Companies inserted in certain environments hold competencies on how to deal with specific attributes in similar environments. As a result, leading companies from emerging countries would be more likely to become leading companies in other emerging markets. (Morris, Staritz, 2014)

Table 1 presents the 10 most relevant articles on upgrading in GVCs.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

On the other hand, the analysis of the literature on banking internationalization indicates that its development apart from the literature of international business may be related to particularities of the banking segment, both when compared to manufacturing or to other segments of the service sector.

Banks by their very nature share many service industries features. However, there are attributes that distinguish the banking industry. First, banks are based on two very different value creating logics in as much as they usually provide two distinct services: connecting and advising clients. "Connecting" is a network service while "advising" is a consulting service. (Jensen and Petersen, 2014)

Second, banks are subject to a tight scrutiny from regulators (usually central banks) in their daily operations and long-term prospects and banking regulations and supervision are highly influenced by local institutions. The degree of assertiveness of enforcement policies depends on attributes of the political system, the degree of economic stability and the prevalence of interest groups.

Third, the costs of building reputation and a customer network are way more critical than investing in fixed assets and equipment. (Buch and Lipponer, 2007)

Finally, bank activities grant access to clients' strategic data - such as liquidity and solvency, past behavior and plans for the future. Data are very specific for relations between clients and their banks. If this information is traded in an external market, they may be lost, deformed, mispriced or imitated. In this context, a market transaction cannot set a price for the information, even if an institution intends to sell this information to enable another institution to serve its clients. Hence, a market failure arises, fostering bank integration and verticalization. (Buckley and Casson, 1991; Qian and Delios, 2008).

The ownership of those streams of client-bank relationship data may be even seen as a bank's main asset (Llewellyn, 1996) and the origin of a banking industry characteristic: a high degree of verticalization. The exploration of those private information generated from banking relationships is key to create opportunities for additional gains to the banking institutions. (Buch, Koch and Koetter, 2013). The gains from maintaining this information private stimulate the internalization of activities and internationalization act as a strategy to internalize market imperfections. This is the basis of the follow-the-client strategy, when a bank capitalizes on the established relationship with customers in the domestic market for overseas expansion (Nigh, Cho and Krishnan, 1986; Qian and Delios, 2008). Bank internationalization relies on the bank accumulated knowledge on the client, using it as a competitive advantage to provide services in the host country. At the same time, by keeping this information private, even when the customer has operations in another country, the local bank limits the possibilities of entry of foreign competitors into their own country, which is why this strategy is often understood as defensive.

The centerpiece of the follow-the-client strategy reflects an important characteristic of banking segment: strategies based on internalization of customer knowledge benefits.

Bank internationalization drivers and limits may also be uncovered by the investigation of those activities that are kept in the parent companies and those that are decentralized to the subsidiaries in host countries. Activities that require direct contact with clients, such as marketing and product development, are concentrated in the subsidiaries. Back office activities may be highly centralized and kept at the parent company, as in Banco Santander expansion in Latin America (Parada, Alemany, Planellas, 2009). They may also be offshored to other countries. Citibank is known to be one of the most experienced banks in offshoring IT processes, historically with large operations in India.

Grote and Taeube (2007) analyze conditions under which outsourcing and offshoring investment banking activities (equity research and country analysis) are not expedient. Equity researchers are usually located close to the companies they analyze. Their activities require a high level of embeddedness because key information is frequently transmitted tacitly, in spontaneous meetings and regular informal contacts. On the other hand, country analysts activities consist mainly updating databases and monitoring events in progress in the countries covered - can be carried out at distance with the support of information and communications

technology (ICT). Outsourcing and offshoring parts of the banking value chain (or keeping them in the parent company) depends of the degree of embeddedness required for each activity.

Table 2 presents the 10 most relevant articles on bank internationalization.

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

## **DISCUSSION**

The research questions proposed in the present systematic literature review focus on identifying how bank internationalization is related to the process of bank upgrading in the GVC. Surprisingly, we could not find articles that directly relate bank internationalization to upgrade and there is clearly a well-defined separation between those two issues in the literature. No references on bank internationalization could be found on upgrade literature. Also, bank internationalization literature does not discuss how this strategic movement is related to reaching a better deal in the GVC.

In this way, we identify some gaps in the GVC literature. First, the literature still lacks a structured analysis of banks' global value chain. There is an opportunity to define with more detail and accuracy bank's global value chain and understand in more depth banks upgrading strategies.

Second, there is indeed room to study how the international dimension relates to the process of bank upgrading in GVC. In an exploratory and non-exhaustive effort, we adopt Humphrey and Schimtz (2002) the typology and identify general guidelines on how upgrading can occur in the banking industry and how it relates to the international dimension.

Third, the recent wave of technological change in financial sector - especially with the rise of fintechs – might be a promising research agenda from the upgrading viewpoint.

### ***Product upgrading***

Funding and credit instrument, means of payments (associated with retail banking) are not substantially different among countries and the same holds for advisory services to companies (wholesale or investment banking) and high net worth individuals (private banking). However, the level of complexity and technology of these products may differ from country to country depending on institutional factors and the specific country development (and, hence, financial system development) and this might be the dimension where product upgrading occurs. Product enhancement may depend on institutional factor associated with different levels of country development and operations in multiple and diverse countries may facilitate product upgrading through internal technology transfer across the organization. This was the case of smart cards, that is, debit / credit cards with an embedded integrated circuit ("chip") used to authorize and authenticate transactions in association with PIN numbers. They were first deployed in emerging market countries, where institutional conditions are weaker and frauds by card cloning are frequent. Only a few years ago, those cards began to be introduced in more developed markets, as in the United States. In this context,

In private banking services, there are products that are not viable in-home markets. This may be due to local financial market gaps associated with the degree of development of the country or due to regulatory issues that limit their provision – such as the degree of confidentiality on client information or transactions. In practice, the provision of those services using correspondent banks abroad may be discouraged in order to keep client information private. To

enhance its product portfolio and upgrade products, a bank is compelled to establish operations in other countries – usually, leading world financial centers such as New York, London and Hong Kong. The combination of local market underdevelopment, regulatory limitations and internalization logic may stimulate bank internationalization, creating a channel to product upgrading.

### ***Process upgrading***

We see a more limited scope for the direct relationship between internationalization and process upgrading, particularly in retail banking. Large-scale banking necessarily requires a higher degree of standardization of operational processes, risk management, among others. In general, these are activities that are prone for a higher degree of codification to meet requirements imposed by regulators regarding safety and sustainability of operations and the improvement of these processes may not require international presence. This relationship may not hold in the same way when process upgrading is tied to tacit knowledge. When banks internationalize and have to deal with different and more sophisticated regulators, they may be exposed to novel situations and this may lead to process upgrading through learning by doing. Compliance and governance processes strengthening seems to fit into this situation.

### ***Inter-sectoral upgrading***

Inter-sectoral upgrading may be associated in the banking industry to expansion into related financial system segments such as insurance, securities brokerage, payment systems and administration of third-party resources, leading the transformation of bank institutions into more diversified financial conglomerates. Operations in new segments benefit from the knowledge acquired in the sector of origin (Humphrey and Schmitz, 2002). Profitable credit card management require credit analysis capabilities that can come from banking previous experience. The insurance and third parties' asset management activities share asset / liability management skills also found in banking.

Although a driver for the expansion of banks to other segments seems to be the pursuit of economies of scope, the incentives for keeping information on customers private (the internalization driver) seems to be also very relevant. The combination of such features encourages bank expansion to other segments. They can obtain economies of scope exploiting the same brand (or accumulated reputation) in other activities. They can keep for themselves the benefits of building information sets from their clients, that is, they internalize benefits arising from client private information and avoid the previously mentioned market failures.

Internalization seems to be the powerhouse behind the establishment of financial conglomerates. However, from an internationalization viewpoint, we do not identify clear situations when inter-sector upgrade relates to the international dimension, at least in the traditional organization of the financial services industry that has prevailed to the moment.

### ***Technology change impacts on upgrading dynamics***

Banking industry competitive landscape has been recently changed due to a recent wave of technological change in financial sector, especially with the advent of fintechs.

“Fintech cover digital innovations and technology-enabled business model innovations in the financial sector. Such innovations can disrupt existing industry structures and blur industry boundaries, facilitate strategic disintermediation, revolutionize how existing firms create and deliver products and services, provide new gateways for entrepreneurship, democratize access

to financial services, but also create significant privacy, regulatory and law enforcement challenges.” (Philippon, 2016:1)

New patterns of access and customer relationship based on application-based Internet access devices (smartphones and tablets) and data analytics tools are the basis of the rise of fintech and are fastly reducing the cost of acquiring and keeping a relationship with clients in retail banking. It is reasonable to assume that the impact of fintechs on banks business model and upgrading dynamics will not be restricted to national borders. These companies may search for economies of scale and they may not limit themselves to domestic markets, engaging in internationalization initiatives.

Moreover, big technology companies that have their business model based on connecting people and business services globally - such as Google and Facebook - are potential entrants into the banking sector. The possibility of offering banking services to a huge and diversified global customer base, as well as using the information accumulated in the relationship to improve product offerings, are factors that stimulate the entry of these companies into the banking market. Google has been recently granted an electronic money institution license in Lithuania. (Bank of Lithuania, 2018). The entrance of such players in the banking industry may change how information on clients, a central input for banking is obtained and processed. These transformations may imply new challenges for traditional banking institutions, which may have to develop new ways to achieve a better deal in the GVC.

## **FINAL REMARKS**

We believe that the analysis of bank internationalization may contribute to a better understanding of the upgrading process, particularly in the services segment. Bank internationalization literature includes novel elements, such as international destination strategies based on those of their own clients, when international expansion of companies precede or trigger bank internationalization. The centerpiece of the follow-the-client strategy reflects an important characteristic of banking segment: strategies based on internalization of customer knowledge benefits. Bank upgrade and its connection to internationalization seems to be a promising research agenda especially when we take into account the recent wave of technological change in the financial sector, with the rise of fintechs and the potential entrance in this market of big technology companies with business models based in connecting logic.

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**Table 1**  
10 most relevant articles on upgrading in GVCs

	Title	Autors	Journal	Year	Citations	Citations per year	Approach	Collection and Data Analysis Technique
1	How does insertion in global value chains affect upgrading in industrial clusters?	Humphrey, J; Schmitz, H	Regional Studies	2002	707	42	Theoretical	Non-applicable
2	Upgrading in global value chains: Lessons from Latin American clusters	Giuliani, E; Pietrobelli, C; Rabellotti, R	World Development	2005	294	21	Empirical	Survey
3	Catch-up strategies in the Indian auto components industry: Domestic firms' responses to market liberalization	Kumaraswamy, Arun; Mudambi, Ram; Saranga, Haritha; Tripathy, Arindam	Journal Of International Business Studies	2012	116	17	Empirical	Econometric methods, panel data
4	Global Value Chains Meet Innovation Systems: Are There Learning Opportunities for Developing Countries?	Pietrobelli, Carlo; Rabellotti, Roberta	World Development	2011	114	14	Theoretical	Non-applicable
5	Which Way is Up in Upgrading? Trajectories of Change in the Value Chain for South African Wine	Ponte, Stefano; Ewert, Joachim	World Development	2009	105	11	Empirical	Case study
6	Why the World Suddenly Cares About Global Supply Chains	Gereffi, Gary; Lee, Joonkoo	Journal Of Supply Chain Management	2012	91	13	Theoretical	Non-applicable
7	The Impact of Operating in Multiple Value Chains for Upgrading: The Case of the Brazilian Furniture and Footwear Industries	Navas-Aleman, Lizbeth	World Development	2011	51	6	Empirical	Survey
8	The Blue Revolution in Asia: Upgrading and Governance in Aquaculture Value Chains	Ponte, Stefano; Kelling, Ingrid; Jespersen, Karen Sau; Kruijssen, Froukje	World Development	2014	27	5	Empirical	Survey
9	Industrialization Trajectories in Madagascar's Export Apparel Industry: Ownership, Embeddedness, Markets, and Upgrading	Morris, Mike; Staritz, Cornelia	World Development	2014	18	4	Empirical	Survey
10	Where Do We Go from Here?: Globalizing Subsidiaries Moving Up the Value Chain	Pananond, Pavidia	Journal Of International Management	2013	15	3	Empirical	Case study

Source: Analysis of the authors with information of the articles selected for the systematic review.

**Table 2**  
10 most relevant articles on bank internationalization

	Title	Autors	Journal
1	The multinational bank: a financial MNC?	Gray, J.M; Gray, H.P	Journal Of Banking & Finance
2	Where do banks expand abroad? An empirical analysis.	Focarelli, D; Pozzolo, A.F	The Journal Of Business
3	FDI versus exports: Evidence from German banks	Buch, Claudia M.; Lipponer, Alexander	Journal Of Banking & Finance
4	Internalization and experience: Japanese banks' international expansion, 1980-1998	Qian, Lihong; Delios, Andrew	Journal Of International Business Studies
5	Do Banks Benefit from Internationalization? Revisiting the Market Power-Risk Nexus*	Buch, Claudia M.; Koch, Catherine T.; Koetter, Michael	Review Of Finance
6	FDI and internationalization: Evidence from US subsidiaries of foreign banks	Tschoegl, AE	Journal Of International Business Studies
7	The Internationalisation of Retail Banking: Banco Santander's Journey towards Globalisation	Parada, Pedro; Alemany, Luisa; Planellas, Marcel	Long Range Planning
8	Foreign Market Entry Strategies in Retail Banking: Choosing an Entry Mode in a Landscape of Constraints	Petrou, Andreas P.	Long Range Planning
9	Value creation logics and internationalization of service firms	Jensen, Peter D. Orberg; Petersen, Bent	International Marketing Review
10	Should I stay or should I go? Bank productivity and internationalization decisions	Buch, Claudia M.; Koch, Catherine T.; Koetter, Michael	Journal Of Banking & Finance

Source: Analysis of the authors with information of the articles selected for the systematic review.

*Track 14 FDI and Internationalization*

**ID #707**

**Social upgrading and global value chains: The case of the local productive cluster of Espírito Santo (Brazil)**

**Ricardo J Maykot** (ESPM, Brazil)

**Ilan Avrighir** (ESPM, Brazil)

**Abstract**

*Much of the research on international management, especially on global value chains (GVCs), examines the relationship between integration and local productive Clusters in these chains and economic development. Less analysis is found linking this integration and the improvement of social well-being (upgrading)(1), understood as improvements in pay, living conditions, workers' rights, gender equity and economic security of workers. This study aims to analyze the economic benefits and social well-being in communities included in the global chain of commercialization of the granite for construction of the State of Espírito Santo (Brazil), seeking to validate the current academic debate through the replication of results of other research on the role of GVCs and internationalization in the quality of life of people. To this will be made quantitative analysis of secondary data –export volumes of the mineral, indicators of income, health and education of the municipalities in the region, in order to test the assumptions inherent in the project. Contributes to the understanding of this issue by verifying the existence or not of the positive relationship between integration into GVCs and upgrading social, a relationship that has been studied so far almost exclusively through exploratory qualitative studies.(1) The term social upgrading will be used throughout the text as a synonym for welfare improvement.*

**Keywords:** International Management; Export; Global Value Chains; Social Upgrading; Internationalization..

**Acknowledgments**

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## **INTRODUCTION**

### ***Contextualization***

With the fragmentation of production across countries, the importance of the systematic approach to production and the Exchange grew in the 1980 (Kaplinsky 1985; Perez, 1985). One of the concepts that emerged is the value chain. It describes the full range of activities that are required to bring a product from your design, drawing, raw materials and intermediate inputs, marketing, distribution and post-sale. In other words, the chain can be seen as development of production, Exchange, distribution and consumption from the cradle to the grave of a given product or service (Kaplinsky, 1998).

Where these activities can generate improvements in rights and protection to workers, they can promote social improvement. But often this job is insecure and unprotected, and there are significant challenges to ensure decent work for the most vulnerable workers. The economic improvement is defined as "the process by which economic actors - companies and workers- pass low-value activities to high-value activities in global production networks. The economic improvement is related to social improvement, but the two have different dimensions (Barrientos, Gereffi e Rossi, 2010).

Already the upgrade is the process of improving workers' rights as social actors and also improves the quality of employment. This includes access to best work, which may result from economic update every time new skills can move it to a better place in jail, but also involves the improvement of working conditions, protection and rights. Improve the welfare of workers can also help their families and communities (Barrientos, Gereffi e Rossi, 2010).

Despite the importance of the improvement of social welfare, there is no clear evidence showing correlation between economic improvement and upgrading social (Brown 2007; Locke et al., 2007), cited by Barrientos, Gereffi and Rossi (2010). Researchers also highlighted some of the negative effects of involvement in global production chains. However, it still needs to be unzipped, exploring the possible relationship between economic and social improvement and, specifically, under what conditions economic improvement is accompanied by social improvement (Barrientos, Gereffi e Rossi, 2010).

According to Milberg and Winkler (2011), the presumption in the literature is that the economic update brings improved performance in exports, international insertion and improvement in well-being. The analysis of the authors from the sample of developing countries shows that, although the commercial and economic performances are strongly correlated positively, the link between the economic improvement and upgrading are less observed. This is an important point that indicates the need for a better understanding of this connection. The vision of both from an eclectic body of research, identify a number of ways in which current research could be extended to improve understanding of the relationship between economic growth and social upgrading in CGVs (Milberg e Winkler, 2011).

At some point, Milberg and Winkler connect your work to a growing contingent of studies that examine the relationship between exports and wages, the international competition has been cited as a source of increased wage inequality: Bernard and Jensen (1997) argue that much of the increase in wage inequality in the manufacturing segment of the United States in the 1980 can be explained by an increase in relative demand for labor by exporting companies that, in compared to non-exporters, employ relatively more skilled workers (IE not allocated in production lines) that low-skilled workers (allocated in these lines). The effect of exports on wage inequality can be strengthened if, in addition, the exporting companies offset skill groups

differently from domestic companies. If highly qualified workers receive a higher salary in the export of low-skilled workers, the export may contribute to income inequality not only between different groups of skills, but also the group with the same skill (Milberg e Winkler, 2011).

The present work analyzes the correlation between social upgrade and integration in the GVC of granite in the State of Espírito Santo, for a defined geographical area, with significant prevalence (and dependency) of mineral exploration by an important percentage of local communities. The extraction and export of rocks in the country are concentrated in this region and more than 50% of the national production of rocks is sourced in that State, although your area represent only 0.54% of the national territory and less than 2% of the country's population. In Espírito Santo there are aprox. 1,140 companies employing more than 19,500 people directly and other 100,000 indirectly (FINDES, 2016), presenting characteristics inherent to Marshall's industrial districts (Fernandes, 2006).

Between 2002 e 2007 the national export of granite, heavily concentrated in the Espírito Santo cluster of Cachoeiro de Itapemirim goes from 200 million dollars to about 700 million. Between 1996 and 2003, the cluster held strong functional upgrade and added a lot more value to the product, given that the average price of ton of plates is 3.5 times the ton of rock. It occurs, therefore, intensively at the granite cluster, essentially between 2002 and 2007 two theoretically favorable conditions to increase the social upgrading: the increasing integration of the cluster in the GVC and functional upgrading. These conditions make the cluster an extreme case to the study of the relationship between integration into GVCs and functional upgrading. If the study does not find that there has been an upgrading in the region in the period, it will contribute with important arguments for the rejection of the hypothesis that the integration into GVCs contributes to this upgrading.

### ***Research question***

The potential to promote social well-being in communities inserted into global value chains (GVCs), in addition to the economic benefits of this insertion has been the subject of questions (Lee and Gereffi, 2015). To analyze secondary data-the evolution of a set of social indicators in cities involved in the operation of the granite in the State of Espírito Santo (Brazil) and the correlation with the increase of export-this study puts the question of research: the cluster integration into GVCs promotes the increase of social welfare in the communities where they are inserted?

Already in 1971, Rawls developed the concept of quality of life associated with the "primary goods", which would include the basic rights, freedoms, opportunities, income and wealth, power vested by the profession and self-respect. He confirms that, since these things are vital to all, must be distributed equally among all people.

The first principle of Rawls on Justice defines that "every person should have an equal right to the most extensive system of basic liberties compatible with a similar system of liberty for all" and the second principle that "social inequalities and Economics should be arranged so that they are: (a) to the greatest benefit of the least advantaged, consistent with the principle of fair savings, and (b) attached to offices and positions open to all under conditions of fair equality of opportunity " (Rawls, 1971). Accordingly, the well-being of each person is based on equal cooperation and certain groups in society may not be deprived of welfare for others to prosper (Rawls, 1971).

The empirical results of Endocrine et al (2015), are consistent with the extensive literature on the conceptualization and measurement of individual capabilities, which established that the

welfare is inherently multidimensional; Therefore, inequality must also be consistently measured along a number of dimensions. The main innovation of Endocrine (2015) it was argued that “the welfare of individuals depends not only on what a person has really achieved, but also, and, just as important, about what a person expects to be able to achieve in the future. Therefore, a measure of inequality must explain the disparities in the abilities of people to achieve their desired goals-even if only potential-in view of the current situation of individuals and expectations about their future. (Binelli et al, 2015).

### ***Research goal***

According to Eisenhardt (1989), the construction of the theory has a vital feature, which is the comparison of concepts, theories and hypotheses bursts with the available literature. About questioning what it resembles, in which differs and why. For a run of excellence that process is crucial if use of a vast literature. This literature is important to discuss the similarities in the results and call the non-specific similarities in associated phenomena among themselves in normal situations. Often, this leads to a theory of internal validity expanded, with greater generalization and higher conceptual level. When literature conflicts, opens an opportunity: this juxtaposition of heterogeneous strength results in a more creative atmosphere and a way of thinking much more structural than would be able to achieve. As a result, you can reach a deeper vision both in emerging theory as the conflict found.

In seminal works of 1981 and 1984, Yin described the design of case study research. The author establishes case study as a research strategy, develops a typology of case study projects and describes the logic for replication that is essential for the analysis of multiple cases. The Yin approach also boosts the concern with validation and reliability inherent in the experimental research projects in the research design of case study (Yin, 1981, 1984).

The overall objective of this study is to verify the insertion of the communities in the global chain of granite marketing impact in terms of improving the General conditions of collective well-being, based on published literature available lists in your theoretical framework and supported by secondary data research, runs through the critical analysis of evolution of a welfare indicator – the set of social indicators of the towns that explore and export Granite in the State of Espírito Santo.

### ***Background and study Contribution***

The relationship between integration in global chains and improvements in working conditions is treated in a manner not compliant by various authors: still in the past decade, work began to draw attention to the relationship between GVC and work issues (Knorringer & Pegler, 2006). Milberg and Winkler already highlighted in 2011 the lack of jobs that use a quantitative approach. Several made up of theoretical essays, literature reviews and a substantial portion of research on upgrading was of case studies on countries, regions or sectors. According to the authors, the economic development would be becoming synonymous with upgrading of global production networks economic (GPNs). However, while in several research connecting economic update with economic growth and international trade, only a minor portion of work focus on the analysis of the relationship between economic and social upgrading; in other words, the improvements in wages, conditions, human rights, gender, equality and economic security of workers in GPNs.

The focus of most studies on upgrading economic is about the degree of technological sophistication of production and especially on value added. In the terminology of global value chains (GVCs), the update is defined as "the ability of producers (in developing countries) go

up the value chain, whether through changes to functional most rewarding positions or making products which have higher added value invested and that can provide better return for producers" (Gibbon e Ponte, 2005). Still according to the authors, the economic upgrading may come associated with an upgrading or downgrading (relegation). Can also occur even in the social upgrading lack of economic improvement, and yet a country experience simultaneously worsening social and economic.

In this context and from the specific case study with quantitative approach – supported by secondary databases of government source, the proposal of this dissertation is justified for aggregate and enrich the current academic discussion around the paper effective of GVCs in economic activity improvement possibly associated with a social impact.

## **LITERATURE REVIEW**

### ***Global Value chains***

Since the decade of 1960, multinationals have sliced their supply chains in search of skilled, low-cost suppliers overseas. The literature on "the new international division of labor" has detected the growth of manufactured exports of developing countries, by establishing export platforms in intensive manpower created by foreign companies in areas with low wages (Fröobel et al., 1981). In the 1990 and 2000, the industries and activities covered by the global supply chains have increased exponentially, encompassing not only the finished products but also components and sub-assemblies, and that affect not only the industry but the manufacturing sectors of energy, food production and various types of services, such as call centers, accounting, to research and development (P&D) of the main multinational companies (Engardio et al, 2003).

In this sense, the pattern of involvement of suppliers is explained by Johanson and Vahlne, seminal work on the process of internationalization of 1990. The authors claim that the relationship (or appointment) of the company with a market develops in jail, where at the beginning there is no regular activity for this market, the export through representatives, later via a subsidiary, reaching until the establishment of own operations abroad. This sequence of stages would symbolize the growing commitment of resources for the new market (Johanson e Vahlne, 1990).

According to Cavusgil (1984), most scholars agree that the companies present an evolutionary process in the way they act in dealings with other countries and if internationalize. The author identifies several stages throughout this process: the experimental involvement, active involvement and committed involvement. The experimental involvement usually begins with an export product of unprovoked query, where the company responds in a manner that is reactive and handles international business as marginal to the main business, your site. With managerial resources, capital and allocated production with reluctance, the long-term goals do not prevail over the short term (Cavusgil, 1984).

Discussions about the benefits of participation in the GVC revolve around the portion of the added value which the individual countries add, and if it has increased or decreased over time. Econometric evidence, suggest that the growth of exports benefits all participants of a GVC, increasing your added value. Be more integrated in a GVC is associated with higher added value and greater domestic exports (Santoni e Taglioni, 2015).

According to Fung (2011), the Organization of the global economy would be starting a new phase (what some called big inflection point), that could have significant implications for the upgrading or economic downgrading between countries, companies and workers. The role of the Washington consensus as a paradigm for developing countries was severely weakened (Gore, 2000) and any alternative development strategy has taken your place (Gereffi, 2014).

The debate about the role of GVCs and your influence on improving the local economic activity is divided between two lines of thought: he believes that relations between local companies and institutions are key to this improvement and one that argues that the spaces are defined by the improvement of supply strategies of global buyers. Several important questions arise from this debate: how viable is to develop local improvement strategies? The institutions (such as Governments and funding agencies) can make a difference, or global forces can neutralize them? The overall quality and labor standards marginalize developing countries ' producers or they help to upgrade? Humphrey (2001) proposed a new understanding of how global and local governance interact, highlighting the power and inequality in global chains.

The importance of territoriality to value chains was recognized by the theory of global production chains, which also gives more emphasis to the actors and relationships in global networks. GPNs theory replaces the concept of improvement with the concepts of creating and capturing value and recognizes the possibility of using networks as units of analysis, but remains using companies to do so. However, the connection between the enterprise improvement (or value) and local development, both in the theory of how the GPNs GVCs was challenged (de Figueiredo, 2017).

An important complement to the concept of the value chain is the idea that many chains are characterized by a dominant part (or sometimes parts) who becomes responsible for updating activities within individual links and coordinate the interaction between the links. This is the role of chain governance (Hopkins e Wallerstein, 1986), (Gereffi e Korzeniewicz, 1994); cited por Kaplinsky (1998).

Gereffi (1994) addresses the issue of governance in a GVC from the relationship of authority and power that will determine how the resources of various natures (financial, material and human) will be mobilized and will flow in a supply chain. Understanding how a GVC is controlled and governed can make the insertion and the growth of the company as global industry easier. Analyze the governance requires, in practice, identify which companies are leading the industry, their locations, as the same interact with the supplied structure in addition to the sources of influence and power held about the providers throughout the chain (Gereffi e Fernandez-Stark, 2016).

An innovative feature of the conducted by buyers where leading companies are major retailers (such as Wal-Mart and Tesco) or global brands (such as Nike and Gap) is that they do not have direct property on factories, but great control over the production, through the ability to establish prices, product specifications, standards and delivery conditions in their supply chains (Barrientos, Gereffi e Rossi, 2010).

Examples, especially in emerging countries, have shown that the involvement of companies is uneven, since there is a clear imbalance of power in favour of buyers. In the case cited by Navas-Alemán (2011) on the shoe industry in Brazil, the strategic direction unequivocally exporter, backed and supported by local institutions, meant that if I lost focus on the local market and, with the emergence of competitors more able to meet the demand of the countries buyers, several companies ran the risk of disappearing.

The asymmetry of power in captive networks force suppliers to relate with your buyer on conditions laid down by, and often this specific buyer, leading to non-regulated links and high costs of change for both parties. Once the core competency of leading companies tends to be in areas outside the production, help your suppliers to update their production capacities don't invade this basic competence, but benefits the company leader, increasing the efficiency of your supply chain of supplies. In conclusion, the ethical leadership is vital to ensure that suppliers receive fair treatment and equitable participation in market price (Gereffi; Fernandez-Stark, 2016).

### ***The role of GVCs in developing communities in them inserted***

The term development, or more specifically the improvement, is treated as a move toward higher value-added activities in the production, to improve technology, knowledge and skills, and to increase the benefits or profits arising from the participation in global production chains. The analytical concept of improvement was embraced almost unanimously by actors of development agencies that establish conceptual foundations for the approach and has been instrumental in monitoring the theory of value chain along your transformation a critical social science for a framework of action for interventions of development. Gereffi et al. (2001), Neilson (2014) address the inclusion of companies in local and global value chains as a way of maximizing value and learning, leading to improved agents involved. Policymakers have adopted the idea that participation in global value chains and production networks as the key to economic growth. However, in the light of considerable political interest in value chains for social development, surprisingly few were carried out research on how these policies were implemented in practice and whether they were effective in the field (Neilson, 2014).

Barrientos, Gereffi and Rossi (2010), citing Elliot and Freeman (2003); Barrientos and Smith (2007), maintain that the social improvement can be subdivided into two components: measurable standards and enabling rights. Measurable standards are those aspects of well-being of workers that are possible to be observable and quantifiable, as a category of employment, wage levels, working hours and social protection. On the other hand, enabling rights are less easily quantified, such as freedom of Association and the right to collective bargaining, non-discrimination, the right to expression and the training (Barrientos, Gereffi e Rossi, 2010).

In 2014, and article Peace exploit the depreciation of the exchange rate of Brazil in 1999 to identify the effects of an increase in exports on wages. Their findings show that this export shock increased the average salary within the companies according to the initial level of productivity of the same, that is, approximately two thirds of this wage increase took the form of a bigger salary award, while upgrading the skill of the work (technical improvement professional) represented the remaining part. Examining further the effects on wages in occupation level, it turned out that not all occupations were affected also through these two channels of wage improvement. Of the three types of white-collar occupations investigated, only managerial level professionals benefited from the shock of the exchange rate through wage increases. Blue-collar skilled workers received the raise. (Araujo e Paz, 2014).

Stringer (2014) analyzes the operation of foreign charter vessels in New Zealand waters, connected to the commodity-driven value chains and dominated by major retailers in business models typically focused on minimizing costs – and questions as an abuse of power and the Suppression of minority rights can happen in an institutional environment which is supposed to offer protection to workers against such treatment. The authors conclude that the Elimination of unfair practices search object only occurs via transparency along the chain, especially those sectors invisible to the public eye and also thanks to public institutions that take in order and

your cable legal duties requiring the provision applicable to all actors involved. (Stringer et al, 2014).

Barrientos (2014) discusses an aspect even more peculiar and relation to health inequities in the interaction of GVCs and societal norms in which consumption and production patterns differentiating men and women are rooted in different societies. The author examines the value chain of cocoa and chocolate, connecting Europe and the regions of cultivation in Ghana and India: women consumers of developed countries attach superior quality to that chocolate, while the contribution of women to the production the food is badly paid, increasing the capture of value by the chocolate manufacturers; making the value chain is not exempt as to the genre, but uses it as an argument that influences your commercial operation and the same is true the other way around. The work makes it clear that the economic and social upgrading can only be achieved if women receive greater recognition and remuneration in both commercial and social spheres. (Barrientos, 2014).

Over the last decade, the model for governance of Locke's CGVs (2009), based on conformity to standards designed to improve the quality and the social and environmental results have proved inadequate to deal with these concerns. With regard to working conditions, the ineffectiveness of the governance model has been under intense scrutiny after a series of tragic events highly promoted: dozens of workers suicides in Foxconn factories in China since 2010 shed light about horrible conditions that confront those who set up high-tech products like the iPhone (Lee e Gereffi, 2015).

In the sense of corporate social responsibility, Lund-Thomsen and Lindgren (2014) argue that the measures proposed in the new paradigm of socially responsible cooperation have low probability of changing power relations in the CGVs and bring improvements supported under the conditions of workers in export industries in developing countries. From a critical evaluation of the potential and the limitations of the model, according to the authors, would be unlikely a change in power relations of buyers, suppliers and workers in global value chains in particular on the ability of ensure significantly higher income or better conditions for workers, considering the restrictions imposed by the global competition between suppliers (Lund-Thomsen e Lindgreen, 2014).

### ***The figure of local productive Clusters***

According to Porter (2000), in the era of global competition, the geography of the economy is involved in a paradox. Changes in technology and competition have decreased much the original role of the location, as widely recognized. Global markets provide opportunity for resources, capital, technology and various other inputs can be obtained efficiently wherever it is. Enterprise networks allow companies access to the inputs they need and real estate, so it is no longer necessary to be close to the main markets to serve them. This makes even that Governments lose influence on the competition to global forces. Hence it is concluded, therefore, that the importance of the location decreased. Still in your work of 1990, Porter had a theory that was based on the microeconomics of national, State and local competitiveness in the global economy. The clusters had, in this theory, role: these are groups or geographic concentrations of interconnected companies, specialized suppliers, service providers, companies that belong to the related industries associated institutions (such as universities, standardization and regulatory agencies, trade associations) in a specific area where they compete but also cooperate.

The clusters, while geographical concentrations of undertakings in a particular sector, include arrangements for enterprises and other entities related to the competitiveness of the crucial

group, as suppliers of specialized raw materials and infrastructure. Already the agglomerations of firms are older phenomenon, with records dating from the middle ages. Cassiolato and Lastres (2003) define productive agglomerates as territorial settlements of economic, political and social agents that include production activities, trade or service focused on a set of economic activities, in addition to public institutions and teaching, research, policy, promotion and financing. For the effects of the present article, we eventually will treat cluster as synonym of productive agglomerate, even though the differences are pointed and known.

The modernization is important both to the clusters as to value chains, so they can face the enormous competition in global markets. The role of governance is also important for both, in the coordination of economic activities, through marketing relationships, bringing also transfer and diffusion of knowledge and innovation. However, the APLs emphasize the importance of local-level governance and the interaction of enterprises and local institutions, as well as local networking policies. Global value chain analyses emphasize that local producers learn lot from global buyers as to the improvement of production processes, obtaining high quality and increasing the speed of response (Humphrey e Schimtz, 2013).

The global value chain involves several transactions, companies seeking cost savings, through coordination of the production stages. When a product is customized to a buyer, the transaction costs increase. In intensive sectors of labor, for example, buyers are always searching for new sources to reduce costs. Citing Keesing and Lall (1992), the authors conclude that new suppliers can meet the requirements not found in local markets, and may generate a "gap" between the local and the capacity required by the global market. Accordingly, purchasers will need to invest in some selected suppliers, and so help them in the process of improvement (Humphrey e Schimtz, 2013).

### ***The APL in granite Espírito Santo***

The ornamental rock sector, from which the Cluster is a part, has in Italy one of the largest producers and importers of rough stones. In addition, the European country has the highest per capita consumption and is major exporter of technology. The Brazil, along with Italy, Turkey, India, Spain, Egypt and China amounted to more than 75% of the world exports in 2011 (Chiodi, 2012). Two particularities draw attention in this market: the great geological diversity, Brazil with several producer States mainly in the southeast of the country and China, another major producer, which has been gaining space too with the transformation of raw rocks local and imported in ornamental rocks, causing the country's important importer of machinery and equipment, in addition to the raw blocks (considered input of very low level of industrialization) and has become the largest exporter of rocks terminated, representing almost 30% of the volume in the sector (Chiodi, 2012).

United States and Japan are the biggest consumers of finished products in bulk, along with China, South Korea, Germany, France, Belgium, United Kingdom and Italy. China is responsible for the majority of service demand from Japan and Korea, as well as in Europe. The India and Italy complement the European continent market service (Chaudhary, 2012). Brazilian exports have as main target the United States. The national export tariff focuses on two major groups: polished plates without further processing (especially to the US) and granite blocks for China. The blocks represent, in 2011, 55% of the volume sold and 25% of revenues in dollars. The Brazil becomes, in that year, the largest mineral supplier to the United States, 98% of the volume being composed of plates (Chiodi, 2012).

The agenda of Brazil's exports to China regarding the mineral is controversial. She reinforces the Brazilian positioning as almost exclusive provider of low value-added raw materials – to

crude. Contrary to what occurs with the American and Canadian Governments, the Chinese Government discourages the importation of processed sheets and other materials and industrial products through high taxes levied on products industrialized. There are even cases reported where China can industrialize and transport blocks imported from Brazil at costs so low that they arrive to compete in the American market, with product extracted here (Nassif, 2008; Medeiros, 2006).

The choice of this APL as a case for this study is that the Cluster has passed – between the decades of 1990 and 2010 for a process that took the communities primary natural resource extraction to benefit it and process it, developing in the region a industry that adds value to the product and also promotes increase of income to the State of Espírito Santo (Vargas et al., 2001). In the period from 2002 to 2007, exports of rocks had significant expansion, reaching over 1.1 billion dollars a year. There is an apparent relationship between this expansion and the American bubble in the housing market, where the Brazilian granite is widely used in preparation of facades, floors, counter tops and sinks. The crisis in that country's real estate market and the devaluation of the Brazilian Real between 2008 and 2009 caused significant shrinkage in exports of Brazilian rocks (Chaudhary, 2011), and the sector grows back in 2010 and 2012, reaching, according to Chaudhary (2012), the same pre-crisis level.

### **Social Upgrading concepts**

The concept of improvement in social well-being comes to capturing gains in the standard of living and employment conditions over time. His most recurrent expressions are the employment and wages (Milberg and Winkler, 2011). Then there are the factors involved in working conditions. There are competing economic theories to explain the wage-setting process and understand the differences is important for understanding the relationship between social and economic update. For the neoclassical theory, is the technology that determines the demand for workers and the financial compensation (wages). This would connect the social and economic update, according to the authors. Institutional theory, wages are the result of a bargaining process determined by forces on both sides, with labor market institutions (minimum wages, collective bargaining agreements, added benefits) as determinative significant result obtained. In this context, the social improvement is unlinked from technological change, but would be linked to the strength of social institutions present (Milberg e Winkler, 2011).

**Table 1: Definitions of Social Upgrading**

<i>Reference</i>	<i>Definition</i>
Barrientos, Gereffi e Rossi (2010)	Highlight that social improvement is the process of improving workers ' rights as social actors and also improves the quality of employment. This would include access to best work, which may result from economic update every time new skills can move it to a better place in jail, but also involves the improvement of working conditions, protection and rights.
Milberg e Winkler (2011)	The concept of improvement in social well-being comes to capturing gains in the standard of living and employment conditions over time. His most recurrent expressions are employment and wages. Then there are the factors involved in working conditions. There are competing economic theories to explain the wage-setting process and understand the differences is important for understanding the relationship between social and economic update. This would connect the social and economic
Binelli et al (2015)	The main innovation was to argue that "the welfare of individuals depends not only on what a person has really achieved, but also, and, just as important, about what a person expects to be able to achieve in the future. Therefore, a measure of inequality must explain the disparities in the abilities of people to achieve their desired goals-even if only potential-in view of the current situation of individuals and expectations about their future.
Machado (2017)	Defines that social objectives are social measures indicators that reflect personal goals in a given cultural, geographical or economic unit. There are several steps involved in social indicators, such as human rights, welfare and education. Subjective measures of QoL are related to the feelings of the residents in the community, and can be divided into dimensions that include (but not limit) aspects as concern with crime (that impact the longevity), the availability of jobs, access to health care, housing, education and the sense of community.

According to Axe (2017), the concept of quality of life (QoL) relates to the provision, by the economy, social or environmental systems organized to support a Community producer, healthy services and that have significance to the residents. The quality of life would have multidimensional nature, encompassing various aspects of human life. Matarrita-Cascante (2009) defines quality of life as a State of situation of human life with the various terms associated with it, such as welfare, usefulness, satisfaction with life.

Citing Sirgy et al (2009), Machado (2017) follows arguing that the subjective measures of QoL are related to the feelings of the residents in the community, and can be divided into dimensions that include (but not limit) aspects as concern with the crime (that impact the longevity), the availability of jobs, access to health care, housing, education and the sense of community. Already social indicators objectives are social measures that reflect personal goals in a given cultural, geographical or economic unit. There are several steps involved in social indicators, such as human rights, well-being and education. (Machado, 2017).

According to the report of the UNDP (United Nations Development Program) of 2014, "the human development concept was born defined as a process of enlarging people's choices so that they have the capabilities and opportunities to be that who want to be. " Adopting a different vision from the perspective of economic growth, where the well-being of a society is measured only by income or resources that it can generate, the concept of human development looks for looking directly at people, their opportunities and capabilities.

The human development index (HDI) is designed as a counterpoint to gross domestic product (GDP) per capita, the most widely used indicator, but that considers only the economic dimension of development. Three pillars form the HDI: health, education and income (PNUD, 2014).

Several authors suggest that the HDI is not an ideal indicator of well-being. However, the assessment of quality of life is complex, abstract and difficult to synthesize. Regardless of its limitations, the HDI could be a suitable alternative to perform analysis of the transverse level well-being, since it has a homogeneous availability of data for a longer period of time and to more countries than other related indexes. (Jordá e Sarabia, 2014).

However, given its census nature, with measurements every decade for the purpose of this study we seek to mimic the social indicators of the HDI, in compliance with the three pillars that constitute it, but using annual data from the base of the Department of Unified health system Informatics (DataSUS) and the Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP). In this way, were assembled groups of indicators for each pillar, whereas:

- a) for income: (1) # of people with insurance coverage, (2) # of families residing in houses of masonry, (3) # of households with garbage collection, (4) # of households served by electricity.
- b) for longevity: (1) infant mortality rate, (2) # of deaths by preventable causes of 05 to 74 years, (3) # of households supplied with water from the public network, (4) # of households with household sewer connection.
- c) for education: (1) # of total enrollment, (2) # of students enrolled in primary education, (3) # of enrolled students in high school, (4) % of the total number of students enrolled in private schools.

## **Hypotheses**

The central issue studied was how global value chains impact on social welfare in the communities in which they operate and the indicators that this study noted are from public reports available in the portal-AliceWeb which concentrates data from Brazilian exports, the

Brazilian Institute of geography and statistics (IBGE), in Annual of social information (RAIS) of the Ministry of labor, in the Department of Informatics of the unified health system (DataSUS) of the Ministry of health and the Institute National study e Pesquisas Educacionais Anísio Teixeira (INEP), attached to the Ministry of education.

First, we sought to verify the insertion of the cluster in the global value chain (GVC) of the mineral. This occurred through observation of the expected increase of export in the analysis period of 15 years (2000 to 2015), understood as a first step towards that insertion.

As a first step, we tested whether there has been an increase in the export volume between the initial period (2000) and final (2015) period of study and also the possible existence of a vector which demonstrate the variation in export intensity over the period of time considered. This first test was necessary, because that's what justifies the other hypotheses studied:

*H1: There is an increase in volume exported measured along the studied period.*

According to Barrientos et al. (2010), the emergence of outsourcing through global and regional production networks requires a change in approach. Currently, hitherto remote locations in Africa, Asia and Latin America are connected with the global network of production and work through large retail conglomerates who hire from small rural producers to seamstresses working unattended at home. Global production has increasingly workers in developing countries recruited by companies of exporting, such as orientation light clothing, footwear and agribusiness (Barrientos, Gereffi e Rossi, 2010).

According to Gibbon (2005), the focus of many of the studies of upgrading focuses on the level of technological sophistication of production and especially in added value. In the terminology of GVCs, upgrading is defined as the opportunity of full agents in developing countries are in the value chain assuming higher relevancy or functional positions providing items with higher added value, which may ensure better return for producers. (Gibbon e Ponte, 2005).

The study of the structures of GVCs contemplates a sequence of value is aggregated in the industrial process from your design and production to final consumption. Examines the descriptions of positions, the technologies involved, the standards and regulations, products and specific industries and local markets; providing a holistic view of the global industries from bottom to top and top to bottom of the chain. (Gereffi e Fernandez-Stark, 2016).

In this sense, an important goal in the study of value chains is to understand better how and why economic improvement does not lead automatically to a social upgrading, thus helping local and international agents with a base of information that allows the design and the promotion of interventions that will promote a win-win scenario (Barrientos, Gereffi e Rossi, 2010).

The improvement of social welfare was measured with indicators that mimic those in the human development index (HDI-M), composed of family income (or income per capita), longevity and education of the population. However, analyze these variables alone isn't the main issue being studied which is the impact, because it would be erroneous to assume that all indicators change over time due to only the impact of global value chains. To distinguish the impact of global value chains and what would be the natural evolution of the indicators if there wasn't that insertion, there was the need for the creation of control groups as a way of relativizing of the evolution of the indexes to be studied. In this way, each city studied had a mirror/control set through set of cities of the same size, all in the State of Espírito Santo (ES), whose HDIs were classified in the same range of the municipality concerned in the initial period of study (T0).

As a main indicator of the study, we observe a set of 12 (twelve) indexes that represent different aspects of human development. In this step, for each city, will test whether there has been significant improvement in social indicators:

***H2:** The increased integration of the APL exporter in GVC caused improvement in all the social indicators measured along the studied period.*

The selected indicators, although as diverse, do not cover all the aspects of development such as democracy, participation, equality, sustainability; not intend to represent a thermometer of the happiness of the people or of the best places to live. But are used by the federal Government and to provide objective analysis of the health situation, evidence-based decision making and preparation of programs of health actions. The measurement of the health status of the population is a tradition in public health. Had your home with the systematic registration of mortality and survival data. With advances in the control of infectious diseases and with a better understanding of the concept of health and its determinants, population analysis of health situation began to incorporate other dimensions of health. Data of morbidity, disability, access to services, quality of care, living conditions and environmental factors were used in the construction of metrics of Health Indicators, which translate into information relevant to the quantification and evaluation of health information.

In addition to the previous test, we also studied the relationship between the variation of social indicators and the intensity of exports in relation to the total that is sent abroad:

***H2.1:** The higher the intensity of exports, the greater was the positive impact in the set of social indicators.*

According to Gereffi and Fernandez-Stark (2016), from the moment the GVCs connect businesses, workers and consumers markets, they give sometimes the false perspective the firms and their employees are participating in the global economy. The ability to enter effectively into GVC is vital to untie the knots of development, especially for low-income countries. This includes the ability to access the chains, to compete successfully and especially capture the gains for the local economic development, build capacity internally and also generating more and better employment opportunities; reducing unemployment and poverty. In this way, we are not talking only of the challenge to participate in the global economy, but how to do it profitably (Gereffi e Fernandez-Stark, 2016).

Since the HDI is an index calculated by a combination of social and economic indicators, there was a need to test the equivalent to three sub-indicators, aimed at verifying the economic situation (by income), health status (by middle of the longevity population average) and the situation of education (through education).

So, the next chance that this study was tested with respect to income. In this second step, for each town, to discover whether there has been significant improvement in the indicator set:

***H3:** The increased integration of APL in the GVC caused improvement in household income measure along the studied period.*

With the insertion in the global value chain in each city, there is positive impact on household income. The main challenge to ensure the promotion of decent work in global production chains (GPNs) is how to improve the condition of the companies and of the workforce. This is even more relevant in the emerging environment or in development, where leading companies have dominant role and where producers and workers are more and more integrated into value networks (Barrientos, Gereffi and Rossi, 2010). In the context of globalization, all countries

face the prospect of immersive growth. The sustainable growth of income can only be ensured by developing the ability to identify and then take ownership-areas of accumulation of value that are protected to a certain degree of competition (Kaplinsky, 1998).

In addition to the analysis, the third hypothesis that this study was tested with respect to longevity. In this third step, for each town, to discover whether there has been significant improvement in the indicator set:

*H4: The increased integration of APL in the GVC caused improvement in Longevity measured along the studied period.*

With the insertion in the global value chain in each city, there is positive impact on Longevity. According to the United Nations, a majority portion of the world's population is vulnerable to shocks (natural disasters, financial crises, armed conflicts) as well as the social, economic and environmental changes over the long term. The economic ills put in check the Social contract even in organized societies and there will be no free nation of the long-term effects of climate change, produced in large part by uncoordinated exploitation of natural resources of the planet. However, the level of vulnerability of people varies: discriminatory social norms and shortcomings of institutional order exposes even more, depriving family support groups, community or state that they need to release your capacity in the face of adversity. On a global scale, 46% of people with more than 60 years suffer from any disability and, because of that, they face serious obstacles to full participation in society, which can still be aggravated by discriminatory social attitudes (PNUD, 2014).

Finally, the fourth assumption that this study tested related to education. In this last step, for each town, to discover whether there has been significant improvement in the indicator set:

*H5: The increased integration of APL in the GVC caused improvement in Schooling as along the studied period.*

With the insertion in the global value chain in each city, there is positive impact on schooling. The reduction of structural vulnerability and a growth in social skills of the individual can be generated by the universal access to basic social services. Universal public education and high quality close the gap that exists between children from rich and poor families and may constitute an equalizing element of opportunity and results. The transmission capacities between generations, primarily via education within the family units can ensure the perpetuation of the long-term benefits (PNUD, 2014).

The description of how the analysis was done is demonstrated in the methodology chapter.

## **RESEARCH METHODOLOGY**

The odds presented in this study were analyzed through multivariate statistical techniques and using data from four secondary sources, as described in the topic concerning Hypothesis.

For an initial diagnosis-in addition to the complete analysis of descriptive statistics-multivariate resources were used. After completion of the first stage, the hypotheses were subjected to tests (the t-test for paired samples – to determine the impact of exports on the HDI-M and variance – ANOVA analysis, to ensure that the differences have been generated by real causes) In addition to multiple regression tests. The regressions carried out for this study were: (1) indicators of income, (2) indicators of Longevity, (3) Education Indicators.

## **ANALYSIS AND DISCUSSION OF RESULTS**

As a first step, we tested whether there was an increase in export volume between the initial period (2000) and the final period (2015) of the study, for the five cities belonging to the granite exporting cluster. The data indicate that, despite the inconstancy of the growth rate of material output, there was a significant increase in the volume of blocks and finished sheets as shown in the following graph.

After the robustness tests of the proposed theoretical model and the correlation analysis of the variables present in the study, we analyzed the impact of the increase in exports on social indicators, divided into three groups, income, longevity and schooling, performing the statistical modeling through linear regression for each variable selected by the study.

The model in question can be generically described as  $Y = b_0 + b_1X_1 + b_2X_2$ , where  $Y$  is a social indicator,  $X_1$  is a dummy variable that assumes the value 0 (zero) when it comes to the control group and the value 1 (one) when it comes to the treatment group and  $X_2$  is the year in which the observation was performed.  $b_0$  ('beta zero') is the model constant,  $b_1$  ('beta one') is the coefficient of variable  $X_1$  and, in the specific case of this model, means how much the reference group (granite exporting cities), called treatment, it evolved over time in relation to the control group due to the variation of the observations of  $Y$ , that is: if positive, the treatment group evolved more in time than the control; on the contrary, if negative, it has evolved less. Finally,  $b_2$  ('beta two') is the impact of the years on  $Y$ .

In the columns of B to J we have the table for interpretation of significance of the model and its parameters: the first indicator we looked at was the p-value of the model (column D); which, in the cases studied, was significant ( $<0.05$ ). The second step was to observe the p-value of each 'beta' (columns H and J), mainly the value of  $b_1$ , which gives exactly the purpose of the study (if there is a positive impact on social indicators). In this case, only a few variables presented significance ( $<0.05$ ). The third step was to observe  $R^2$ , which varies from 0 to 1. The higher the  $R^2$ , the greater the explanation power of the model. For a model to be considered a good predictor,  $R^2$  would need to be at least = 0.7. We did not find any model with this power of explanation.

The following charts provide the models for each parameter and for the two groups (set of exporting cities, or treatment, and set-control). The more parallel the straight lines, the lower the impact or the smaller the behavioral difference of the groups over time.

## **CONCLUSION**

Much of the research on international management, notably on global value chains (GVCs), analyzes the relationship between business integration and local productive clusters (APLs) in these chains and economic development. Less analysis is found relating this integration and improving social well-being (upgrading). In this sense, this study sought to investigate the possible relationship between the insertion of the granite producing communities in the global mineral chain and an improvement in the social indicators that mimic those used to calculate the HDI.

So, the main hypothesis to be tested was that there had in fact been an increase in the volume of granite exported over the period considered. This was proven by the curves shown in the chart in Chapter 4.

The results of the tests carried out to prove the hypotheses H.2, H.3, H.4 and H.5 indicated that the fact that the communities verified an insertion in the global value chain (GVC) of the granite by means of the export of finished blocks and sheets did not impact on the improvement of the social indicators of their populations. The entire set of indicators selected to detect a possible impact on income, health (longevity) and schooling conditions showed a behavior similar to that of control cities, not related to mineral exploration, and that had HDI compatible with the reference cities at the time of the beginning of the observation.

Despite the robustness of the secondary data analyzed, the reliability of the sources consulted and the care with the conditions for the manifestation of the phenomenon of study, we could not prove with significance and statistical validity that the insertion of communities in the global value chain (GVC) of the granite is directly related to the improvement of the social indicators of these cities.

For future studies, we suggest the comparison of more clusters or productive arrangements, of different types and different geographic regions, as a way to isolate eventual localized effects that affect the entire studied region; guaranteeing even greater exemption for the occurrence of the phenomenon unequivocally.

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*Track 14 FDI and Internationalization*

**ID #713**

**Host country corruption, regional experience and  
internationalization speed of multinational enterprises through  
subsidiaries**

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**Abstract**

*Two main subjects have emerged in importance in international business literature: corruption and internationalization speed. Surprisingly, its effects of corruption have not been closely examined yet. To fill up this gap, we explore the impact of managing host country corruption, market driven aspects, and ethical behavior on internationalization speed of multinational enterprises (MNEs), and how their regional experiences impact this internationalization process. Five hypotheses were raised and tested with a sample of 220 Japanese subsidiaries established worldwide from 1996 to 2015. Our findings support that internationalization speed is mainly impacted not by corruption issues but the regional experience of MNE.*

**Keywords:** Internationalization Speed; Corruption; Regional Experience; Ethical Behavior; MNE; Management..

**Acknowledgments**

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## **INTRODUCTION**

Despite the development of international business studies for more than five decades, the concept of internationalization speed was recently suggested by Vermeulen and Barkema (2002) in their seminal work regarding pace, rhythm, and scope of subsidiaries in expanding abroad. Before this study, internationalization process was mainly focused on entry mode, foreign direct investment (FDI) (Chang & Rhee, 2011; Chang, 1995) and speed of resource commitment in a specific market (Johanson & Vahlne, 1977).

Internationalization speed can be estimated considering the time between the year of the foundation of a company and its first operation worldwide (Chang & Rhee, 2011; Cieslik & Kaciak, 2009; Oviatt & McDougall, 1994; Vermeulen & Barkema, 2002). However, this unidimensional approach presents a limited perspective, as it does not consider the subsequent entries of new subsidiaries once a multinational enterprise (MNE) is established in a host country.

Before the work of Vermeulen and Barkema (2002) Autio, Sapienza and Almeida (2000) highlighted that it is important to observe the interval between the founding of an MNE and its first entry in another country. They also emphasized that an MNE could focus its internationalization process by establishing and growing itself in a host country. In this case, subsequent entries are relevant to observe its commitment level related to the establishment of new subsidiaries (Monaghan & Tippmann, 2018).

This study, following the second approach, explores subsequent entries of MNEs in a country to measure internationalization speed (Casillas & Acedo, 2013; Chetty, Johanson, & Martin, 2014). Subsequent entries are related to the commitment level with markets (Johanson & Vahlne, 1990). Nonetheless, corruption in a host country leads to risks that influence the internationalization of MNEs (Oviatt & McDougall, 2005; Waldman, 1973), as investors tend to avoid countries with high level of corruption (Voyer & Beamish, 2004).

However, in some markets, particularly in developing economies, there are high levels corruption influencing the way of doing business, and MNEs from these countries outperform their counterparts from developed countries. These better results happen due to the development of uncertainty management capabilities that help them to face a better internationalization process considering political risks and corruption and benefiting from the experience of managers in dealing with uncertainty and change (Cuervo-Cazurra, Ciravegna, Melgarejo, & Lopez, 2017). Performance advantages of MNEs from emerging markets, as well as from developed countries, increase their internationalization speed (Autio et al., 2000).

Considering this speed as a multidimensional variable influenced by the risk level of the host country, we raise five questions: (i) Is the corruption level of a host country a motivating or an inhibiting factor for MNEs establishing subsidiaries? (ii) How the pace of expansion in a given country is impacted by the corruption level of the host country and / or by the ethical behavior of a MNE? (iii) The business ethics within a MNE contributes to an increase of internationalization speed? (iv) Regional experience within a country with high level of corruption contributes to an increase in the internationalization speed? (v) In some way the regional experience and the ethical behavior of the MNE can impact the internationalization speed?

The objective of this study is twofold. First, as extrinsic aspect of MNE, we aim to fill the gap in the academic international business (IB) literature related to the impacts of the host-country's

level of corruption in the internationalization speed. Several studies are related the level of corruption in the host country and the entry strategies (Demirbag, McGuinness & Altay, 2010; Godínez, Jose & Liu, 2015; Sartor and Beamish, 2018), but not mention the internationalization speed, i.e. the opening of new subsidiaries once a MNE is established in a host country. Second, intrinsically to the MNE, corporate governance and code of conduct influence and shape the ethical behavior of a subsidiary in dealing within a country. Consequently, this aspect can positive or negatively impact the internationalization speed of a MNE through subsidiaries. As contribution, we aspire in bringing a new perspective to this research area. Corrupted countries, that seems at the first sign as non-attractive for MNEs in foreign direct investments (FDI), can bring some interesting opportunities that encourages the establishment of new subsidiaries and, consequently, promoting an increase in market share. Besides, the regional experience of a MNE can also influence the decision of internationalization (Arregle and Beamish, 2009; Casillas & Acedo, 2013; Chetty et al., 2014; Jones & Coviello, 2005; Lee, Abosag, & Kwak, 2012).

Following this introduction, our paper reviews the IB literature to propose the hypotheses to be investigated. Later, we present the research methods approach, following by the empirical results. Finally, we discuss our findings and conclude the paper with the contributions, and suggestions for further investigations.

## **THEORETICAL BACKGROUND AND HYPOTHESIS**

### ***Internationalization speed of MNEs, market attractiveness, and the corruption level of host countries***

Since the mid-1990s the internationalization of a firm emphasizes sequential investments, entry modes and market choices (Casillas & Acedo, 2013). Gradual foreign investments were justified to exploit gain opportunities or to internalize markets for intermediate goods (Chang, 1995). The internationalization process of an MNE was mainly considered as a gradual process defined through the establishment of chains observing the following stages: (i) exporting through an independent representative (agent), (ii) sales subsidiary establishment, and (iii) local production (Johanson & Vahlne, 1977).

Subsidiaries are evidence of market commitment in a specific host country and can also be associated with firm-specific advantages to developing value-creating activities (Rugman & Verbeke, 2001). Additionally, in the last years, a considerable literature has grown up around the theme of internationalization through the opening of subsidiaries abroad (Casillas & Acedo, 2013; Chetty et al., 2014).

Vermeulen and Barkema (2002) defined *internationalization speed* as being the international expansion of an organization through its subsidiaries. Speed of internationalization can be a static measure, considering the difference between the year of the first international experience and the year of the foundation of an MNE (Chang & Rhee, 2011; Cieslik & Kaciak, 2009; Oviatt & McDougall, 1994; Vermeulen & Barkema, 2002). Alternatively, it can be measured considering it as a multidimensional concept, observing how fast an MNE develops itself in a host country through the establishment of new subsidiaries (Autio et al., 2000; Jiang, Beamish, & Makino, 2014; Yang, Jiang, Kang, & Ke, 2009).

*Internationalization speed* embodies a multidimensional vision, regarding the first and subsequent entries of subsidiaries in a given country. Nonetheless, *internationalization speed* is defined as the level of increased commitment of resources, which can be represented by the number of subsidiaries in a specific country in a given period (Casillas & Moreno-Menéndez, 2014). A higher *speed* does not necessarily mean gains on efficiency for an MNE. Rapid international expansion can benefit an MNE in achieving market leadership and leverage results (Bonaglia, Goldstein, & Mathews, 2007; García-García, García-Canal, & Guillén, 2017). However, if the internationalization process occurs too fast, it will lead to time-consuming diseconomies resulted in inefficiencies or redundancy of activities (Dierickx & Cool, 1989). Internationalization speed can also be measured by the commitment of MNE in a specific country or region, to capitalize on opportunities in international markets (Monaghan & Tippmann, 2018; Vermeulen & Barkema, 2002).

Regarding corruption, there are different concepts in the academic literature. Waldman (1973) defines corruption as a violation of specified standards of behavior on the part of public officials, as politicians and bureaucrats. Shleifer and Vishny (1993) highlight the sale of properties by government officials for personal gain. Habib and Zurawicki (2002) reinforce that corruption comprises not only public, but also private sectors in a specific country, or even in international business. In the same vein, Cuervo-Cazurra (2016) considers corruption as ‘the abuse of entrusted power for private gain’ highlighting three key characteristics: (i) A person is abusing power entrusted to him or her by others, which can include citizens, shareholders, employees, supporters, trustees, and so forth. (ii) A person is abusing power, engaging in actions beyond his or her position or mandate. (iii) A person is obtaining a benefit that only is accrued to him or her rather than to the organization. For this author, corruption is harmful to a country because it involves government officials putting their interests before those of the citizens they are supposed to serve.

The perception of opportunities regarding the level of corruption in a host country presents two strands. First, the host country level of corruption can discourage FDI investments from MNEs (Cuervo-Cazurra, 2006), what impacts not only the entry of an MNE but also the opening of new subsidiaries in a given country. Corruption leads to a scenario of uncertainty, additional costs and operational risk that can discourage new investment in a host country (Sartor and Beamish, 2018) and, consequently, lowering economic growth (Cuervo-Cazurra, 2006; Mauro, 1995).

In order to observe this aspect, we state the first  $H_1$  hypothesis of our study, as follows:

***H<sub>1</sub>:** The level of corruption in a host country has a negative impact in internationalization speed of MNEs.*

The market size is an important attractiveness for FDI not only for the entry in an international market but also to subsequent entries in a region. The market size can be measured by the GDP of a country (Delios & Henisz, 2003a). Due to that reason,  $H_2$  can be defined as follow:

***H<sub>2</sub>:** The greater is the market size of the host country, the higher is the internationalization speed of MNEs.*

### ***Ethical behavior in business influencing the internationalization speed***

Codes of ethics of an MNE mainly driven by its governance guidelines and in alignment with stakeholders are expected in dealing with internationalization through subsidiaries (Garegnani,

Merlotti, Piera & Russo, 2015). Despite ethical perceptions and behaviors can differ between countries, some corporate unethical attitudes are commonly recognized as globally hazardous to the business, as accounting frauds. These unethical acts substantially hinder the inflow of FDI to host countries and, besides, reduce the level of human capital and also destroy confidence in both public and private institutions (Okpara, 2012).

Following this logic, unethical attitudes of a MNE can also hinder investments in opening new subsidiaries abroad. We state then the second hypothesis of our study, as follows.

*H<sub>3</sub>: The ethical behavior of the MNE in the host country has a positive impact in internationalization speed of MNEs.*

### **Experience of MNEs in operating abroad through subsidiaries**

Cuervo-Cazurra and Genc (2008) argue that, developing-country MNE in comparison with developed-country MNE, tend to be less competitive than their developed-country counterparts due to the disadvantage of operation in home countries with underdeveloped institutions. This disadvantage can become an advantage when both types of MNE operate in regions with not favorable governance conditions, as their MNEs are used to operate in such conditions (bringing experience in operating in a turbulent macroeconomic scenario). Due to that argument, our third hypothesis is defined as follows:

*H<sub>4a</sub>: In a host country with a high level of corruption, the regional experience moderates and positively impacts the internationalization speed of MNEs.*

Learning through experience in the host country, which becomes cumulative over the time, not only helps MNEs to obtain the needed knowledge for faster market expansion but also defines their expansion constraints (Gao & Pan, 2010). Rugman and Verbeke (2004) reinforce the preference of MNEs for a regional rather than a global internationalization. For them, companies do more business with their regional neighbors which seems reasonable considering the cost of transportation and communication among other factors.

A regional approach promotes not only the optimization of a company related to operational costs due to the scalability and operational standardization, but also the use of strategies aligned with several countries, as a consequence of a smaller psychic distance among them (Rugman, Oh, & Lim, 2012). In addition to this point, a regional strategy of internationalization considering operations in the same region of the headquarters may be the easiest way to an initial entry initially expand (Delios & Beamish, 2005) and further expansion through subsidiaries (Rugman & Verbeke, 2007).

The international experience gained by an MNE in operating abroad through subsidiaries minimizes over time the negative influence of political hazards of the host country (Delios & Henisz, 2003b), which can lead to corruption (Sambharya & Rasheed, 2015). This experience can be achieved through two distinct strategies: by the experiential learning of the host country's culture, from distribution to manufacturing, and by the formation of joint ventures in uncertain policy environments (Delios & Henisz, 2003b).

Also, MNEs from countries with high levels of corruption seems not to limit their FDI in other countries that also have a high level of corruption, as they experienced this at home (Cuervo-Cazurra, 2006). Thus, previous experience regarding the way of how a MNE operates abroad (including the tolerance for corruption according to its ethical code of conduct) can lead to a

positive aspect on internationalization, as it reduces uncertainty (Habib & Zurawicki, 2002). Consequently, the hypothesis  $H_{3b}$  can be defined as follows.

*$H_{4b}$ : In an MNE with prominent ethical behavior, the regional experience moderates and positively impacts the internationalization speed of MNEs.*

A simplified theoretical model of this study considering all stated hypothesis is represented in Figure 1.

\*\*\*\*\* INSERT FIGURE 1 HERE \*\*\*\*\*

## RESEARCH METHODS

In order to test our hypotheses, we used an original sample of 924 subsidiaries from the ten largest Japanese companies in the electronic industry listed in the annual Global Fortune 500 (2016). The initial sample included 924 subsidiaries established in 59 countries, but due to missing data, our final sample is of 220 observations. We extracted the data from the directory Kaigai Shinshutsu Kygyou Souran: Kaisha Betsu (Japanese Overseas Investment: By Firm) from 1996 to 2015. This sample is justified by three reasons. First, Japanese MNEs have a long experience of operating abroad through the establishment of subsidiaries (Ogasavara, 2013). Second, the Japanese electronics sector was stimulated by floating exchange rates to leverage MNEs international presence especially in Europe, the United States and Asia up to the 1970s (Yang et al., 2009). Finally, the electronics industry has a diversified portfolio of products, from intermediary to end-use items (Aoyama, 2000; Mody, 1990).

### **Variables**

Internationalization speed of an MNE through subsidiaries is the dependent variable and calculated by using the formula developed by Casillas & Acedo (2013), in which the speed of internationalization is determined considering a multidimensional perspective.

As independent variables, the corruption index of each country along the ten years is considered and separately evaluated by database source. This study considers variables extracted from the database of Transparency International, Corruption Perception Index, considering the evolution of corruption from 59 countries in 10 years, from 1996 to 2015. This indicator varies from a scale from 100 (very clean) to 0 (highly corrupt). Besides, from the Ethical Behavior of the Firm variable, extracted from the Global Competitiveness Report, we took the level of corporate ethics rate of companies within a country. Regulatory Quality was taken from Political Risk Services (PRS) report. GDP is taken for market driven dependend variables and we considered two observations: (i) the annual percentage of growth rates at market prices and (ii) the GDP size (The World Bank, 2018). Regarding this second variable, due to its large variation, the observations were normalized by logarithms.

Subsidiary size (normalized by logarithms) and regional experience in years are the control variables and regional experience will moderate corruption variables. The description of all variables used in this study is summarized in Table 1.

\*\*\*\*\* INSERT TABLE 1 HERE \*\*\*\*\*

## RESULTS

We perform a correlation considering internationalization speed as dependent variable and independent, control, and moderating variables presented in Table 1. Descriptive statistics and correlation results are presented in Table 2. The model does not present multicollinearity, as the greater VIF value of the sample is 8.7. According to Hair and Black (2009), the maximum VIF value to accept a model without multicollinearity is 10.0.

\*\*\*\*\* INSERT TABLE 2 HERE \*\*\*\*\*

### **Regressions**

Table 3 reports the results of our regression performed with 8 models, all of them having speed of internationalization as the dependent variable and Subsidiary Size (log) and Regional Experience as control variables.

\*\*\*\*\* INSERT TABLE 3 HERE \*\*\*\*\*

Observing the regressions results related to corruption and speed of internationalization, we observed that there is weak significance ( $p\text{-value} < 0.10$ ) between of Internationalization Speed and CPI without moderation and with Regulatory Quality with moderation ( $p\text{-value} < 0.05$ ). Market driven did not present significance, except a weak ( $p\text{-value} < 0.10$ ) for GDP (log) in Model 8 (including all variables) and for this reason, we reject  $H_2$ . As the intersections with significance are positive regarding corruption, it means that the corruption does not negatively impact internationalization speed of MNE and, then, we reject  $H_1$ . This result is in agreement with Cuervo-Cazurra's (2008) studies, when mentioning that countries with high-level of corruption could receive a great amount of FDI. Kwok and Tadesse (2006) highlight the importance of MNEs in corrupt countries to reinforce local institutions. Nonetheless, IB literature also presents a negative relationship between corruption level and firm performance (Cuervo-Cazurra et al., 2017) or FDI (Habib & Zurawicki, 2002).

Ethical behavior of the firm does not present any significance with the proposed models of this study. For this reason, results imply that the ethical behavior of the MNE does not implies in an increase of internationalization speed. Thus, we reject  $H_3$ .

The moderation of regional experience implies that a higher regional experience brings a higher internationalization speed of MNE and, besides, this speed is even higher in countries with a greater level of corruption (Figure 2). This phenomenon can be explained as some countries with high level of corruption like China or Mexico. These countries are recipients of great amounts of FDI (Cuervo-Cazurra, 2006, 2008; Habib & Zurawicki, 2002). Leff (1964) suggests that corruption might raise economic growth by avoiding bureaucracy delays, reducing uncertainty and increasing investments. In either case, there is a great influence of MNEs in host countries, mainly due to regulatory pressure and demonstration of professionalization effects (Kwok & Tadesse, 2006). For this reason,  $H_{4a}$  is supported.

\*\*\*\*\* INSERT FIGURE 2 HERE \*\*\*\*\*

On the other hand, the ethical behavior of subsidiary in a host country positively impacts the internationalization speed with a higher regional experience. Nonetheless, with a low regional experience, the greater is its ethical behavior, the lower is the internationalization speed of MNE. This phenomenon can be explained due to the existence of highly demanded internal controls and compliance issues that takes time and change the focus of the MNE in expanding abroad (Figure 2). For this reason,  $H_{4b}$  is partially supported (only for high regional experience of the MNE).

\*\*\*\*\* INSERT FIGURE 3 HERE \*\*\*\*\*

## **DISCUSSION AND CONCLUSION**

### ***Synthesis of the research problem***

This study aims to verify whether corruption level of a host country and the level of experience of an MNE in the region where subsidiaries are established, can impact the speed of internationalization of an MNE. We did not find specific studies in the academic literature relating speed of internationalization to the level of corruption. Because of this, we draw a theoretical model considering the following aspects: market driven, corruption, and internationalization speed.

Our quantitative analysis shows the following results. The level of corruption in the host country does not negatively impact the internationalization speed of MNE. Besides, the market size of the host country and ethical behavior of the subsidiary does not also impact its speed. The internationalization speed is positively impacted by regional experience, even in a situation of high level of corruption. Occurring a low level of regional experience, for high ethical behavior subsidiaries, the internationalization speed decreases, maybe due to the spend of time related to internal controls and compliance issues. Regional experience minimizes the negative influence of political hazards of the host country reducing uncertainty (Habib & Zurawicki, 2002); these results corroborate to those found in previous studies in IB literature (Delios & Beamish, 2005; Delios & Henisz, 2003b; Habib & Zurawicki, 2002).

### ***Main conclusions***

Based on the results of this study, we achieved the following conclusions and contributions to the academic literature. First, corruption related factors in the host country do not discourage the establishment of new subsidiaries. Second, regional experience takes a relevant role in promoting an increase of commitment in a host country. Thus, more important than corruption level is the contribution of experience in the region where MNE is established to increase its speed of internationalization. Ethical behavior can inhibit internationalization speed for MNEs with low level of regional experience. This study is not exhaustive and can open many opportunities for research regarding the motivating factors for a higher internationalization speed of an MNE.

As managerial contributions, the results and analyses provided insights for the strategic management of firms who want to internationalize. Instead of perceiving corruption as a limiting factor of market expansion, they can explore the potential of new customers in corrupt countries, taking into account other factors that can be further explored in futures studies. Besides, the more the time in performing internationally, the more will be the experiential knowledge, which leads to an increase in the speed of internationalization through commitment in performing in a specific country or region.

### ***Limitations and future directions***

Limitation of this study can be summarized in four issues. First, the regional experience is important, but not conclusive in explaining speed of internationalization. Otherwise, the more a company is established in a country, the more would be its speed of internationalization. Figure 4 shows the average speed of internationalization of the United States and China over

the years. If only the regional experience influences the speed of internationalization, it would have constantly been increasing, but that did not happen. In this case, future studies should incorporate other variables to explain the speed of internationalization.

\*\*\*\*\* INSERT FIGURE 4 HERE \*\*\*\*\*

Second, data collected for this study presented a high number of missing values. From an initial sample of 924 observations, we discard 76% of data due to missing values. A reduction of the valid data can skew the results. Future studies may increase the number of observations considering other industries. Data for this study was collected from Toyo Keizai published in 2016, with information from active subsidiaries in 2015. Consequently, subsidiaries closed in prior years were not taken into account. Information of closed subsidiaries may influence the measurement of speed of internationalization.

Third, the analysis of Japanese companies and not companies of other nationalities may also bias the results. Common sense say that Japanese MNEs leads by their *keiretsu* structures are more homogeneous in internationalization processes. Further studies on speed of internationalization can consider a more diversified database, to highlight the experience of different MNEs in dealing with corruption and the establishment of subsidiaries abroad. They may also consider the equity-based foreign entry strategies, drawing a parallel with the studies of Sartor and Beamish (2018), to identify which configuration (joint-venture or wholly owned subsidiary) could be more appropriate for MNEs faster expansion through subsidiaries abroad.

Finally, our results did not explore the reasons of why the internationalization speed is lower in high ethical behavior and low regional experience MNEs. As opportunity of future research, we encourage to find out the reasons of this decrease of internationalization speed.

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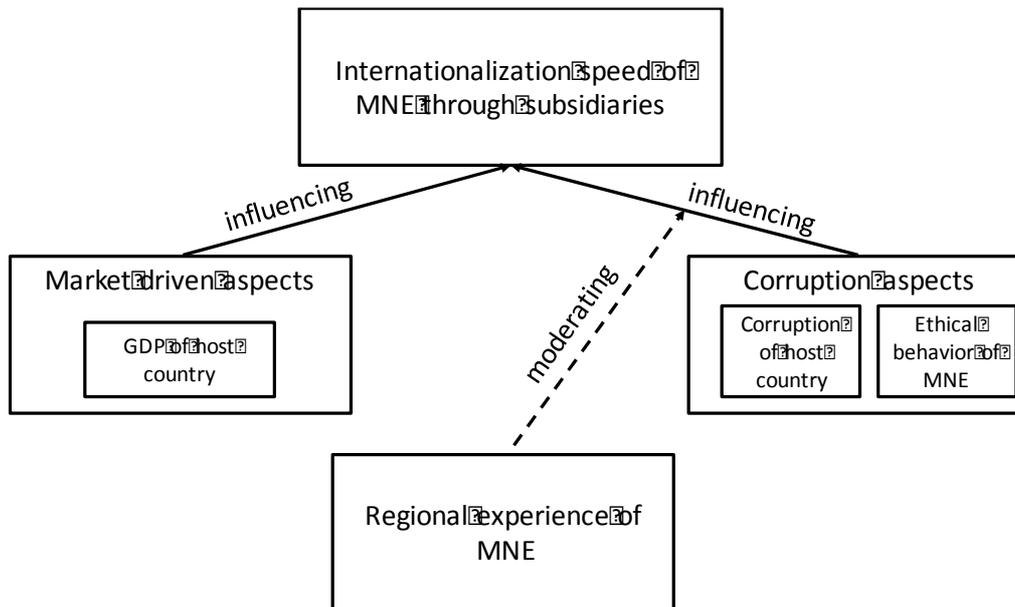


Figure 1. Simplified theoretical model.  
Source: Authors.

Table 1  
Summary of variables

Variables	Description	Measurement / variable	Where:	Source(s)
<b>Dependent Variables</b>				
Internationalization Speed	Foreign subsidiaries established by an MNE in a certain period. Level of increased commitment of resources, i.e., the number of subsidiaries in a specific country in a given period.	$SI_n = SN_n / (YE_n - YI_n)$	$IS$ = speed of internationalization; $SN$ = number of subsidiaries; $YE$ = entry year of the subsidiary in the host country; $YI$ = year of the first internationalization of the MNE; $n$ = number of observations.	Toyo Keizai (2016) Adapted and based on Casillas & Acedo (2013)
<b>Independent variables (Market driven)</b>				
Gross Domestic Product	The sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products, in U.S. dollars (normalized by logarithmic).	$GDP_c$	$GDP$ = gross domestic product; $c$ = country.	The World Bank (2018)
Gross Domestic Product Growth	Annual percentage growth rate of GDP at market prices. Sum of value added by all its producers, in % and within a year.	$GDPG_c$	$GDPG$ = gross domestic product growth; $c$ = country.	The World Bank (2018)
<b>Independent variables (Corruption)</b>				
Corruption Perception Index	Corruption perception observed in a country.	$CPI_c$	$CPI$ = corruption perception index; $c$ = country.	Corruption Perception Index (2006-2016)

Variables	Description	Measurement / variable	Where:	Source(s)
Ethical Behavior of Firms	How is the corporate ethics rate of companies (ethical behavior in interactions with public officials, politicians, and other firms) in a country?	$EB_c$	$EB = \text{ethical behavior of firms};$ $c = \text{country}.$	Global Competitiveness Report (2006-2016)
Regulatory Quality	Captures perceptions of the ability of the government to formulate and implement sound policies and regulations.	$RQ_c$	$RQ = \text{regulatory quality};$ $c = \text{country}.$	Political Risk Services (PRS, 1996-2016)
<b><u>Control variables</u></b>				
Subsidiary Size	The initial capital of the subsidiary in U.S. dollars (normalized by logarithmic).	$SSlog_c$	$SSlog = \text{subsidiary size (log)};$ $c = \text{country}.$	Toyo Keizai (2016)
Regional Experience	Years of operations of an MNE in a region before the establishment of the first subsidiary in a host country.	$Rexp = I_p - I_r$	$Rexp = \text{regional experience};$ $I_p = \text{entry year of the subsidiary in the host country};$ $I_r = \text{entry year of the subsidiary in the region}.$	Toyo Keizai (2016) Rugman & Verbeke (2004) Delios & Beamish (2005) Rugman et al. (2012)
<b><u>Moderating variables</u></b>				
Regional Experience x CPI	Regional experience moderating the Corruption Perception Index (CPI)	$Rexp \times CPI_c$	$Rexp = \text{regional experience};$ $CPI = \text{corruption perception index};$ $c = \text{country}.$	Toyo Keizai (2016) Rugman & Verbeke (2004) Delios & Beamish (2005) Corruption Perception Index (2006-2016) Rugman et al. (2012)
Ethical Behavior x CPI	Regional experience moderating the Ethical Behavior of the Firm	$Rexp \times EB_c$	$EB = \text{ethical behavior of firms};$ $CPI = \text{corruption perception index};$ $c = \text{country}.$	Toyo Keizai (2016) Rugman & Verbeke (2004) Delios & Beamish (2005) Global Competitiveness Report (2006-2016)

**Table 2**

Descriptive statistics and correlations analyses.

VARIABLES	1	2	3	4	5	6	7	8
1. Internationalization Speed	1	-.061	-.043	.108	.085	.156*	.041	.102
2. GPD (log)	-.061	1	.059	.252**	.160*	.190**	-.297**	.240**
3. GDP Growth	-.043	.059	1	-.490**	-.490**	-.347**	.028	.055
4. CPI	.108	.252**	-.490**	1	.919**	.647**	-.335**	.129
5. Ethical Behavior of the Firm	.085	.160*	-.490**	.919**	1	.582**	-.278**	.023
6. Regulatory Quality	.156*	.190**	-.347**	.647**	.582**	1	-.201**	.086
7. Subsidiary Size (log)	.041	-.297**	.028	-.335**	-.278**	-.201**	1	-.043
8. Regional Experience	.102	.240**	.055	.129	.023	.086	-.043	1
Mean	1.498	11.898	5.902	44.520	4.427	4.427	8.359	32.780
Standard deviation	.894	.644	3.941	20.711	.883	.163	2.194	15.017
Minimum	.750	10.317	-13.127	19.000	3.234	.272	1.431	.000
Maximum	4.702	13.222	14.231	94.000	6.705	1.000	15.451	68.000
N	220	220	220	220	220	220	220	220

\* The correlation is significant, with  $p < 0.05$ .

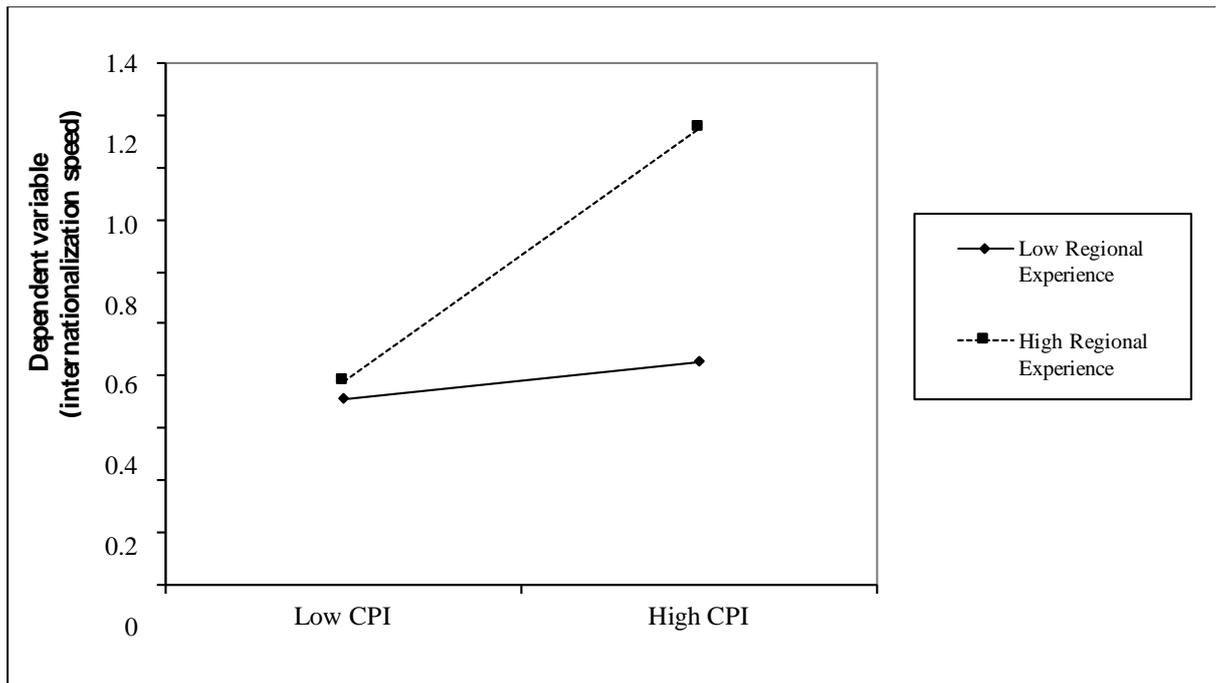
\*\* The correlation is significant, with  $p < 0.01$ .

**Table 3**

Regression analyses of speed of internationalization, corruption, regional experience, and control variables.

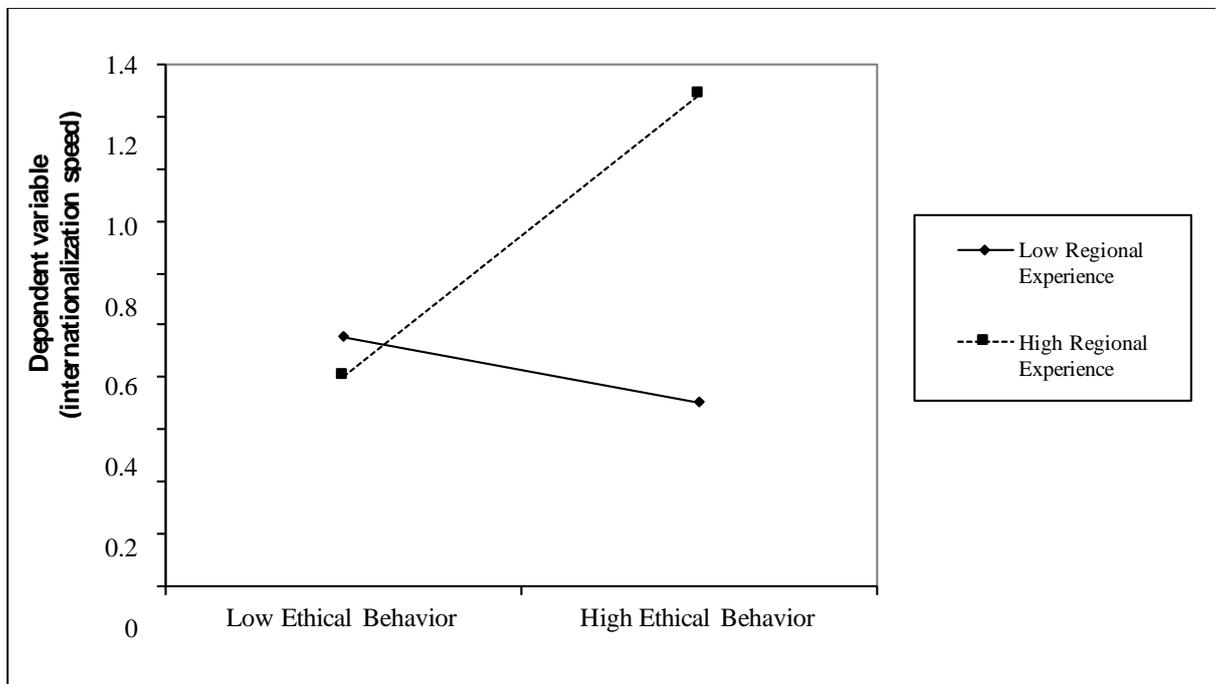
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intersection	3.048 ** (2.354)	3.212 ** (2.476)	2.886 ** (2.230)	3.142 ** (2.441)	3.115 ** (-2.421)	3.093 ** 2.401	3.125 ** 2.474	3.295 ** 2.522
<b>Market driven</b>								
GDP (log)	-.153 (-1.485)	-.168 (-1.629)	-.132 (-1.297)	-.157 (-1.54)	-.152 (-1.502)	-.153 -1.503	-.167 -1.614	-.175 * -1.681
GDP Growth	.008 (.428)	.011 (.625)	.003 (.147)	.008 (.461)	.004 (.271)	.008 .470	.009 .494	.013 .687
<b>Corruption</b>								
Corruption Perception Index (CPI)	.144 * (1.870)	.138 * (.625)					.123 .700	.111 .627
Ethical Behavior of the Firm			.105 (1.429)	.104 (1.438)			-.068 -4.27	.044 -2.70
Regulatory Quality					.164 ** 2.485	.170 ** 2.548	.136 ** 1.723	.108 1.308
<b>Control variables</b>								
Subsidiary Size (log)	.027 (.884)	.025 (.826)	.020 (.681)	.020 (.684)	.020 .697	.020 .695	.026 .862	.026 .861
Regional Experience	.098 (1.565)	.121 * (1.875)	.111 * (1.789)	.128 ** (2.060)	.102 1.653	.108 * 1.738	.092 1.446	.098 1.464
<b>Moderating variable</b>								
Regional Experience x CPI		.104 (1.384)						-.101 -.632
Regional Experience x Ethical Behavior				.165 ** (2.248)				.206 1.473
Regional Experience x Regulatory Quality						.049 .774		.032 .382
R-Square	.036	.045	.030	.052	.048	.051	.051	.067
Adjusted R-Square	.014	.018	.007	.026	.026	.024	.020	.023
Statistic F	1.620	1.675	1.322	1.965	2.166	1.902	1.623	1.511
Significance F	.156	.129	.256	0.072	.059	.082	.130	.137
Sample size	220	220	220	220	220	220	220	220

\* p-value< 0.10, \*\* p-value<0.05, \*\*\* p-value<0.01. All are two-tailed tests.



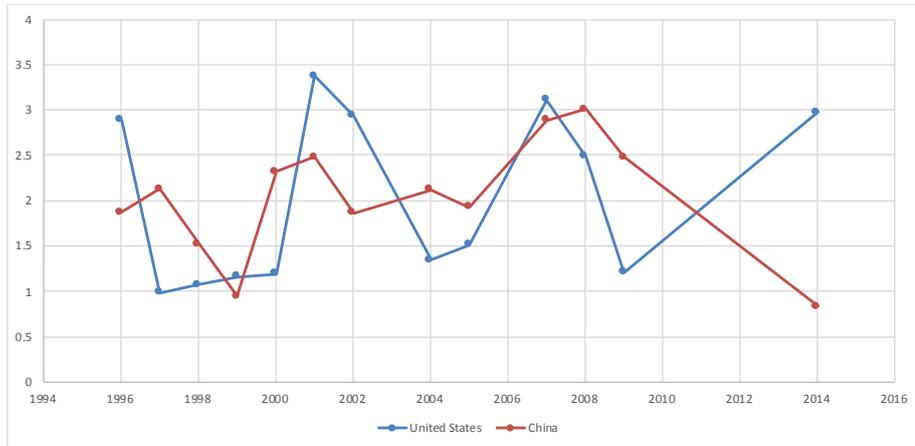
**Figure 2.** Moderating effect of Regional Experience on CPI.

Source: Authors, based on the model of <http://www.jeremydawson.co.uk/slopes.htm>.



**Figure 3.** Moderating effect of Regional Experience on Ethical Behavior.

Source: Authors, based on the model of <http://www.jeremydawson.co.uk/slopes.htm>.



**Figure 4.** Average of internationalization speed related to American and Chinese subsidiaries: an observation from 1996 to 2014.

Source: Authors, based on Toyo Keizai (2016).

## **Track 15**

# ***Stakeholders, Local and Global Networks***

*Track 15 Stakeholders, Local and Global Networks*

**ID #595**

**Competitiveness in clusters: Evidence from the  
Technological Park of São José dos Campos**

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**Abstract**

*Considering the interest of strategic studies in the performance and competitiveness of companies, business agglomerations such as business networks and clusters have received a great deal of attention from management theories. Considering the existence of different typologies of business networks and specific models of competitiveness analysis for each one of them, the objective of this work is to characterize if the Technological Park of São José dos Campos can be considered a clustered cluster of companies. This paper proposes a descriptive study, using the case study research strategy. The case analyzed was the Technological Park of São José dos Campos, which aims to provide an environment of generation and transfer of knowledge. For that, semi-structured interviews, non-participant observation and documentary analysis were performed. For the analysis of the data and presentation of the results of the research, the 11 foundations of the competitiveness of Clusters presented by Zaccarelli et al (2008) were followed. As a result of the research, it was possible to conclude that the Technological Park of São José dos Campos can be considered as a cluster of companies in the category of cluster, since in addition to the geographical proximity, it develops through different activities the creation of added value, connecting the companies participating in the Technological Park in search of technological and strategic cooperation for a greater competitiveness of the companies that work in it. Finally, we present the contributions of the work, as well as suggestions for future research.*

**Keywords:** Cluster; Business Networks; Technologic Park; Competitive Strategy;.

**Acknowledgments**

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*Track 15 Stakeholders, Local and Global Networks*

**ID #596**

**Network theory of stakeholder influences: A revisited approach**

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**Abstract**

*The interactions among multiple stakeholders have gained importance in the last decades, given the speed with which information is spread and connections are established between individuals and groups. However, there is still a research gap, which is the lack of consolidation of the empirical studies that analyzed the phenomenon of stakeholder networks and their contribution to the advancement of the theory. Thus, this work aims to investigate the evolution of the stakeholder networks approach in the last 20 years, that is, to revisit Rowley's theory (1997) and to bring a panorama of its evolution to the present day. This essay is based on two research scopes: Network Theories - society in networks and interorganizational networks and Theory of Stakeholders, integrated in the composition of Rowley's proposal (1997) - Network Theory of Stakeholders Influences. From a sociometric analysis and systematic review of 228 articles collected in the Web of Science between 1997 and 2017, it was possible to analyze the evolution of this approach. Based on this reflection, it is possible to infer that recent research shifts the focus of the relations with the stakeholders, centered in the organization, to those of a decentralized network with several actors. In addition, there is a trend of studies of networks formed by groups of stakeholders and the social identities of individuals members of these groups. The contribution of this study consists of presenting an overview of the Theory of Stakeholder Networks analyzing reference networks, theoretical and empirical contributions, trends and research agenda for the theme, which will help in the development of future work.*

**Keywords:** Multiple Stakeholders; Interorganizational Networks; Stakeholder theory; Influence of stakeholders; Sociometric analysis;

**Acknowledgments**

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*Track 15 Stakeholders, Local and Global Networks*

**ID #600**

## **Value distribution to stakeholders: Exploratory study in IPOs of Brazil and the United States**

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### **Abstract**

*Stakeholder theory has developed over the last three decades and its employment is increasingly present in various fields of the Administration area. In spite of the undeniable advance of the theory, to date this was not enough to solve some obscure points, lacking in theses and empirical evidence, points that are at the limit of the theory. More specifically, this discussion turns to the stakeholder value-building capacity recently addressed by Garcia-Castro and Aguilera (2015), Tantalo and Priem (2016) and Yin and Jamali (2016). This theoretical gap, that is, how it should be the distribution of value to stakeholders, guides this research. The main objective of the research is to provide theoretical clarification based on empirical evidence about a possible criterion for the distribution of value to stakeholders. In order to obtain the information pertinent to the treatment given by companies to their stakeholders, the data collection will be done through content analysis in the prospects presented by companies for the IPO process in Brazil, Bolsa, Balcão - B3, on the New York Stock Exchange - NYSE and the National Association of Securities Dealers Automated Quotations - NASDAQ from 2008 to 2017. For the collection of information on possible variables that may intervene in the phenomenon of value distribution, such as economic sector and access to corporate websites, quoted stock exchanges and specialized media vehicles. The data treatment will employ a quantitative method, using multivariate statistical techniques. The expected result of the research should be a relevant theoretical contribution to stakeholder theory in the area of Management, supported by empirical evidence, focusing on the issue of value distribution to stakeholders.*

**Keywords:** Stakeholder Theory; Value Creation; Value Distribution; Stakeholders; IPO..

### **Acknowledgments**

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## **PURPOSE**

Stakeholder theory has developed over the last three decades and its employment is increasingly present in various fields of the business area. Despite the undeniable advance of theory, the state of the art has not solved certain points, lacking in theses and empirical evidence, points that touch the limits of theory. An important point of these limits of the theory of stakeholders, as will be discussed below, refers to the value distribution to stakeholders, specifically regarding the explanatory variables of this phenomenon and its relationship with business performance.

The main objective of this project is to provide theoretical clarification, supported by empirical evidence, about the criteria of managers for the value distribution to stakeholders. To reach this goal, this research will employ the stakeholder theory, data from Brazilian and American companies that have opened capital, techniques of content analysis and statistical methods.

## **CONTRIBUTION AND ORIGINALITY**

Stakeholder theory understands firm as a nexus of relations between actors in which each one has interests and influences the results of the same (Freeman, 1984; Freeman et al., 2010). A challenging theory challenge is to explain how managers define stakeholder value distribution strategies so that company performance is maximized.

The state of the art in stakeholder theory lies in a growing line of research that develops an alternative explanation of how managers define their value distribution strategies. In view of this perspective, in recent years several researchers have turned their attention to the perspective of value creation, among them Freeman (2010), Harrison et al. (2010), Garcia-Castro and Aguilera (2015), Tantalo and Priem (2016) and Yin and Jamali (2016).

This project contributes to the understanding of the phenomenon of value distribution to stakeholders, which, so far, has not found empirical studies that demonstrate evidence of how managers consider the treatment of stakeholders based on their power and capacity to create value. In this sense, this proposal is original, touching the state of the art of this literature.

## **THEORETICAL BASIS**

The theoretical framework that underlies stakeholder theory is the work of Freeman (1984). According to which stakeholder is any individual or group that can affect the attainment of organizational goals or that is affected by the process of pursuit of these goals.

In the field of stakeholder theory, Harrison and Wicks (2013, p. 100) define value broadly as "anything that has potential for utility to stakeholders." Such a broadly defined construct, however, makes it difficult to operationalize. The concept of utility, borrowed from the economy, can help reflect the value to stakeholders while expressing the preferences of products that stakeholders get from business. The stakeholder utility function is a combination of tangible and intangible preferences that is specific to each stakeholder group (Harrison et al., 2010).

Stakeholder power is a central component of the salience model (Mitchell et al., 1997), and several researchers have subsequently studied how managers decide to distribute value to stakeholders on the basis of salience. Depending on the arguments, it is possible to state the following hypothesis:

**H1:** *The greater the power of a group of stakeholders, greater will be the company value distribution to this group.*

The concept of value creation as an influencer in value distribution decisions to stakeholders is less frequent and much more recent in the literature. This concept of value creation is based on the stakeholder's ability to contribute to the company's competitiveness (Harrison and Bosse, 2013).

One of the assumptions that give support to the concept of value creation as a factor in the distribution of value to stakeholders is suggested by Friedman and Miles (2006), for whom the just interactions with stakeholders. To examine these relationships may reveal to what extent stakeholders have a role in creating value in the enterprise (Freeman, 2010, Garcia-Castro and Aguilera, 2015, Harrison et al., 2010, Tantalo and Priem, 2016).

The managers, with the purpose of initiating virtuous cycles of reciprocity as such stakeholders that are able to create value for company, then seek to distribute value based on this logic (Harrison et al., 2010; Harrison and Bosse, 2013). According to the argument, the second hypothesis of this study is presented:

**H2:** *The greater the value creation capacity of a group of stakeholders, the greater will be the value distribution of the company to this group.*

The dynamics of value creation and distribution can present different configurations for stakeholder treatment considerations. In power-based relationships, a stakeholder's gains imply losses for another stakeholder. On the other hand, when behavior is based on justice and reciprocity, there may be win-win relationships (García-Castro and Aguilera, 2015), where the value distributed to one stakeholder group can increase the usefulness of another.

Tantalo and Priem (2016) label this phenomenon of synergy of stakeholders. A synergistic approach to value allocation increases the size of the "cake" available to key stakeholders, increasing their willingness to remain contributing to the company's value creation system, since they understand the complementarity of their contributions to the company (Tantalo and Priem, 2016). From this perspective, the focus shifts from a value allocation emphasizing the power criteria for an allocation that considers the ability of stakeholders to contribute to total value creation. In view of this, the third hypothesis of the study is presented:

**H3:** *The value creation capacity of a group of stakeholders has a greater influence on the distribution of value of the company than the power of this group itself.*

## **METHODOLOGY**

This research can be classified as descriptive, with a quantitative approach, with the main objective of providing theoretical clarification based on empirical evidence about the phenomenon of value distribution to stakeholders. The population to be studied is that of the companies that opened the capital, in Brazil and the USA, in the last ten years (2008 to 2017). Sampling will be conditioned by the accessibility of information on the companies that have launched IPOs in Brazil, Bolsa, Balcão - B3 (successor to BM & F BOVESPA) and on the New York Stock Exchange - NYSE and National Association of Securities Automated Quotations Dealers - NASDAQ from 2008 to 2017.

In order to evaluate and measure the capacity to create value by the stakeholder the company will be analyzed if sections of the prospects (1) Competitive Advantages and Strengths, of the

Brazilian prospect and the sections (1) Summary; and (2) Management's Discussion and Analysis of Financial and Operational Conditions of the US prospectus.

NVivo12 software is used to count this frequency of each stakeholder, thus creating a value creation score for each stakeholder. Following the same criteria for weighting the variables "Distributed Value" and "Power", these scores are weighted according to the length of the text of the prospectus.

The result of the data collection phase, through the content analysis of the prospects, will result in obtaining the scores related to the variables "distributed value", "power" and "value creation". The analysis of the relationship between the variable "distributed value" to the stakeholders and the variables "power" and "value creation" should be performed through the multiple regression technique and, if necessary, other multivariate analysis techniques. In addition to the variables obtained by the content analysis, the use of control variables in the statistical modeling is foreseen.

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*Track 15 Stakeholders, Local and Global Networks*

**ID #603**

## **Management decision-making and value distribution to stakeholders**

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### **Abstract**

*This study seeks to fill the gap identified by the lack of empirical research that seeks to understand managers' decision making and aims to empirically identify how managers make decisions regarding the distribution of resources to stakeholders. The methodology used was quantitative and the data were collected through questionnaires. The results show that with power concentrated in the hands of the individual decision maker, deliberations will be based on personal characteristics and information disclosed. It can change if any data is revealed or a request made, increasing the stakeholder's salience.*

**Keywords:** Value Distribution; Stakeholders; Management Decision..

### **Acknowledgments**

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## **INTRODUCTION**

Companies, in delimiting their strategy, are increasingly concerned with the attention given to stakeholders (Crilly & Sloan, 2012). In the face of more complex day-to-day management activities, which result from the sum of factors that include the circumstances, the manner and function of what or from whom the organization will act (Cragg & Greenbaum, 2002) recent research is increasingly focusing on balancing stakeholder interests with a view to a fairer distribution of the economic wealth created by firms (O'Riordan & Fairbrass, 2014). How much each stakeholder group receives and why is a constant theme in stakeholder theory debates (Phillips, Freeman, & Wicks, 2003).

How to prioritize the innumerable claims of the various stakeholders is the focus of stakeholder management and the stakeholder theory dilemma (O'Riordan & Fairbrass, 2014), however, there is not much research on how managers conceptualize their company relationships with society and how they manage the concerns of various stakeholder groups (Crilly & Sloan, 2012).

Reynolds, Schultz and Hekman (2006) argue that the literature on the balance between the interests of stakeholders focuses on the organizational view and ends up neglecting the decision maker individually. The authors point out at least two reasons why this omission should not exist; first, most decisions taken in the company are made by individuals, and it is extremely important to understand how managers come to decisions and what their implications; and secondly, because managers are central to stakeholder theory, understanding the decision-making process may be central to other stakeholder management principles (Reynolds, Schultz, & Hekman, 2006).

Another way to understand the importance of stakeholder management is the fact that there are people with social preferences. According to Fehr and Falk (2002), these people are concerned not only with the material resources allocated to them, but also with what is being allocated to the people with whom it interacts, its colleagues or reference agents, making the distribution of resources question and the attendance even more complex demands.

Stakeholder scholars have always sought and cared to develop tools that could help managers coordinate the demands of different stakeholder groups. However, critics of the theory argue that, although the manager is asked to be concerned about serving different groups, there are no adequate tools for this (Crane, Graham, & Himick, 2015).

The actions and decisions of the managers, their values and the responsibility attributed to the different groups of stakeholders, should be investigated, with openness to research where they are, in addition to corporate requirements, corporate and social ethics and public policy (Cragg & Greenbaum, 2002).

In the light of the above, this article pursues to fill the gap identified by the lack of empirical research that seeks to understand managers' decision making, especially in the Brazilian scenario and is guided by the following research problem: how managers distribute scarce resources among different groups of stakeholders?

To answer the research problem, this article aims to identify, empirically, how managers make decisions regarding the distribution of resources to stakeholders. As secondary objectives, it seeks: to identify if the divisibility of resources interferes in the decision making; ii) identify whether the stakeholder's salience interferes in decision making.

This article has the potential to contribute in a theoretical way, by seeking to fill the identified gap of articles that seek to study the role of the manager in decision making and, in a practical way, the results of the study can help the managers to understand how the situation and the information available can drive and direct certain choices in decision making.

## **LITERATURE REVIEW**

### ***Stakeholder: theory and management***

Stakeholder theory understands that the organization has multiple actors who seek to achieve their objectives through the company's activities (Donaldson & Preston, 1995). These actors receive the nomenclature of stakeholders, who are individuals or groups capable of affecting or being affected by the company in the pursuit of its objectives (Freeman, 1984).

The work and structure of the company are explained by the stakeholder theory (Donaldson & Preston, 1995), which argues that it is the responsibility of the manager to take into account the interest of all the company's stakeholders in decision making (Jensen, 2001). Thus, it is up to the manager to play one of the central aspects of the theory, which is the quest to satisfy the needs of as many stakeholders as possible (Donaldson & Preston, 1995).

By implementing stakeholder management, the company will invest resources. Therefore, for the implementation to be worthwhile, it is necessary that the costs arising from the time spent on communication, resource allocation, and relationship management, for example, are inferior than the benefits brought by management (Harrison, Bosse, & Phillips, 2010). In managing its stakeholders, the organization understands that its actions may affect the well-being of its stakeholders and seek to identify and respect this process, taking into account not only the interests of the shareholders, but also of the other groups (Phillips, Freeman, & Wicks, 2003, Harrison et al., 2010).

The success of stakeholder management is subject to how the manager will play his role, since the search for the balance between the demands and management of the different groups will depend on their abilities (Clarkson, 1995; Donaldson & Preston, 1995; Wicks & Parmar, 2004, Zou, 2015). And, in order not to lose support from any group, it is the manager's interest to ensure that stakeholders have their interests met in a balanced way (Reynolds et al., 2006).

Despite the commitment and effort on the part of the manager in the search for this balance, his actions are limited by some factors such as the divisibility of resources. In addition, there are situations in which some claims should receive priority (Reynolds et al., 2006). This prioritization is not static and changes according to the issue faced by the organization (Susnienè & Vanagas, 2007).

There are many studies and forms pointed out by stakeholder theory theorists as ways to assist the manager in decision making. The main studies and forms of prioritization are shown in Table 1.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

As shown in Table 1, the authors seek forms and formulas to justify the choice of certain stakeholder groups over others when making decisions. They use different concepts and defend different points of view. Among the models, some stand out because they are more accepted, such as the one proposed by Mitchell et al. (1997) and by Phillips (2003).

Mitchell et al. (1997) argue that stakeholders can be identified by the presence of three attributes: power to influence the company, legitimacy of the relationship with the company and the urgency of its claim and it will be through these characteristics that the manager will evaluate the priority of meeting the demands. Phillips (2003) argues that scholars and managers can use the idea of legitimacy to better understand who the groups of stakeholders are, because they are considered as such and the relationship of each group to the organization and to each other. Based on legitimacy, some stakeholder groups deserve to be more considered at the time of managerial decision-making than others. Derived legitimacy refers to groups that have the capacity to affect organization, and normative legitimacy refers to groups that receive attention for moral obligation, because they are human.

### ***Value distribution for stakeholder***

Among the stakeholder groups, it is the shareholders who receive the most attention from the company. The search for maximizing shareholder value is so consolidated in the field of finance that it is only stated, not requiring further explanation (Sundaram & Inkpen, 2004), and it is often suggested that this should be the objective of the organization (Brandburguer & Stuart, 1996).

There are two main views on how the shareholder should be treated by the company, the conventional view holds that it is a shareholder's right and that the company should seek, in the long term, the maximization of its value and the alternative view that although it value of the shareholder should be maximized, it is also the responsibility of the company to meet the demands of other stakeholder groups (Zattoni, 2011).

According to the legislation of most industrialized countries, the shareholder is the sole stakeholder with property rights, in this way, it is your responsibility the company's most important decisions as well as its residual income from the company (Zattoni, 2011). Sundaram and Inkpen (2004) argue that maximizing shareholder value should be the most commonly used goal among managers not only because they are in the law, but also because it results in more sensible decisions when it comes to improving outcomes for different stakeholder groups .

Stakeholder theory, however, does not support this argument and claims that managers are more than concerned with maximizing shareholder value, and are responsible for taking into account and looking after all other stakeholders in their decisions (Crane et al., 2015), although managers do not have the means to do so (Crane et al., 2015). O'riordan and Fairbrass (2014), who add that this is a concern not only of stakeholder theory, but also of corporate responsibility and governance, however, argue that managers should take into account the rights and interests of stakeholders.

The value of the company is created by people who voluntarily cooperate in seeking to improve the condition of all, and although the shareholder has a fundamental role in this process, profit must be the result and not the driver of the value creation process (Freeman, Wicks, & Parmar, 2004). In this sense, Harrison and Wicks (2013) argue that although it is important, the financial performance of the company is not the only form of value that interests the stakeholders.

According to Priego, Lizano and Madrid (2014, p.77), "value distribution symbolizes the ability of the company to meet the different demands of its stakeholders, pondering potential conflicts, since each stakeholder will try to appropriate the maximum amount of value added to satisfy their own needs. "

All organizations create and distribute value among their stakeholders and the management of the relationship with the different groups happens through the recognition of the intrinsic value

or the expectation of the impact generated in the performance (Roberto & Serrano, 2007). However, decisions regarding distribution are not unanimous among stakeholders, and the decision-maker is responsible for this decision (Reynolds et al., 2006). Phillips et al., (2003) believe that the question of who should be prioritized and in what form and what should be distributed will depend on the company's objective, since what must be distributed needs to be aligned with the achievement of organizational goals.

Given the difference between the needs of stakeholders, Susnienè and Vanagas (2007) propose that, in order to harmonize and satisfy their diverse interests, there are three notions: adjustment, alignment and balance of interests. In adjustment, the supply meets or exceeds the demand for benefits; in alignment there is the understanding that interests follow in the same direction; and, finally, the balance seeks to reconcile conflicting interests even in the face of a lack of resources.

Aiming the same result, Reynolds et al. (2006) explain that there are two distinct approaches under which managers can balance stakeholder interests: an approach within decision and a cross-cutting approach. In the decision-making approach, the manager will treat the decision as individual and unique, regardless of past or future decisions, assess which stakeholder groups are important, and, faced with the demands of these groups, will try to satisfy them as if that decision were the only one to be considered. In the transversal approach, the manager adopts a long-term vision to satisfy the needs of the stakeholders, even if a stakeholder is neglected in several decisions, he will receive the resources and attention required because the manager sees the general scheme of the organizational activity and will attend to all within this scheme, sooner or later.

Based on the above critique of shareholder value maximization discussed earlier, Sundaram and Ikpen (2004) make some observations about value distribution. The authors argue that for some stakeholder groups, contingent performance payments, such as employees and suppliers, may be given to non-convertible creditors, such as customers and communities, these payments are not feasible. In addition, when there is a surplus, some groups of stakeholders receive more than fixed income, which is not the case with shareholders, because if the company does not produce cash flow, they will have nothing to receive.

In this sense, Priego, Lizano and Madrid (2014) affirm that the capacity of the company to meet the demand of its stakeholders is conditioned to the financial situation. Non-bankrupt companies have the capacity to serve all their stakeholders while bankrupt companies are committed exclusively to serving workers and creditors using part of the added value.

## **METHODS**

This research aims to empirically identify how managers make decisions regarding the distribution of resources to stakeholders and how the divisibility of resources and the salience of stakeholders interfere in decision making. To that end, the questionnaire used by Reynold, Schultz and Hekman (2006) in an article with a similar objective was translated into Portuguese and sent to postgraduate students in Administration. Postgraduate students' responses regarding the distribution of resources were studied using a between-subject experimental design based on vignettes among 160 responses.

The choice to carry out the research with graduate students was due to some questions. In the Brazilian economic scenario, where more than 98% of Brazilian private enterprises are small and microenterprises and they are responsible for more than half of the country's formal jobs (Brasil, 2017), managers are mostly graduating. In a survey carried out with managers of micro

and small companies in the clothing sector, it was possible to analyze that 44% of respondents have complete superiors (Lucena et al., 2010). When seeking respondents of masters and doctoral courses, it is guaranteed that the minimum education is full graduation.

In addition, the sample is formed by graduate students *stricto sensu* in administration. Even if the graduation of the individuals in the sample was in another area, in the master's degree, it was inferred that General Management Theory or similar disciplines were taught, where the basic concepts were showed, assisting the students in the performance of the managerial activity. With regard to managerial activity, Medeiros, Wimmersberger and Miranda (2015), in their study, emphasize that managerial roles go beyond the "basic" activities of the administration, that is, to plan, organize, direct and control.

Faced with the demands and expectations of companies, managers seek to improve their management training. In the case of Brazil, the most sought-after training programs are the more formal courses, such as the *Lato Sensu* and *Stricto Sensu* Post-Graduation (Ruas, 2003). In this sense, the postgraduate courses are an interesting field for the application of our research.

Initially, all the Postgraduate Programs in Administration and the e-mails of their respective secretaries were identified in Sucupira's website. Subsequently, the questionnaire was sent to the secretariats requesting that they be sent to the students of the Professional Masters, Masters and Academic Doctors. Emails were sent to 118 secretariats and 205 responses were obtained, of which, after analysis, 160 questionnaires were considered valid. The questionnaire is best presented in Table 2.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

Participants were randomly assigned to one of the vignettes, in order to avoid framing effects (Berens et al., 2007; Bridoux, Stoffberg, & Den Hartog, 2016). To ensure that our results were robust, we used vignettes in which participants were put in the shoes of managers. In the questionnaire, respondents should choose one of three scenarios, without any information being given. The first scenario presented valid claims of three stakeholders: shareholders, employees and community. The second scenario presented the same claims, but only the shareholders presented no problems. On the other hand, the third scenario, of the employees would only bring benefits.

Then, for the three scenarios, the respondents had to choose between two paths, in the first it was said that there was a cash amount, \$ 100,000.00, that could be divided in the way that the respondent found most interesting. The second scenario said that this amount should not be divided. It was also said that the money came from the sale of a property and that the company had other similar properties, so the situation of the respondent having the same amount of money, available to share among the stakeholder, would probably be repeated.

After allocation of resources (distribution 1), the respondent was told that he would have to make the same decision and would have the opportunity to divide, among the stakeholders, again, the amount of \$ 100,000.00. Once again, the choice was between two scenarios, the first that allowed the division and another that requested that the resource be delivered to only one group. In sequence, the respondent made the second allocation of resources (distribution 2).

In order to identify the most appropriate tests for the research sample, the normality test of Shapiro-Francia, indicated for samples of size  $5 \leq n \leq 5,000$  (Fávero & Belfiore, 2017) was carried out. It was observed that all variables present non-parametric distribution. In order to compare the distribution to the stakeholders in the scenarios with resource divisibility versus the resource indivisibility scenario, a comparison of means was performed, specifically the

Mann-Whitney test. According to Fávero and Belfiore (2017), this test is used for non-parametric samples. The Kruskal-Wallis test, considered an alternative to the analysis of variance when the data were non-parametric, was used to compare the distribution of resources in relation to the different salience groups of the stakeholders. The survey data were tested using Stata® software.

## **RESULTS**

### ***Descriptive Analysis***

The participants of this study were 160 postgraduate students in Administration of Brazil, enrolled in courses of academic masters, professional masters and doctorate. The instrument was distributed via e-mail with the form link. Eighty-three of the participants were female (52%). Most respondents (45%) are between 26 and 35 years of age, have a specialist degree (41%) and a degree in Administration (26%). Respondents have professional experience in the most diverse areas of Administration, such as General Administration (40%), Education (37%), Consulting (22%), Business (9%), Finance (8%), Marketing Human Resources (6%). Only 5 respondents (3% of the sample) reported having no experience. In this question the respondents could mark the various areas in which they have experience.

Still on the characteristics of the respondents, Table 3 informs us the postgraduate course to which they are performing.

**\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\***

In the sample analyzed, it was verified that the majority of the respondents are studying the master's degree (70.6%), more specifically the professional master's degree (40.6%). It can be seen from Table 3 that women are the majority in professional master's degree programs (52.1%) and PhD (59.6%). In turn, the men are majority in the academic masters (53.8%).

Table 4 shows the descriptive statistics of the values distributed to each of the stakeholders, both in the first and in the second distribution.

**\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\***

It is observed that in all the distributions the employee stakeholder was the one that received, on average, greater value. When comparing the first distributions with those made in a second moment, it was noticed that the shareholder was the only stakeholder to receive greater value in the second distribution. In the case of the others, the averages of value received decreased. According to Fávero and Belfiore (2017), all stakeholders had a coefficient of variation greater than 30%, indicating that the data set is heterogeneous.

Regarding the frequency distribution between the salience, divisibility 1 and divisibility 2 categories, we can observe Table 5. It was noticed that most respondents analyzed equal saliency (46.24%) scenarios with divisible resources in both the first distribution (70.63%), and second (58.75%).

**\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\***

For questions involving Likert scale, the results can be visualized through Figures 1 and 2.

**\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

Figure 1 shows that most respondents do not agree that the Accounting VP preferred that money be divided among the three groups. Options 1, 2 and 3, which corresponded to non-agreement, accounted for 54.4% of the responses.

\*\*\*\*\* **FIGURE 2 ABOUT HERE** \*\*\*\*\*

Figure 2 shows that most respondents do not agree that the claims of the groups were the same. Options 1, 2 and 3, which corresponded to non-agreement, accounted for 70.6% of the responses.

### ***Influence of divisibility on decision making***

Before performing the means, comparison tests, the Shapiro-Francia test was performed to verify the normality of the variables. All variables presented p-value  $<0.05$ , indicating that the sample does not come from a population with normal distribution.

In order to investigate whether the variable divisibility influenced managerial decision making regarding the distribution of resources to stakeholders, Mann-Whitney tests were performed. In these tests, the averages of distributed value were compared to each of the stakeholders (shareholder, employee and community) among the scenarios that indicated resource divisibility and indivisibility of resources.

Table 6 compares the means between the two divisibility groups for each of the stakeholders in the first distribution of resources.

\*\*\*\*\* **TABLE 6 ABOUT HERE** \*\*\*\*\*

It can be observed that the distribution of resources to the different stakeholders is not influenced by the condition of the division of resources or not. Note that the means are statistically the same. Table 7 shows the comparison between the means between the two divisibility groups for each of the stakeholders in the second distribution of resources.

\*\*\*\*\* **TABLE 7 ABOUT HERE** \*\*\*\*\*

Analyzing the distribution of resources to the different stakeholders in the second situation, it is observed that only the community stakeholder is influenced by the condition of dividing or not the resources. At a significance level of 1%, we note that the average of this stakeholder, when the resource cannot be divided, is statistically lower than the average when the resource can be divided. Thus, it can be seen that when the resource can be directed to only one stakeholder, few respondents choose to direct it to the community. The outputs show us that managers, in their decision making, are little influenced by the condition of divisibility of resources.

### ***Influence of Saliency on Decision Making***

In order to understand if the values received by the shareholder, employee and community are statistically different according to the saliency groups to which they belong (equal saliency, stockholder saliency and employee saliency), the Kruskal-Wallis test was performed. The results can be seen in Table 8.

\*\*\*\*\* **Insert Table 8 about here** \*\*\*\*\*

In terms of the second distribution, only the community stakeholder presented a statistically significant difference, at the 10% level, between the saliency groups. The highest average was found in the group of equal saliences.

When identifying such differences in the first distribution, we chose to compare the means of the salience groups two to two, noting which groups actually differ. Mann-Whitney tests were performed, the results of which can be seen in the tables below. Table 7 presents the comparisons between averages for the shareholder stakeholder.

**\*\*\*\*\* TABLE 9 ABOUT HERE \*\*\*\*\***

It was verified that the averages of values received by the shareholder in situations of equal saliency and employee saliency are statistically the same. In turn, the value received by this stakeholder in stockholder saliency situation is statistically superior to the others. Therefore, the distribution of value to the shareholder is favored by situations in which it has greater saliency. Table 10 shows the comparisons between averages for the employee stakeholder.

**\*\*\*\*\* TABLE 10 ABOUT HERE \*\*\*\*\***

The means of distributed values to the employee, in situations of equal saliency and stockholder saliency, are statistically the same. However, the value received by this stakeholder in the situation of employee saliency is statistically superior to the others, and the distribution of value to the employee is favored by situations in which the employee has greater saliency.

Finally, Table 11 presents the comparisons between averages for the community stakeholder, in their two distributions.

**\*\*\*\*\* TABLE 11 ABOUT HERE \*\*\*\*\***

The averages of distributed values to the community stakeholder are statistically different in all salience situations. It was noted that the distribution of resources to this stakeholder is favored in situations of equal saliency, when the community presents higher average. In turn, the distribution of resources to the community is less favored in situations of employee saliency, when this stakeholder presents a lower average.

## **CONCLUSION**

Given the importance of the role played by the manager in the decision making of the company (Cragg & Greenbaum, 2002; Crane et al., 2015; Donaldson & Preston, 1995; Jensen 2001; Reynolds et al., 2006) this article aimed to identify, empirically, how managers make decisions regarding the distribution of resources to stakeholders. For this, the methodology used sought to identify decisions regarding the equality or not of the demands of the different groups of stakeholders and the freedom of the respondent to divide the resources.

To reach the objectives, secondary objectives have been proposed. Initially, it was tried to identify if the divisibility of the resources interferes in the decision making. Of the respondents, 63 opted unconsciously for the scenarios that allowed the divisibility of resources. Of these, 63.5% chose to divide the amount between two or three groups of stakeholders, which demonstrates a concern with the management of stakeholders and the understanding that not only should the shareholder benefit (Clarkson, 1995; Donaldson & Preston, 1995; Freeman, 1984; Freeman et al., 2004; Freeman et al., 2007; Harrison et al., 2010; Phillips et al., 2003; Zou, 2015).

Of this group of 63 respondents, on the second opportunity of dividing resources, 52 also opted unconsciously for the scenario that allowed, once again, the divisibility of resources and 71.15% decided to divide the value between two or three groups of resources. stakeholder, demonstrating, once again, the concern with meeting the needs of multiple stakeholders.

Another interesting fact is that of the 52 respondents who, in both scenarios, had the freedom to share resources, from those who at first resolved not to divide, choosing to give all the value to only one stakeholder group, 82.32% when faced the second situation of allocating value, chose to split the resource or change the group to whom the resource would go. Confirming that, in the sample studied, the concern to satisfy different groups when it comes to distributing value, is confirmed. In addition to being identified the transversal approach proposed by Reynolds et al., (2006).

A similar situation occurred in scenarios that did not indicate the divisibility of resources. Unlike the one proposed by Reynolds et al. (2006), the divisibility factor, in the case of Brazilian respondents, was not considered significant, since both groups chose to divide the resources. Such findings corroborate the fact that, according to Berentsen and Rocheteau (2002), models that present the condition of indivisibility of resources are more inefficient than models that allow divisibility.

Already in the second secondary objective, it was tried to identify if the salience of the stakeholders interferes in the decision making. The salient model was proposed by Mitchell et al. (1997) who argue that to be considered salient, the stakeholders must present some attributes. In this research, in two of the three possible scenarios, a stakeholder stood out as more "salient", that is, had information that would lead the manager to prioritize it to the detriment of the other groups.

In the situation in which the shareholder stakeholder was salient, a greater distribution of resources to its benefit was verified. This fact was repeated when the employee stakeholder was the most salient, which ended up causing the managers to tend to a greater distribution of value to the group. The community did not have a specific situation in which it was considered salient, so it received a better distribution when the demands of the three groups were considered equivalent. By means of these results, we observe that, in fact, the salience has a strong influence on the manager's decision making.

This research brings some contributions to the literature. First, empirically, confirms the importance of the role of the manager, as advocated by Zou (2015), who affirms that it is the manager's task to manage relations between the company and its stakeholders. The data show that, with power concentrated in the hands of the individual decision maker, the deliberations will be based on personal characteristics as well as on the disclosed information. The decision may change completely if any data is revealed or a request made, increasing the stakeholder's salience.

The research also contributes in the search for the understanding of the process of decision making in the management of stakeholders. As the literature still lacks tools (Crane et al., 2015), a descriptive analysis of how and based on which managers decide, can facilitate the understanding of the process.

As already explained, the questionnaire was translated from an already published study and the authors of the study in question defend the use of simplified scenarios with a high degree of specificity, although it is difficult for the respondents to draw general conclusions, Reynolds, et al. (2006) explain that the scenarios used in the questionnaire were carefully designed, pre-tested and had their validity checked. However, in this research, many of the questionnaires were invalidated because the respondents showed insecurity in the absence of details for the decision making, configuring a limitation of the study. Another limitation is the fact that the research was applied only with students.

Thus, as a proposal for future studies, it is suggested that more realistic scenarios and with more information be used, enabling managers to make the decision more safely. In addition, it is suggested that we study whether there are differences between the answers of researchers who base their decisions only on the theory studied in relation to those who are de facto managers and who base their responses on the experience and experience acquired in the work environment.

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**Table 1 - Contribution of stakeholder prioritization studies**

<b>Saliency</b>	Stakeholder prioritization can be understood by the saliency, which results from the combination of three attributes: stakeholder power, legitimacy and urgency (Mitchell; Agle & Wood, 1997).
<b>Power</b>	The stakeholder power affects the managers' perception of the stakeholder's degree of importance (Chigona et al., 2010; Frooman, 2010).
<b>Legitimacy</b>	The demands of stakeholders with normative legitimacy should be prioritized in relation to stakeholders with derivative legitimacy (Phillips, 2003b).
<b>Influence</b>	The influence of the stakeholder in the organization affects the managers' perception of the degree of stakeholder importance (Chigona et al., 2010; Pedersen, 2011).
<b>Company strategy</b>	The perception of stakeholder importance is influenced by the company's environmental strategy (Buysse & Verbeke, 2003; Henriques & Sadorsky, 1999).
<b>Stakeholders' contribution</b>	The level of service can consider the contribution of the stakeholder to the company (Cameron, Crawley, Feng & Lin, 2011; Phillips, 2003b).
<b>Company's objective function</b>	If the company adopts the objective function of stakeholder theory, even if shareholders do not have the demands met, the other stakeholders are served (Boaventura, Cardoso, Silva, Silva & 2009).
<b>Stakeholder pressure</b>	The perception of the importance of the stakeholder moderated by the pressure of the stakeholder to attend to their demands related to the environment, influences the attendance of the stakeholders' interests (Murillo-Luna, Garcés-Ayerbe & Rivera-Torres, 2008; Vazquez-Brust, Liston -Heyes, Plaza-Úbeda & Burgos-Jiménez, 2010).

Source: Mascena, Kim, Fischmann & Correa (2015, p.54).

**Table 2 - Items and Situations covered in the Questionnaire**

<b>Subsection</b>	<b>Concepts covered in the questions</b>
Manager Profile	Age Group; Genre; Academic qualification; Training Area in Higher Education; Areas and / or Sectors of Activity in which it has already acted or acts; Post-graduation course.
Situation 1 (saliency)	Choose from the options of scenarios 1 (equal saliency), 2 (stockholder-favored version) or 3 (employee-favored version). The different scenarios inform that the company in which you work has R \$ 100,000 available for distribution to stakeholders (shareholders, employees and community), describing how each of them could use the value.
Situation 2 (divisibility 1)	Choices between Scenario 1 (divisible resource version) or 2 (indivisible resource version). Scenarios tell you that the Accounting VP has contacted you asking you to: feel free to share the value among more than one group; that the value is not divided. Identification of the group (s) for which you would distribute the money, informing the respective
Checking Issues	Two 7-point Likert scale questions (1 strongly / totally disagree and 7 strongly / totally agree): the former stated that the accounting VP would prefer that money not be divided among the three groups; the second stated that the claims of the three groups were
Situation 3 (divisibility 2)	Choose from the options of scenarios 1 (equal saliency), 2 (stockholder-favored version) or 3 (employee-favored version). The different scenarios inform that the company in which you work has another R \$ 100,000 available for distribution between the groups and you receive a call from the accounting VP again requesting: that you feel free to divide the value between more than one group; that the value is not divided. Identification of the group (s) for which you would distribute the money, informing the respective value (s).

Source: Adapted from Reynolds *et al.* (2006).

**Table 3 - Current course and gender of the survey respondents**

Course	Gender	Percent	Percentage
Academic Degree	Female	46,2%	40,6%
	Male	53,8%	
Professional Master's Degree	Female	52,1%	30%
	Male	47,9%	
Doctorate degree	Female	59,6%	29,4%
	Male	40,4%	

Source: Research data.

**Table 4 - Descriptive Statistics of Distributed values to Stakeholders**

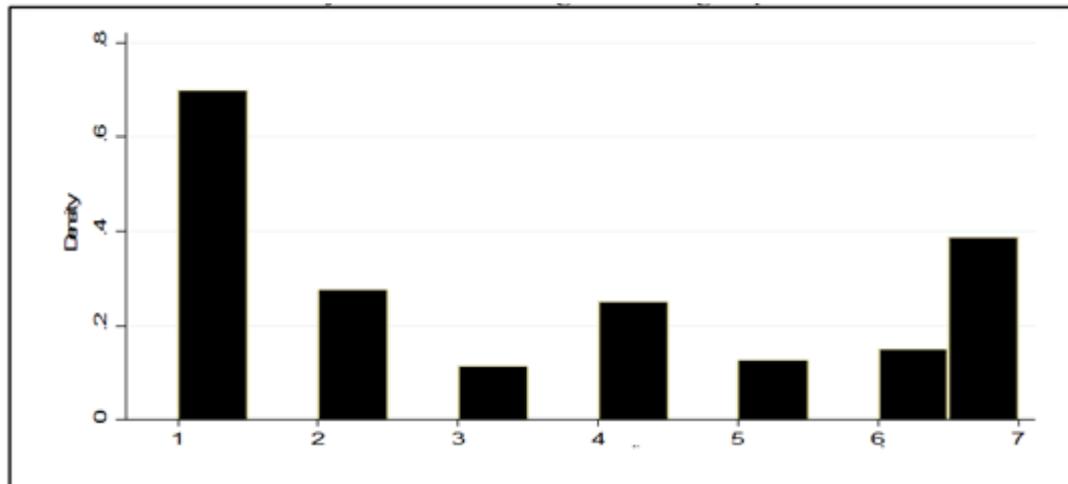
Variable	Mean	Standard deviation	Coef. of Variation (%)
Shareholder – distribution 1	34.579	36.125,21	104,5
Shareholder – distribution 2	39.038	37.371,70	95,7
Employee – distribution 1	46.645	37.159,23	79,7
Employee – distribution 2	42.109	37.572,28	89,2
Community – distribution 1	18.776	25.456,65	135,6
Community – distribution 2	18.384	26.225,48	142,6

Source: Research data.

**Table 5 - Frequency of the variables divisibility 1, divisibility 2 and salience**

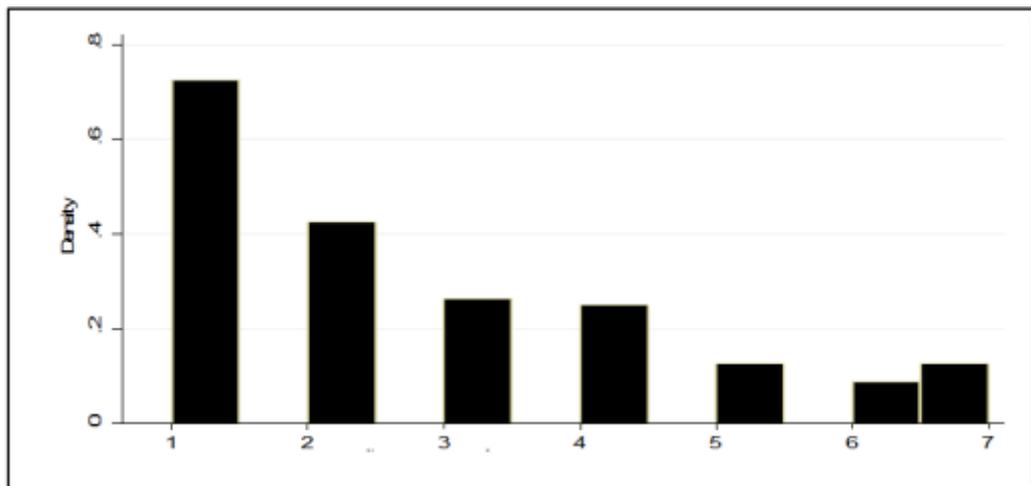
Variable	Categories	Perc.	Perc. Acum.
Salience	<i>Equal Saliency</i>	46,24%	46,24%
	<i>Stockholder Saliency</i>	29,38%	75,62%
	<i>Employee Saliency</i>	24,38%	100%
Divisibility 1	Divisible	70,63%	70,63%
	Indivisible	29,37%	100%
Divisibility 2	Divisible	58,75%	58,75%
	Indivisible	41,25%	100%

Source: Research data.



**Figure 1** - Histogram of the responses of the statement 'The Accounting VP preferred that money be divided among the three groups'.

Source: Research data.



**Figure 2** - Histogram of the responses of the statement 'The claims of these three groups were basically the same'.

Source: Research data.

**Table 6** - Mann-Whitney tests for comparison of averages of the stakeholders in the first distribution of resources

<i>Stakeholder</i>	<i>Distribution</i>	<i>Grupos</i>	<i>n</i>	<i>Mean</i>	<i>p-value</i>
Shareholder	1	Divisible	113	33.475	0,571
		Indivisible	47	37.234	
Employee	1	Divisible	113	37.565	0,716
		Indivisible	47	41.136	
Comunity	1	Divisible	113	19.993	0,374
		Indivisible	47	15.851	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

**Table 7** - Mann-Whitney tests for comparison of averages of the stakeholders in the second distribution of resources

<i>Stakeholder</i>	<i>Distribution</i>	<i>Groups</i>	<i>n</i>	<i>Mean</i>	<i>p-value</i>
Shareholder	2	Divisible	94	37.565	0,912
		Indivisible	66	41.136	
Employee	2	Divisible	94	40.292	0,922
		Indivisible	66	44.697	
Comunity	2	Divisible	94	21.346	0,004*
		Indivisible	66	14.167	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

**Table 8** - Kruskal-Wallis tests

<i>Stakeholder</i>	<i>Distribution</i>	<i>Group</i>	<i>n</i>	<i>Mean</i>	<i>p-value</i>
Shareholder	1	Equal Saliency	74	37.514	0,014**
		Stockholder Saliency	47	48.050	
		Employee Saliency	39	25.726	
	2	Equal Saliency	74	30.689	0,937
		Stockholder Saliency	47	39.503	
		Employee Saliency	39	41.367	
Employee	1	Equal Saliency	74	43.534	0,005*
		Stockholder Saliency	47	35.496	
		Employee Saliency	39	65.983	
	2	Equal Saliency	74	39.763	0,876
		Stockholder Saliency	47	44.716	
		Employee Saliency	39	43.419	
Comunity	1	Equal Saliency	74	25.777	0,002*
		Stockholder Saliency	47	16.454	
		Employee Saliency	39	8.291	
	2	Equal Saliency	74	21.709	0,081***
		Stockholder Saliency	47	15.780	
		Employee Saliency	39	15.214	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

**Table 9 - Mann-Whitney tests for stockholder stakeholder mean comparison**

Stakeholder	Groups	n	Mean	p-value
Shareholder	Equal Saliency	74	30.689	0,014**
	Stockholder Saliency	47	48.050	
	Equal Saliency	74	30.689	0,354
	Employee Saliency	39	25.726	
	Stockholder Saliency	47	48.050	
	Employee Saliency	39	25.726	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

**Table 10 - Mann-Whitney tests for comparison of employee stakeholder mean**

Stakeholder	Distribution	Group	n	Mean	p-value
Employee	1	Equal Saliency	74	43.534	0,108
		Stockholder Saliency	47	35.496	
	1	Equal Saliency	74	43.534	0,001*
		Employee Saliency	39	65.983	
	1	Stockholder Saliency	47	35.496	0,000*
		Employee Saliency	39	65.983	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

**Table 11 - Mann-Whitney tests for comparison of the average stakeholder community**

Stakeholder	Distribution	Group	n	Mean	p-value
Community	1	Equal Saliency	74	25.777	0,026**
		Stockholder Saliency	47	16.454	
	1	Equal Saliency	74	25.777	0,000*
		Employee Saliency	39	8.291	
	1	Stockholder Saliency	47	16.454	0,095***
		Employee Saliency	39	8.291	
	2	Equal Saliency	74	21.709	0,04**
		Stockholder Saliency	47	15.780	
	2	Equal Saliency	74	21.709	0,052***
		Employee Saliency	39	15.214	
	2	Stockholder Saliency	47	15.780	0,89
		Employee Saliency	39	15.214	

Source: Research data.

\* = 1% sig; \*\* = 5% sig; \*\*\* = 10% sig

*Track 15 Stakeholders, Local and Global Networks*

**ID #623**

## **The relational perspective of value creation in business networks**

Ana Cláudia Azevedo (University of São Paulo (USP), Brazil)

### **Abstract**

*Accurate operational definitions involving the delimitation of the phenomenon of value creation in networks are rare, just as there are few instruments aimed at dimensioning this value. Relational View shows a useful approach to this gap, however, although it is highly cited this approach is rarely applied. The objective of this essay is to deepen the discussion about Relational View and its unfolding as a theoretical lens that can be adopted to analyze the phenomenon of value creation in interorganizational networks. This essay assumes the conceptual premise that the creation of value in networks refers to the configuration of resources and activities of a set of partner organizations to achieve mutual competitive results. After reviewing the literature and analyzing the studies that presented conceptual models directly and indirectly derived from the approach of relational vision, some proposals about the creation of value in networks were presented under due theoretical foundation. From the sources of competitive advantage proposed by Dyer & Singh (1998), and revisited by Dyer, Singh and Hesterley (2018), and from the conceptual unfolding that Relational View has received since its publication, a new set has been defined of propositions to explain the phenomenon of value creation in networks. Shedding light on this argument contributes to the development of the literature on value creation in networks, reviewing the discussion of the main concepts and meanings of the Relational Vision approach in understanding how the competitive gains of the networks become interorganizational competitive advantage .*

**Keywords:** Interorganizational Relationships; Business Networks; Value creation; Relational View.

### **Acknowledgments**

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*Track 15 Stakeholders, Local and Global Networks*

**ID #624**

## **Network management and the agency's role: an applied proposal**

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### **Abstract**

*Although there are studies on different roles and scopes of network members' activities to intentionally influence interorganizational network structures, the origins and evolution of the organization's agency in these arrangements still need to be clarified. Fragmented approaches imply partial visions of the network management phenomenon, which can lead to overlapping visions. In this research, we have seen that in recent years the networking of networked companies and initiatives to foster regional networks have become increasingly common, and significant resources have been devoted to cluster policies in the hope of replicating successful arrangements. This trend denotes the importance of looking more closely at governance issues and the management of these networks. The combination of insights from general management and public management add value from this perspective. Facing the possibility of contributing to filling this gap, the study aims to propose and validate a framework that integrates functions and activities of network management in the context of Regional Strategic Networks. To do so, after the development of six propositions based on the literature already established in the field, an empirical validation process with academic specialists and network managers was carried out aiming at the validity and reliability guarantees of the proposed framework.*

**Keywords:** Network management; Regional strategic network; governance.

### **Acknowledgments**

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## **INTRODUCTION**

The formation of interorganizational networks with the aim of improving business conditions in a region and strengthening the competitive position of the participating organizations has been a worldwide phenomenon and different movements by private companies and public bodies have supported these initiatives (Klaster, Wilderom & Muntslag, 2017). Since the late 1980s, national and local governments in Germany, Brazil, Japan, South Korea, the Basque Country, France, among others, have tried to stimulate their development (Martin, Mayer & Mayneris, 2011).

Some examples include the French Competition Pole (Bocquet, Brion & Mothe, 2016), the Industrial Cluster Project in Japan (Nishimura and Okamuro, 2011), the Bavarian High Technology in Germany (Falck, Heblich and Kipar, 2010), the initiatives of technological clusters promoted by the National Research Council of Canada (Gagné et al., 2010) and the Local Productive Arrangements in Brazil (Knorrinda & Nadvi, 2016).

The growing wave of development and networking has redirected the focus of research by involving these arrangements, moving from structures, functions, and dynamics to focusing on governance and management (Jarvensivu & Moller, 2009). Both theory and practice point out that this intensification of network development has contributed to the emergence of questions about its efficiency and effectiveness as well as the intentionality of actions and the ability to manage them successfully (Knop, 2015, p.106), indicating, therefore, a growing interest in relation to the endogenous drivers and the network governance (Dagnino, Levanti & Li Destri, 2016).

Although interorganizational networks do not have a legal imperative for governance, such as organizations and corporate governance (Fama & Jensen, 1983), complex activities requiring multilateral coordination imply a need for a structure for organizing the collective action, that is, the constitution of a system of governance (Roth et al., 2012). In general, network governance consists of the mode and coordination mechanisms used by interorganizational networks with the aim of positively influencing their effectiveness (Provan & Kenis, 2008).

Regarding current studies, the understanding of how interorganizational networks are managed is still limited, and most of the literature on this topic does not focus on the activities employed by network actors and/or does not recognize that there may be different modes of management (Manser et al., 2016). It is observed that this field of research remains fragmented (Jarvensivu & Moller, 2009), presenting rather incoherent conclusions (Müller- Seitz, 2012) due in part to the fact that the hypotheses developed are based on different ontological characteristics of the networks (Jarvensivu & Moller, 2009).

The general discourse on network management is, then, quite diverse, including discussions about management roles, activities and strategies, and the analytical distinction between activities and strategies is sometimes unclear (Markovic, 2017). Besides that, the underlying factors of role and to the scope of agency activities remain indeterminate, demanding further clarification (Dagnino et al., 2016). According to Edelenbos, Van Buuren and Klijn (2013) research on what factors contribute to the good management of the network and how this affects its results has just begun, and Sotarauta (2010) complements affirming that network management is still a black box both for academics and professionals.

In short, based on the presented argument, it can be stated that the literature on network governance remains lacking in more robust conceptual frameworks, which enable the analysis, diagnosis, and development of network management strategies, as well as the association of

such network's phenomena to the performance of these arrangements. For Ahuja et al. (2012) understanding the governance drivers allows appropriate causal inference regarding network performance, after all, network coordination is directly associated with its performance (Herranz Jr, 2010).

In this research, we have seen that in recent years the networking of networked companies and initiatives to foster regional networks have become increasingly common, and significant resources have been devoted to cluster policies in the hope of replicating successful arrangements, such as Silicon Valley, or the Italian districts (Warwik & Nolan, 2014). This trend denotes the importance of looking more closely at governance issues and the management of these networks. The combination of insights from general management and public management add value from this perspective (Bertelings et al., 2017).

Revisiting the literature on this topic, and proposing a framework integrating and consolidating the different visions in search of a model that represents the performance of management within the networks, will serve both to increase the perception of empirical research, as it will offer a solid foundation on which to build theory and improve practice (Saz-Carranza & Ospina, 2011). In addition, there is a recognized need for research using quantitative methods to provide testable and more generalizable results on this topic (Müller- Seitz, 2012; Mueller & Jungwirth, 2016). This study, therefore, aims to present an empirical validation for the proposed framework.

## **THEORETICAL BACKGROUND**

### ***Regional Strategic Networks***

A regional strategic network (RSN) is a type of orchestrated or goal-directed network. These arrangements refer to a self-organized cooperation and joint development arena between companies in a regional setting, supported by public and/or private bodies, organized in a network to improve business conditions in a given region, competitive position of the participating organizations and promoting regional development (Eklinder-Frick et al., 2011; Lundberg & Johanson, 2011). From this perspective, the design of strategic regional networks comes from the strategic approach (Gulati, Nohria & Zaheer, 2000) and the policy networks approach (Klijn, Koppenjan & Termeer, 1995) involving a confluence between the notions of clusters (Porter, 1990) and strategic networks (Jarillo, 1988; Gulati, Nohria & Zaheer, 2000).

RSNs share some characteristics typically attributed to clusters such as co-location, socially overlapping business relationships, and spillovers of knowledge (Porter, 1998, 2000). In relation to strategic networks, the similarity lies in the need to be deliberately designed and demand a hub acting as a network coordinator (Wincent et al., 2010). By abstracting for simplification, it is possible to state that in a continuum where clusters and strategic networks position themselves at opposite ends, the regional RSNs assume a medium position, as a fusion between the two typologies.

As discussed, at the general level, the main objective of the RSN is to strengthen the competitive position of the participating companies, offering new opportunities and development alternatives resulting from the flow of resources and exposure to new knowledge and skills (Baraldi et al., 2012). This dynamic reveals the strategic nature of these arrangements, related to the coordination exercise to reach a collaborative pattern towards the established objectives (Müller- Seitz & Sydow, 2012).

In addition, it should be noted that RSNs are known routes for governments to translate national ambitions into regional policies and actions (Klaster, Wilderom, and Muntslag, 2017) by encouraging networking initiatives through the provision of funds dedicated to regional development (Warwik and Nolan, 2014), which refers to the policy networks approach.

The process of establishing an RSN involves the recognition of opportunities for networking, so some objectives are defined for cooperation and potential participants are contacted and invited to join the network. Thus, initially, an RSN needs clearly established objectives, although these may change over time (Gebert- Petersson et al., 2011). Sölvell, Lindqvist and Ketels (2003) list some of the main determinants to organize and initiate an arrangement of this nature, dividing them into six macro objectives: (i) research and networking, (ii) political action, (iii) commercial cooperation, (iv) education and training, (v) innovation and technology, and (vi) cluster/network expansion. These objectives are detailed in Figure 1.

**\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

According to the authors, at least one of these intentions is usually manifested at the beginning of an RSN. And they add that in practice it is observed that most initiatives tend to have comprehensive goals involving on average five of the six segments listed in their original proposals. Consistent with the scope of the RSNs, the achievement of the established objectives can reverberate impacts both at the level of individual firms and at the regional level.

At the regional level, RSN is responsible for releasing important synergies, stimulating innovation, increasing efficiency and thus strengthening the competitive advantages of the regional economy (Lèfbvre, 2016) and as a by-product, RSN construction can also improve political competencies and social commitments. At the level of the individual firm, RSNs can provide recognition and/or the creation of opportunities that generate joint innovation, the establishment of new businesses and creative ways of using available resources (Ingstrup & Dansgard, 2013). Cooperation can contribute to new sales and redirected purchases, as well as joint production and knowledge development

In these contexts, a facilitator, often known as a hub, is assigned to initiate, manage and coordinate network activities and to encourage and motivate interaction among its members (Mesquita, 2007). In addition to facilitating interaction and projecting collaboration between members (Gagné et al., 2010; Lèfbvre, 2016), the multilateral coordination of public and private interests, sometimes conflicting (Paquin and Howard- Greenville, 2013, Thorgren et al., 2009), points out the importance of a governance structure as a fundamental aspect for the development and maintenance of strategic networks, becoming mandatory in these arrangements. Aspects relevant to governance and network management will be addressed in the following topics.

### ***Network governance and management: micro and macro aspects***

Governance of the network can be analyzed from two different perspectives: (i) studies describing macro-structures or modes of governance and (ii) studies describing internal governance functions and mechanisms, referring to micro-governance (Wegner & Padula, 2010). Another common distinction in this respect involves the terms governance and management. A systematic distinction between the two topics was proposed by Knop (2015) and is presented in Figure 2.

**\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\***

In short, the management of a network is characterized by the flexibility of adapting the practices to meet the needs of collective strategies, while governance is less transient in nature.

Even though governance is the defining factor of the limits of management, the level of efficiency achieved by the latter may lead to the need for revisions in the governance system (Roth et al., 2012). These two dimensions are interrelated and mutually influential (Macciò & Cristofoli, 2017), as shown in Figure 3.

\*\*\*\*\* **FIGURE 3 ABOUT HERE** \*\*\*\*\*

Although the use of a manager improves the main management functions in the networks and contributes to the overall performance of the arrangement (Heidenreich, Landsperger & Spieth, 2016), it should be noted that the notion of network management evolved from a very personified understanding of manager for a more functional concept where strategic activities and their impact on results are important, regardless of whether they were performed by a single responsible person, the "all-powerful" network manager or a variety of people who commonly or alternately take responsibility for managing the arrangement (Markovic, 2017).

### ***Governance and Management in Regional Strategic Networks***

The structural dynamics of a goal-oriented network, such as the RSNs, exhibit a centralized structure with a governing entity and predefined performance limits at different levels of intensity (Klaster, Wilderom & Muntslag, 2017). These networks are encouraged to form boards to act as a steering group, which coordinates network activities and incorporates the control function (Wincent, Thorngren & Anokhin, 2013) because serious conflicts can arise in relation to the common goal or strategy and network actions that aim to achieve this goal (Moretti, 2017). Thus, these structures are typically established to monitor network activities and to manage the tension between organizational and collective interests (Lefebvre, 2016).

Therefore, an RSN typically has a clearly defined association and a management group responsible for designing collaboration among members (Gebert-Persson et al., 2011; Lundberg and Andresen, 2012). The idea that effective network management can help to organize and coordinate common efforts and thus positively impact the results of the network is very widespread (Markovic, 2017), and network management is seen as highly relevant in complex networks, in which public, private and non-profit sectors are involved (Ysa, Sierra & Esteve, 2014).

The literature recognizes this type of organization under different nomenclatures example of triggering entities (Doz, Oks & Ring, 2000), network administrative organizations (Human & Provan, 2000; Provan & Kenis, 2008), central firms (Dhanaraj & Parkhe, 2006), builders of collaborative capacity (Weber & Khademian, 2008), leading organizations (Provan & Kenis, 2008; Müller-Seitz, 2012) integration engineers (Shepherd & Meehan, 2012), network orchestrators (Paquin & Howard - Greenville, 2013), network architects (Matinheikki et al. 2017), among others.

Using the terminology of Provan and Kenis (2008), this way of structuring governance can be considered a network administrative organization and are specifically configured to govern the network and ensure that its goals are met (Wincent, Thorngren & Anokhin, 2013). These councils may include actors representing government, business, local universities and/or other stakeholders (Lundberg, 2008) (Gebert-Persson, Lundberg and Andresen, 2011). And they can take the form of individuals, government agencies or independent organizations, such as companies and private consultants (Mesquita, 2007), so the administrative entity can be a single network manager or can be represented by a formal organization with its own personnel involved in guaranteeing and maintaining the operation of the network (Moretti, 2017).

These centers act as a steering group coordinating, monitoring joint activities (Wincent, Thorgen & Anokhin, 2013) and include individuals who are entrusted with supervisory power to make important network-related decisions (Wincent, Anokhin & Ortqvist, 2010) can help build the network, coordinate and manage its activities, support its goals and its members, and provide a centralized place to execute the network's core activities (Human and Provan, 2000).

## **FRAMEWORK AND PROPOSALS FOR ANALYSIS OF NETWORK MANAGEMENT ACTIVITIES**

As discussed, governance determines the network's operating rules and provides guidelines for managing them. Within this delimitation, network management can be seen as the most procedural and operational face of governance. It is in essence an interorganizational activity of network coordination (Edelenbos et al., 2013). Managers can coordinate networks in a variety of ways, and various management strategies are identified in the literature (Cristofoli, Meneguzzo & Riccucci, 2017). The general discourse on network management is quite diverse (Manser et al., 2016) and includes discussions of managerial roles, activities, and strategies, even though the analytical distinction between activities and strategies is sometimes uncertain (Markovic, 2017).

To organize the existing literature and systematize a view that portrays the state of the art about the topic of network management, a review of the literature was carried out in the journals listed in Academic Journal Guide 2018. Given the interdisciplinarity of the topic, we selected journals (notes 3, 4 and 4\*) on General Management tracks, Strategie and Public Sector. The research with Boolean operators presented in Figure 4 on the topic (title, abstract and keywords) resulted in an initial pool of 232 articles.

**\*\*\*\*\* FIGURE 4 ABOUT HERE \*\*\*\*\***

After the first analysis, based on the reading of the titles and abstracts, 69 articles were selected for full reading, of which 55 were chosen because they were adherent to the review objective, and after reading comprehensively, 23 articles remained and were analyzed in depth in the search for network management functions and activities.

Although many different activities fit within the scope of network management they can be synthesized in some broader categories. In the sequence, a compilation of this revision is presented, as well as a grouped re-reading of the different typologies according to the scope of each function. It should be emphasized that although they present different nomenclatures, from a holistic perspective, these functions can be understood as consonant and complementary.

### ***Selection and Activation***

The selection function was initially proposed by Sydow & Windeler (1994) and replicated quite well after the example of Heidenreich's work, Landsperger & Spieth (2016). Broadly speaking, this function refers to the choice, inclusion, and removal of participants from the network, considering the potential resources and opportunities they may represent.

In the same way, the activation function was initially discussed in the study by Agranoff & McGuire (2001) and later replicated by McGuire (2002), McGuire & Silvia (2009) and Jarvensivu & Moller (2009). Also, as a selection criterion, this function considers the behaviors used to identify and incorporate people and resources necessary to achieve the network objectives, involving the identification of key participants for structuring and performing the

arrangement. It is valid to emphasize that the activation of loops perpasses by the definition of the network identity and the establishment of a collective sense among the selected actors.

In order to identify potential partners (Dagnino et al., 2016) and the strategic introduction of relevant actors (Paquin & Howard-Greenvile, 2013) and network resources (Klijn, Steijn & Edelenbos, 2010; Coletti, 2010) involving connection and strategies and activation of these relationships, it is proposed that the scope of the function "selection and activation" is defined by:

*P1. The "Selection and activation" function comprises the selection and incorporation of important and potential actors and resources strategically relevant to the network.*

### **Connection, engagement and allocation**

As already argued, an indispensable condition for the network to function is that there is minimal cohesion among its participants, so they need to be connected and committed to joint action (Jarvensivu & Moller, 2009; Saz-Carranza & Ospina, 2011). In the Agranoff & McGuire (2001) typology this function is understood as "synthesis" and refers to the creation of an environment with favorable conditions for productive interactions among network participants, avoiding and minimizing obstacles to cooperation (Jarvensivu & Moller, 2009). These attributions are also defended by Molina-Morales (2005) and Planko et al. (2017).

Under this umbrella, the manager must act as a collaborative capability builder (Weber & Khademian, 2008), developing relationships infrastructure, promoting and expanding cooperation and trust among stakeholders (Ingstrup & Damgaard, 2013) engaging them in activities network (Paquin & Howard-Greenvile, 2013) and mobilize them towards a common goal (Agranoff & McGuire, 2001; Gagné et al., 2010). Efforts in this regard are essential for aligning actions and channeling strategically targeted efforts.

These functions place managers in the role of interaction facilitators in complex coordination environments (Macciò & Cristofoli, 2017; Markovic, 2017); however, complexity can be overcome by efficiently allocating resources and tasks in the network that facilitates in the mobilization and efficient distribution of resources and tasks (Sydow & Windeler, 1994; Planko et al., 2017).

This fact, it is proposed that the functions of connection, engagement and allocation, are based on the following scope:

*P2. The "Connection, engagement and allocation" function includes the creation of infrastructure and a coordinated environment conducive to interaction, through the commitment and collaboration of the network actors, to facilitate the efficient mobilization and distribution of resources and tasks.*

### **Mediation**

Mediation, as the term itself, indicates, refers to the intermediation of divergent interests and points of view among members of the network (Macciò & Cristofoli, 2017). This function, as a rule, involves the creation of a mutual understanding, in the definition of a common denominator on which to base the purposes of the network (Mesquita, 2007).

Thus, the guiding principle of the mediation function is to alleviate tensions among participants and strengthen commitment and partnership among them, seeking formal adjustments through bargaining and negotiation, reorganizing processes and aligning the interests of partners

(Markovic, 2017). Thus, it is proposed that the mediation function comprises the following scope:

*P3. The "Mediation" function comprises the negotiation and alignment of interests between the partners of the network with a view to mutual understanding.*

### **Leadership**

Another important function of network management is the strategic leadership role, which is focused on locating and evaluating opportunities, as well as establishing goals and visions for the network (Dagnino et al., 2016; Ingstrup & Damgaard, 2013), providing guidance and strategic support for the development of the arrangement (Gagné et al., 2010).

The leadership is directly tied to the previous functions because in establishing the development of a vision and strategically directing the network, it is possible to activate actors, resources, and members to achieve common goals (Markovic, 2017, Macciò & Cristofoli, 2017).

Given its character of providing guidance and strategic support to identify opportunities, promotion and overall development of the network and its actors, it is assumed that the leadership role involves the following activities:

*P4. The "Leadership" function includes providing strategic guidance and support to identify opportunities, promote and develop the network and its stakeholders.*

### **Regulation and Framing**

The functions of regulation and framing are behind the other managerial assignments because they involve basic rules of behavior and interaction in the network in order to protect the core values of each actor (Klijn, Steijn & Edelenbos, 2010), defining the behaviors used to organize and integrate a network structure, facilitating agreement on participants' roles, rules of cooperation and network values in general (Agranoff & McGuire, 2001). Therefore, the combination of these functions provides the stage for the creation of agreements and basic rules of cooperation, ensuring clear and transparent communication between network participants (Sydow & Windeler, 1994) in the context of expected and appropriate interaction (Saz-Carranza & Ospina, 2011). It is proposed, therefore, that this function includes the following scope:

*P5. The "Regulation and Framing" function includes the implementation of basic rules and agreements to regulate and monitor behavior and interactions in the network.*

### **Evaluation**

Supervising and making important network decisions supporting their functionality, taking into account the individual and collective interests of the members (Wincent, Anokhin & Ortqvist, 2010) requires ongoing evaluation and monitoring of these activities, capturing membership and network performance contributions as a (Sydow & Windeler, 1994) and providing adaptations and changes whenever necessary (Dagnino et al., 2016) in order to ensure the effectiveness of the network (Planko et al., 2017). Considering the emerging need of the context of networks to constantly evaluate its functionality and effectiveness, the following scope is proposed for evaluation function:

*P6. The "Evaluation" function includes the evaluation and reporting, on a constant and systematic basis of the functionality and effectiveness of the network.*

### ***Operation of the Network Management Functions and Activities***

Given the review carried out and once the characteristics and functions of network management were defined and defined, it was possible to define a roadmap of activities representative of the functions' operationalization, particularly considering the reality of regional strategic networks. As proposed in Figure 5.

**\*\*\*\*\* FIGURE 5 ABOUT HERE \*\*\*\*\***

It should be noted that, although management functions are similar at the general level (Jarvensivu & Moller, 2009), many studies have partially and independently investigated these functions (Capaldo, 2014), tend to complement, replace or exclude activities from their approaches, resulting in specific combinations or modes of management functions, each characterized by the presence or absence of specific activities (Manser et al., 2016).

Although previous studies, such as Heidereich et al. (2016), Manser et al. (2016) and McGuire & Silvia (2009), have already presented proposals for measuring the network management construct, thus serving as inspiration for the proposal of this study, it is recognized that these were not developed for the context of regional strategic networks, arguing that there is a need to validate a new proposal that is better suited to this specific context. Thus, although this research intended to address the reality of regional strategic networks, it should be recognized that Figure 5 presents activities to a certain extent generic, although it is recognized that the management process depends substantially on factors related to the characteristics of the specific networks (Jarvensivu & Moller, 2009).

Therefore, the theoretical definitions presented in this section were submitted to the evaluation of academic experts and managers working in RSNs in order to bring these functions closer to the managerial reality of these managers, bringing a more concrete and faithful panorama to the reality of managerial activities in regional strategic networks as presented in the next topic.

### **VALIDATION WITH SPECIALISTS**

In operational terms, managers were invited to evaluate the strategic importance and the frequency with which they perform these activities, since it is argued that the interaction of these two determinants (importance and frequency) will enable the reduction of data, grouping them into factors that will serve as indicators for the variable "network management" in the structural model defined in this thesis.

#### ***Operationalization***

As previously described, in order to identify characteristics of network management, a literature review was first carried out to identify the key functions of network management. The typologies found were analyzed and compiled, and from there, a conceptual framework was proposed with activities that operationalize these functions, creating a framework with 20 different activities.

In order to verify if these activities were holistically representative, fully comprehending the network management process, this framework was submitted to the evaluation of five academic experts (doctoral students who research on the topic of network governance) and three field specialists of networks). These experts were also asked to verify the suitability of the proposed instrument to be submitted to network managers.

After the return of these specialists, the framework underwent some adjustments and three activities were eliminated because they were considered redundant (A10, A11, and A20). It was also suggested by one of the experts consulted that the wording of each assertion is changed in order to describe the main action from a substantive perspective. For example: where you read "Selecting important partnerships" you will read "Selection of important partnerships".

In addition, in the initial scale, the use of a 7-point Likert scale ranging from "unimportant" to "very important" was proposed to assess strategic importance, however, two of the experts consulted suggested that the term "unimportant" was withdrawn because it could inhibit respondents and be replaced by "unimportant". Thus, the scale was replaced and ranged from 1 slightly important - 7 very important.

Thus, in the final instrument the respondents were asked to indicate their perception of: "the strategic importance of the activity described for network management" (1 very important - 7 very important), and "how often do you get involved in this activity (1 never - 7 always).

### ***Universe and Sample***

For the application of the instrument, the database of the Brazilian Observatory of Local Productive Arrangements was used, which contains 667 officially recognized networks. It is a methodological premise of this study that, considering the Brazilian reality, the LPA can be considered regional strategic networks because as indicated by Eklinder-Frick et al. (2011) and Lundberg & Johanson (2011), they fit directly into the same scope. Therefore, the terms RSN and LPA are used interchangeably in this study, and the term networks or RSNs is adopted as the standard throughout the text.

After analyzing this list, it was observed that of the 667 networks listed, only 327 had contact information of their respective managers, and therefore, these 327 networks, distributed throughout Brazilian territory, constituted the initial sample of this phase of the research.

### ***Data collection***

From the final list of 327 networks, e-mails were sent to each of the 327 managers indicated, presenting the research and inviting them to collaborate with it, as well as the link to access the electronic questionnaire available through the Google platform Docs ®. An electronic referral of the invitation was made after 7 days from the first sending, to those who did not respond, and two new invitations were sent after 15 and 30 days, respectively, to those who remained unattended.

The application of the questionnaire was carried out in the first half of 2018. During this period some managers returned the e-mails indicating that they no longer occupied the management position or were no longer at the forefront of the mentioned networks, thus becoming unfit to participate in the research. In some cases, the contacts of the new position managers were indicated by them, and in these cases, the process of contact and invitation of collaboration with this research. At the end of the mentioned period, 86 managers answered the questionnaire in full, composing the final sample of this phase of the survey, indicating a response rate of 26.3%. It should be noted that this number meets the minimum sampling criteria for applying the technique of factor analysis, i.e., five respondents for each item. The profile of the respondents can be observed on the topic Relative frequency analyzes.

### ***Data processing and analysis technique***

The database generated by the responses of the network managers was first exported and processed in the software Excel ® version 2016, where descriptive/univariate statistics

analysis was performed. In addition, the answers to the items related to the strategic importance and frequency of each activity were used to generate a new variable, composed from the equation ( $\text{import} * \text{freq}$ ). Thus, a new database with this variable was generated, exported and analyzed using Stata ® software version 12.0.

In order to generate an input with the dimensions for measuring the "Network Management" construct, we opted for the technique of factorial analysis. Factor analysis is an exploratory data analysis technique that seeks to discover and analyze the structure of a set of interrelated variables in order to construct a scale of measures for (intrinsic) factors that in some way controls the original variables (Maroco, 2007).

Its main function is to reduce many observed variables to a reduced number of factors, which represent the latent dimensions (constructs) that summarize or explain the set of observed variables (Hair, Black, Babin, Anderson, & Tatham, 2006). In summarizing data, factorial analysis obtains latent dimensions that describe the data in a smaller number of concepts than the original individual variables (Hair et al., 2006, p.91). The extraction method used was the main component factor, with varimax rotation.

## **RESULTS**

### ***Relative frequency analyzes***

In order to characterize the sample studied, we asked some socio-demographic questions that allowed a previous analysis of the profile of the managers who contributed with the proposed validation, as well as information characteristic of the networks for which they respond. The following figures illustrate the information collected.

Figure 6 shows the cross-referencing of gender and age group information. As can be observed, the profile of the managers interviewed is predominantly male, between 35 and 55 years. The incidence of women managers is relatively lower, concentrating only 37.2% of the sample.

**\*\*\*\*\* FIGURE 6 ABOUT HERE \*\*\*\*\***

As far as training is concerned, the vast majority, 92% of those interviewed, said they had higher education, as shown in Figure 7.

**\*\*\*\*\* FIGURE 7 ABOUT HERE \*\*\*\*\***

Still, in Figure 7 it is possible to observe that 16% of the managers have post-graduation at the *latu sensu* level and 13% at the *stricto sensu* level. These numbers are considered significant and expressive because they are far above the educational average of the Brazilian context, where more than half the population, between 25 and 64 years old, does not have a high school diploma, according to the Education at a Glance 2018 report.

In relation to the profile of the networks for which the interviewed managers respond, a concentration of arrangements located in the southeast and south regions of the country was observed, as shown in Figure 8, with a significant emphasis on the State of São Paulo, considered the most economic locus. the country.

**\*\*\*\*\* FIGURE 8 ABOUT HERE \*\*\*\*\***

Regarding the size of the networks, the majority, that is, 51%, is composed of up to 40 participants, as shown in Figure 9.

**\*\*\*\*\* FIGURE 9 ABOUT HERE \*\*\*\*\***

Still, in relation to the size, it is observed the predominance of smaller networks, with less than 100 participants, corresponding to 75% of the sample studied. Networks with more than 200 participants are fewer incidents, corresponding to only 13% of respondents.

**\*\*\*\*\* FIGURE 10 ABOUT HERE \*\*\*\*\***

A characteristic of the regional strategic networks is the formalization of the institution of the arrangements. In this perspective, 26% of the sample networks were constituted, or officially recognized after 2015, and only 16% were recognized between 2000 and 2014, indicating that the phenomenon of formalization of RERs is relatively recent.

**\*\*\*\*\* FIGURE 11 ABOUT HERE \*\*\*\*\***

In relation to the activities in which they are specialized, a relative diversity is observed, passing through several sectors, more and less intensive in technology, ranging from industrial, manufacturing and service activities. The most representative sectors in the sample are (i) ICT and software, (ii) agriculture and agribusiness, and (iii) textiles and clothing.

***Univariate analyzes of Mean and Standard Deviation***

For the univariate analyzes of the data, the descriptive statistics of position measurements (mean) and variability (standard deviation) are presented. The statistics are the result of an interval scale of 7 points, from one to seven. The limits set for analysis are the smallest and largest values in both statistics.

By means of Figure 12 and relating the responses related to "the frequency with which they perform the described activities", the highest average is with ACT activity 4 - Diffusion of an identity and collective sense in the network (5,92), characteristic of the function of "Connection, allocation and engagement", and the lowest from ACT activity 3 - Interruption of partnerships that do not bring a return to the network (4,24), associated with the "selection and activation" function. The highest standard deviation from the average is observed from the ACTs 16 - Ensure that the participation of members in the results of the network is fair (1,80) and ACT 3 - Interruption of partnerships that do not bring a return to the network (1, 80) and the lowest from ACT 1 - Selection of important partnerships that add resources and capabilities to the network (1,16).

**\*\*\*\*\* FIGURE 12 ABOUT HERE \*\*\*\*\***

By means of Figure 13 and relating the responses related to "strategic importance attributed to the activity described", the highest average is with ACT activity 1 - Selection of important partnerships that add resources and capacities to the network (6,86), characteristic of the and the lowest, as well as frequency, from ACT activity 3 - Interruption of partnerships that do not bring a return to the network (4.86), also associated with the "selection and activation" function. The highest standard deviation in relation to the average is observed from ACT 3, already described (1,56) and the lowest from ACT 1 - Selection of important partnerships that add resources and capacities to the network (0,44). In general, the standard deviation in relation to strategic importance is considerably smaller when compared to the results regarding the perception of importance.

**\*\*\*\*\* FIGURE 13 ABOUT HERE \*\*\*\*\***

In view of the data seized from the network managers about the frequency and strategic importance of the proposed activities, a new composite variable was generated, resulting from the multiplication of the frequency by importance (freq. \* Import), as presented in Table 1.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

With the composition of the variables, the activity with the highest mean, that is, considered more relevant and frequently performed was ACT 4 - Diffusion of an identity and collective sense in the network (40,41), and the lowest mean remained with ACT 3 - Interruption of partnerships that do not bring a return to the network (22,47).

### **Factor analysis**

Before applying the technique of factor analysis, one must observe the fulfillment of some assumptions, as is the case of the correlation between the variables of the model. Table 2 allows the visual examination of the correlations, identifying those that are statistically significant. Inspection of the correlation matrix reveals that all correlations are significant at the 1% level. This allows you to break into the next step.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

The next step is to evaluate the overall significance of the correlation matrix with Bartlett's test of fitness. The data can be seen in Table 3.

**\*\*\*\*\* INSERT TABLE 3 ABOUT HERE \*\*\*\*\***

The Bartlett test demonstrates that non-null correlations exist at the significance level of 1%, remitting to the conclusion that the variables are significantly correlated. The reduced set of variables collectively meets the required baseline adequacy of the sample, with a Kaiser-Meyer-Olkin (KMO) test value of 0.883, considered good, according to the interpretation suggested by Hair et al. (2006, p.98). In both cases, the tests suggest that the data are suitable for factor analysis.

In order to observe the adequacy of each of the variables of the sample to the application of the factorial analysis, KMO values were estimated for each of them, according to the results presented in Table 4. It is possible to observe that all variables are adequate, presenting a KMO higher than 0.8, which, according to the aforementioned criteria, is considered good (Hair et al., 2006). Therefore, in the beginning, the need to exclude none of the 17 variables analyzed was not identified, and it is possible to proceed with the factorial analysis.

**\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\***

Once the factorial analysis is done, it is possible to observe, in Table 5, the number of factors that will be extracted, using the Principal Components method.

**\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\***

Note that the first two factors present eigenvalue greater than 1, these being the retained factors in the model. Together, they account for 64.4% of total variability. The first factor presents an eigenvalue of 9,562, carrying about 56.3% of the variance. The second factor presents eigenvalue of 1.389, carrying about 8.2% of the variance.

Table 6 shows the non-rotated factorial Matrix, where we find the factorial loads that indicate the weight of each of the 2 factors selected in each variable.

**\*\*\*\*\* TABLE 6 ABOUT HERE \*\*\*\*\***

In Table 6 it is observed that the second factor was composed only by the variable int3, and since loads of this variable in each factor are relatively close, both are important in explaining its variability, which makes it difficult to interpret the factors. To solve this problem, as well as to distribute the variance of the first factor to the second factor, a rotation was performed on the coordinate axes, resulting in Table 7, which shows that each variable is explained, mainly by a single factor. The rotational method chosen was the Varimax Kaiser.

**\*\*\*\*\* TABLE 7 ABOUT HERE \*\*\*\*\***

After the rotation, the variance was redistributed adjusting the adequacy of the loads in each of the extracted factors. Analyzing Table 7, we conclude that this solution is more parsimonious.

For the definition of the quality of representation of the factors by the variables that compose it, the Communalities test is recommended, which represents the number of variances (correlations) of each variable explained by the factors. The greater the commonality, the greater the power of explanation of that variable by the factor. As indicated by Hair et al. (2006), variables with Communalities of less than 0.50 do not present sufficient explanatory power, and it is advisable to exclude these variables from the model. As none of the variables showed communalities less than 0.50, all were maintained.

**\*\*\*\*\* TABLE 8 ABOUT HERE \*\*\*\*\***

In substantive terms, it can be observed that the activities analyzed gave rise to two distinct factors. The first factor carries the activities related to the functions of leadership, allocation, evaluation, and regulation, and the second factor comprises activities related to selection, activation, and mediation functions.

## **DISCUSSION OF THE RESULTS**

Considering the sizing of activities according to strategic relevance and frequency, it is observed that the first factor concentrates more strategic and recurrent activities, such as activities related to network leadership, connection and allocation, regulation of activities and performance evaluation.

The second factor concentrates activities that can be said more punctual and features of previous stages of the network refers to the activities of selecting partners, activating connections and mediating interests and conflicts. It is believed that in more established networks the conflicts are less recurrent because the time elapsed assists in the internalization of institutional aspects, which justifies the presence of the mediation function in the second factor, along with the activities of the initial stages.

This distinction seems large to follow the Dagnino et al. (2016) and Ingstrup (2013) that separate the scope of management activities between the initial and later stages of network formation. Given the nature of the two factors, we chose to name them as Ex- ante activities, related to the beginning of the network, and ex-post activities related to the maintenance and development of the network. Thus, the proposed framework is represented in Figure 14.

**\*\*\*\*\* FIGURE 14 ABOUT HERE \*\*\*\*\***

Regardless of the dimensions formed, it is worth emphasizing that the coordination of activities at the network level is necessary for its effectiveness (Dhanaraj & Parkhe, 2006; Paquin & Howard- Grenville, 2013; Planko et al., 2017). The idea of coordinating efforts is related to

network management, an element of recognized importance for the creation of value and success of the arrangement (Provan & Milward, 1995; Ritter et al., 2004; Provan et al., 2007; Manser et al., 2016).

The fundamental goal of management is to improve value creation, seeking greater efficiency and effectiveness (Jarvensivu & Moller, 2009; Heidereich et al., 2016), at all stages of the network. The idea that effective management can help to organize and coordinate common efforts and therefore positively impact network outcomes is widespread in the literature (Markovic, 2017).

Adequate management of the network is strongly related to obtaining good results (Rampersad et al., 2010; Edelenbos, Burren & Klijn, 2013). The more integrated and coordinated the network, the more effective it tends to be (Milward & Provan, 2003). In a recent study by Heidereich et al. (2016), Manser et al., (2016), Mueller and Jungwirth (2016) and Planko et al. (2017) confirmed the positive effects of direct management activities on the network.

The proposed framework allows understanding the management activities, so relevant to the performance of the network in different stages of evolution of the arrangement. This paper presents a methodological contribution to governance and network management literature, providing a model for analyzing management activities, that is, agency activity in the networks, in terms of coordination and strategic orientation of the supra-business entity.

## **FINAL REMARKS**

The purpose of this study was to propose and empirically validate a framework to analyze activities of the management of deliberate networks, called regional strategic networks, with a view to the understanding of how interorganizational networks are managed is still limited, and most of the literature on this topic does not focus on the activities employed by the network actors and/or does not recognize that there may be different modes of network management (Manser et al., 2016).

After reviewing the literature, the emergent, specific functions of the network management were listed with a proposition of their respective scope. The activities concerning each of these functions have been proposed. Initially, a roll of 20 activities was established and after the evaluation of academic experts, 17 activities remained in the proposal, and holistically represent the scope of regional strategic network management activity.

For validation empirical and managerial, these 17 activities were submitted to the screening of 86 managers of different networks located in all Brazilian territory, and after the evaluation of the important strategic and frequency of practice of each of these activities, were grouped, in order to condense and resize the framework for network management analysis. As a result, it was possible to organize the activities into two factors, or representative dimensions of the network management functions.

Analyzing substantively the content of each of these dimensions, it was verified that a dimension carries functions own early stages of network development, the other charging functions own more advanced stages of the arrangement.

By performing this design offers a contribution to methodological, in the sense of dimensioning and allowing a way of measuring and analyzing the network management construct.

Despite this contribution, the study contains limitations, namely, it cannot be generalized to different types of networks, only the reality of strategically planned, deliberate or orchestrated networks being applied. In addition, it should be the bias of the respondents (perception does not bring absolute data, are latent variables not directly observed), it is emphasized that despite these limitations, validity and reliability criteria were adopted in order to guarantee the robustness of the results.

For future research, it is suggested the application of this framework and its dimensions to analyze the phenomenon of management to understand the perception of network actors, how management is carried out in regional strategic networks. Longitudinal studies are interesting to evaluate management evolution.

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FIGURE 1 - Main Determinants for Establishing an RSN

Goals	Related actions involve
Research and networking	Collection of information, publication of reports, sharing of information through seminars, inviting speakers, creation of websites, etc. In addition to promoting networking among members of the arrangement.
Political action	Lobbying and creating dialogue between industry, the scientific community and government authorities.
Business cooperation	Joint purchase, commercial assistance, market intelligence and export promotion.
Education and training	Training of manpower and management education.
Innovation and technology	Facilitate the process of innovation and improvement of technology, by defining new trends and technological standards, diffusion of new technologies and improvement in production processes.
Cluster Expansion	Promote a region by enhancing its "brand image" and actively promoting domestic investment.

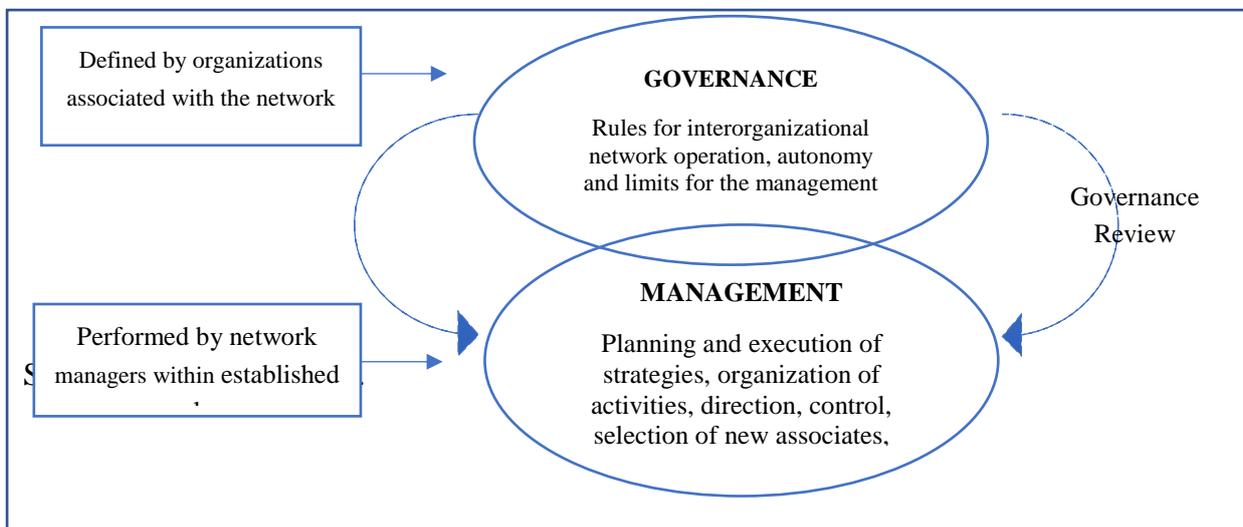
Source: Adapted from Sölvell, Lindqvist & Ketels (2003).

FIGURE 2 - Management Vs. Governance

Features	Management	Governance
Main basis	Organize and coordinate network activity according to the adopted strategy and development models.	Verification of strategic assumptions of the network to meet the needs of various environments.
Main agents	Network manager or management and support entities.	Representatives from four environments: business, science, authorities, civil society.
Responsible unit	Organization of clusters / Administrative Organization of the network	For example: cluster / network council, supervisory board or other groups;
Scope of action	Managing and increasing overall network efficiency. Evaluation based on network indicators.	Shaping "order" that allows the achievement of goals. Evaluation based on network monitoring indicators.

Source: Knop (2015).

FIGURE 3 - System of Governance and Management of Interorganizational Networks



**FIGURE 4 - Boolean Operators used for the Literature Review**

"Cluster\* Administrat\*" or "Cluster\* Organi\$at\*" or "Cluster\* Archit\*et\*" or "Cluster\* Broker\*" or "Clusterpreneur\*" or "Cluster\* Control\*" or "Cluster\* Coord\*" or "Cluster\* Facilitator\*" or "Cluster\* Govern\*" or "Cluster\* Lead\*" or "Cluster\* Manag\*" or "Cluster\* Maneuv\*" or "Cluster\* Orchestrat\*" or "Cluster\* Promot\*" or "Network\* Administrat\*" OR "Network\* Organi\$at\*" or "Network\* Archit\*et\*" or " Network\* Broker\*" or "Network\* Control\*" or "Network\* Coord\*" or "Network\* Facilitator\*" or "Network\* Govern\*" or "Network\* Lead\*" or "Network\* Manag\*" or "Network\* Maneuv\*" or "Network\* Orchestrat\*" or "Network\* Promot\*"

**FIGURE 5 - Roadmap of Activities**

Function	Activity
Selection and activation	A1. Select important partnerships that add resources and capabilities to the network.
	A2. Promote integration among network partners.
	A3. Interrupt partnerships that bring no return to the network.
Connection, allocation and engagement	A4. Spread an identity and collective sense to the network.
	A5. Manage the allocation of network resources and capabilities.
	A6. Develop activities to encourage and facilitate collaboration among network members.
Mediation	A7. Resolve conflicts that hamper collaboration among network members.
	A8. To mediate individual and collective interests of network members.
	A9. Establish commitment of members to network objectives.
	A10. Mobilize actors to participate in network activities.
Leadership	A11. Leading partner organizations towards a common goal
	A12. Define and execute an action plan for the network
	A13. Map strategic opportunities for the network
	A14. Establish shared goals among network members.
Regulation and Framing	A15. Determine rules of interaction and cooperation among network members.
	A16. Ensure that members' participation in the results of the network is fair.
Evaluation	A17. Provide information on the progress of the network to all members.
	A18. Regular monitoring of network performance indicators.
	A19. Evaluation and review of the scope, goals, and strategies of the network.
	A20. Disclosure of goals and accountability of the network.

Source: The authors (2018)

**FIGURE 6 - Manager profile - gender and age**

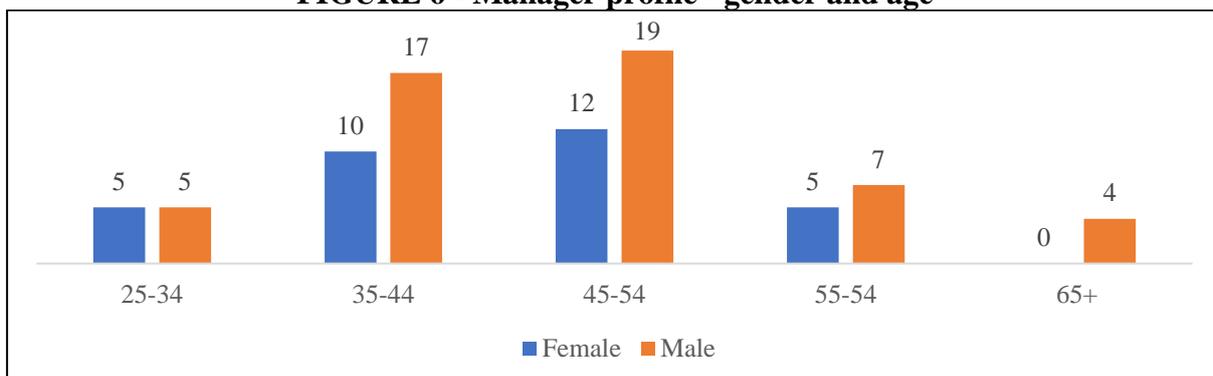


FIGURE 7 - Manager profile - schooling

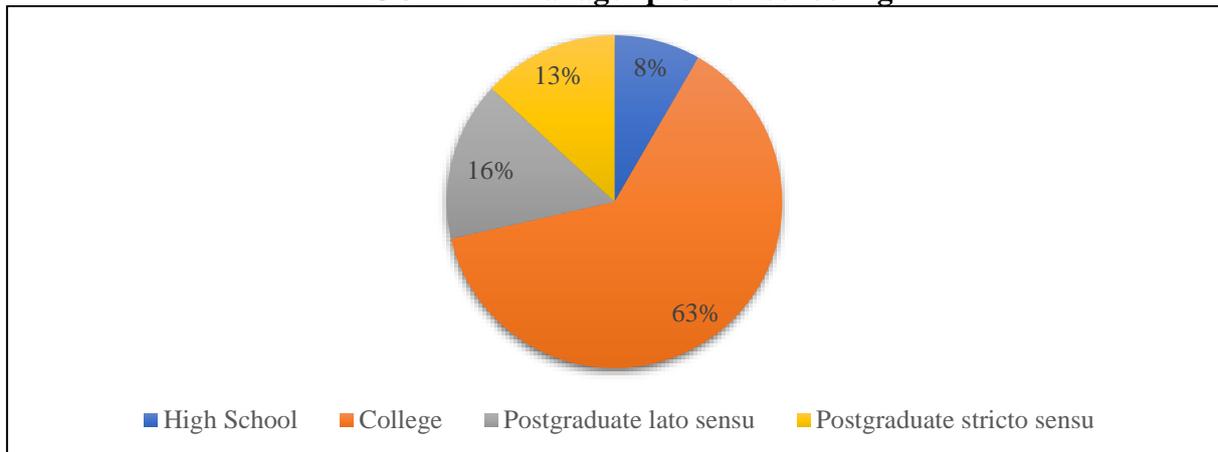


FIGURE 8 - Network Profile - Location



FIGURE 9 - Networks profile - number of participants

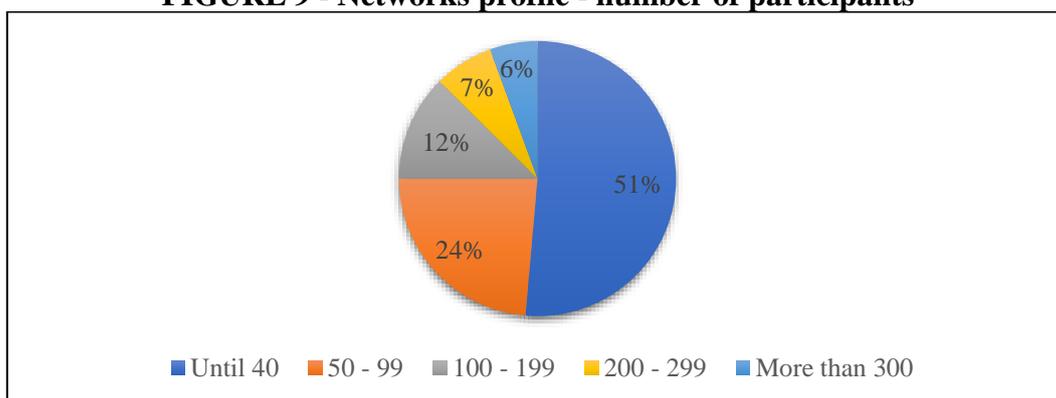


FIGURE 10 - Networks Profile - Recognition Time

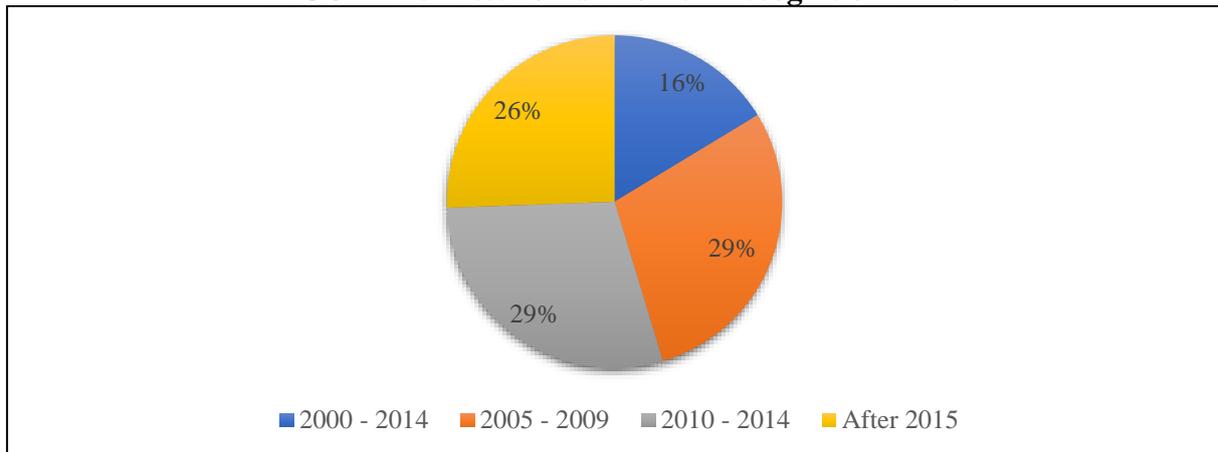


FIGURE 11 - Networks Profile - Specialization Sector

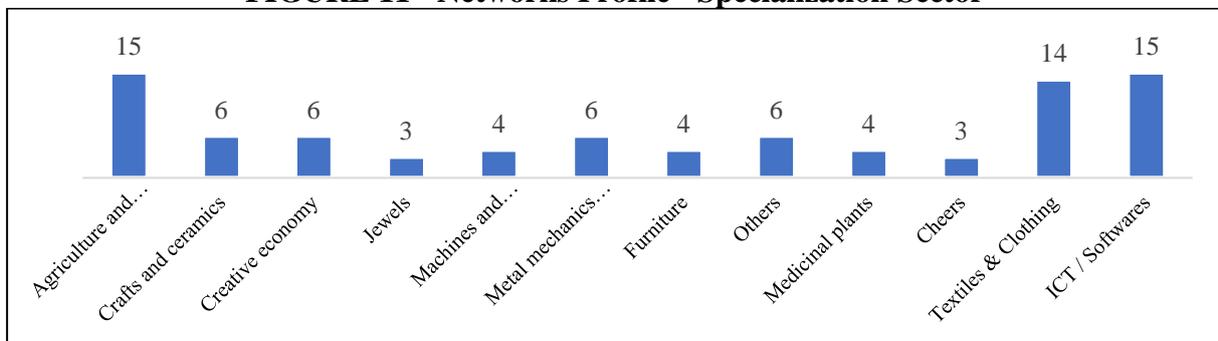


FIGURE 12 - Measures of Position and Variability – Frequency

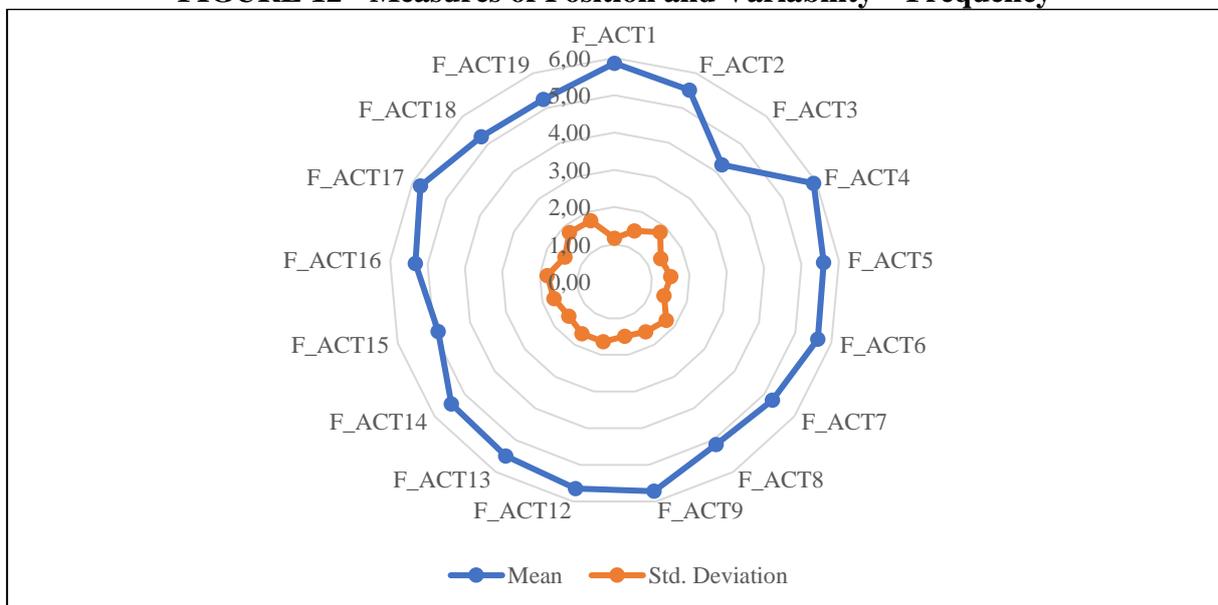


FIGURE 13 - Measures of position and variability - Strategic Importance

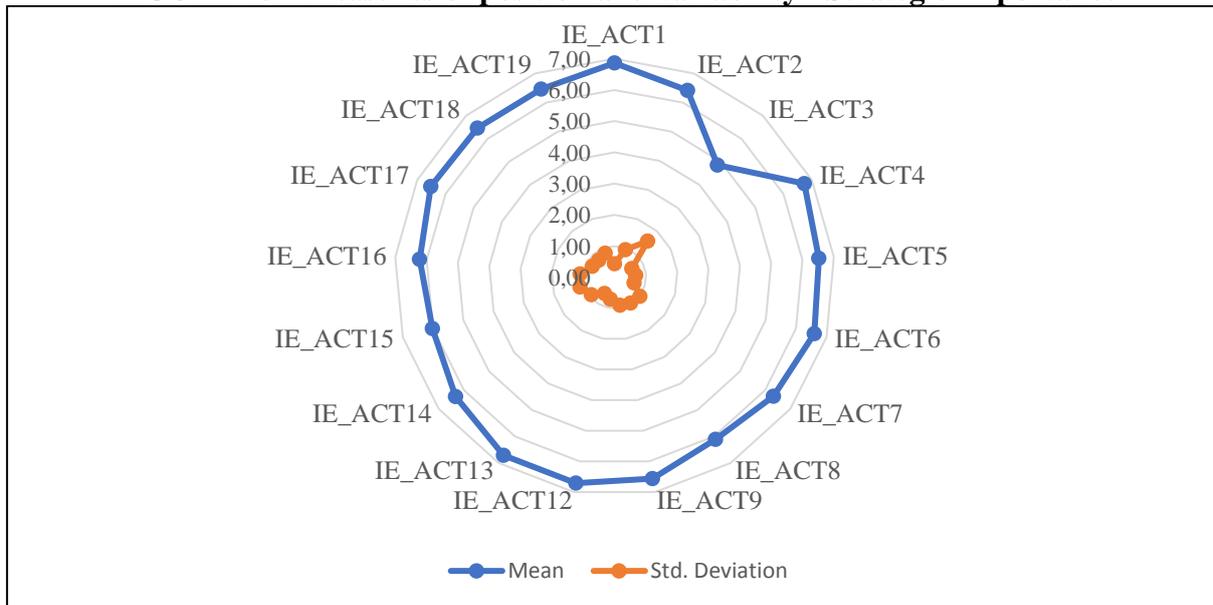


FIGURE 14 - Network Management Activities

Ex- ante activities	Ex- post activities
<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Interruption of partnerships that do not bring return to the network</li> <li><input checked="" type="checkbox"/> Resolving conflicts that hamper collaboration between network members</li> <li><input checked="" type="checkbox"/> Promotion of integration between network partners</li> <li><input checked="" type="checkbox"/> Mediation of interests among members of the network</li> <li><input checked="" type="checkbox"/> Diffusion of an identity and collective sense in the network</li> <li><input checked="" type="checkbox"/> Selecting key partnerships that add resources and capabilities to the network</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Regular monitoring of network performance indicators</li> <li><input checked="" type="checkbox"/> Evaluation and review of the scope, goals and strategies of the network</li> <li><input checked="" type="checkbox"/> Definition and execution of an action plan for the network</li> <li><input checked="" type="checkbox"/> Mapping strategic activities to the network</li> <li><input checked="" type="checkbox"/> Provide information on the progress of the network to all members</li> <li><input checked="" type="checkbox"/> Establishment of shared goals among network members</li> <li><input checked="" type="checkbox"/> Management and allocation of resources and capacities in the network</li> <li><input checked="" type="checkbox"/> Ensure that members' participation in the results of the network is fair</li> <li><input checked="" type="checkbox"/> Establishment of commitment of members to the objectives of the network</li> <li><input checked="" type="checkbox"/> Development of activities to encourage and facilitate collaboration among network members</li> <li><input checked="" type="checkbox"/> Determination of rules of interaction and cooperation between network members</li> </ul>

**TABLE 1 - Means**

ID	Description	Mean
ACT.4	Diffusion of an identity and collective sense in the network	40,41
ACT.1	Selecting key partnerships that add resources and capabilities to the network	40,31
ACT.9	Establishment of commitment of members to the objectives of the network	38,37
ACT.12	Definition and execution of an action plan for the network	38,37
ACT.17	Provide information on the progress of the network to all members	38,12
ACT.6	Development of activities to encourage and facilitate collaboration among network members	37,65
ACT.13	Mapping strategic activities to the network	37,22
ACT.5	Management and allocation of resources and capacities in the network	36,93
ACT.2	Promotion of integration between network partners	36,15
ACT.14	Establishment of shared goals among network members	35,17
ACT.18	Regular monitoring of network performance indicators	34,57
ACT.19	Evaluation and review of the scope, goals and strategies of the network	34,48
ACT.16	Ensure that members' participation in the results of the network is fair	34,30
ACT.7	Resolving conflicts that hamper collaboration between network members	34,26
ACT.8	Mediation of interests among members of the network	32,33
ACT.15	Determination of rules of interaction and cooperation between network members	30,52
ACT.3	Interruption of partnerships that do not bring return to the network	22,47

**TABLE 2 - Correlation Matrix**

	int1	int2	int3	int4	int5	int6	int7	int8	int9	int12	int13	int14	int15	int16	int17	int18	int19
int1	1,00																
int2	0,50	1,00															
int3	0,37	0,45	1,00														
int4	0,51	0,40	0,40	1,00													
int5	0,62	0,39	0,39	0,50	1,00												
int6	0,45	0,53	0,36	0,59	0,60	1,00											
int7	0,43	0,52	0,58	0,53	0,42	0,40	1,00										
int8	0,39	0,51	0,37	0,39	0,53	0,50	0,58	1,00									
int9	0,54	0,60	0,41	0,61	0,63	0,55	0,59	0,56	1,00								
int12	0,59	0,43	0,27	0,48	0,68	0,60	0,49	0,51	0,63	1,00							
int13	0,45	0,41	0,31	0,49	0,68	0,54	0,46	0,54	0,59	0,73	1,00						
int14	0,55	0,51	0,35	0,51	0,66	0,71	0,56	0,67	0,75	0,74	0,72	1,00					
int15	0,37	0,48	0,41	0,51	0,45	0,51	0,68	0,55	0,60	0,60	0,61	0,67	1,00				
int16	0,37	0,37	0,32	0,59	0,52	0,54	0,53	0,48	0,66	0,55	0,66	0,62	0,67	1,00			
int17	0,37	0,26	0,16	0,41	0,50	0,46	0,38	0,42	0,53	0,58	0,52	0,58	0,57	0,62	1,00		
int18	0,50	0,41	0,26	0,50	0,74	0,57	0,39	0,52	0,73	0,75	0,66	0,66	0,61	0,61	0,64	1,00	
int19	0,42	0,36	0,31	0,52	0,67	0,52	0,44	0,53	0,63	0,74	0,73	0,68	0,58	0,65	0,57	0,81	1,00

**TABLE 3 - Sample Suitability Tests**

Bartlett test of sphericity	Chi-square	=	1105,097
	Degrees of freedom	=	136
	p-value	=	0,000
Kaiser-Meyer-Olkin Measure of Sampling Adequacy KMO	=	0,883	

**TABLE 4 - Test of suitability of variables**

Variable	KMO
int1	0,846
int2	0,825
int3	0,876
int4	0,863
int5	0,918
int6	0,815
int7	0,881
int8	0,941
int9	0,844
int12	0,928
int13	0,920
int14	0,852
int15	0,897
int16	0,914
int17	0,954
int18	0,854
int19	0,904
<b>Overall</b>	<b>0,883</b>

**TABLE 5 - Eigenvalues and accumulated variance**

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	9,562	8,174	0,563	0,563
Factor 2	1,389	0,441	0,082	0,644
Factor 3	0,947	0,220	0,056	0,700
Factor 4	0,727	0,079	0,043	0,743
Factor 5	0,648	0,075	0,038	0,781
Factor 6	0,573	0,092	0,034	0,815
Factor 7	0,481	0,017	0,028	0,843
Factor 8	0,464	0,016	0,027	0,870
Factor 9	0,449	0,090	0,026	0,897
Factor 10	0,359	0,047	0,021	0,918
Factor 11	0,313	0,051	0,018	0,936
Factor 12	0,261	0,015	0,015	0,951
Factor 13	0,247	0,024	0,015	0,966
Factor 14	0,223	0,056	0,013	0,979
Factor 15	0,167	0,047	0,010	0,989
Factor 16	0,120	0,050	0,007	0,996
Factor 17	0,070	.	0,004	1,000

LR test: independent vs. saturated:  $\chi^2(136) = 1119,17$  Prob> $\chi^2 = 0,0000$

**TABLE 6 - Non-rotated factor matrix**

Variable	Factor1	Factor2	Uniqueness
ACT1	0,658	0,149	0,545
ACT2	0,627	0,462	0,393
ACT3	0,504	0,629	0,351
ACT4	0,699	0,157	0,487
ACT5	0,792	-0,151	0,350
ACT6	0,745	0,025	0,445
ACT7	0,697	0,469	0,295
ACT8	0,712	0,163	0,467
ACT9	0,840	0,065	0,290
ACT12	0,830	-0,239	0,255
ACT13	0,805	-0,216	0,305
ACT14	0,872	-0,060	0,237
ACT15	0,779	0,088	0,385
ACT16	0,774	-0,117	0,387
ACT17	0,683	-0,355	0,408
ACT18	0,828	-0,331	0,206
ACT19	0,813	-0,306	0,246

**TABLE 7 - Rotation Varimax**

Variable	Factor1	Factor2	Uniqueness	Communalities
ACT1	0,449	0,504	0,545	0,455
ACT2	0,241	0,741	0,393	0,607
ACT3	0,044	0,805	0,351	0,650
ACT4	0,477	0,534	0,487	0,513
ACT5	0,732	0,339	0,350	0,650
ACT6	0,591	0,454	0,445	0,555
ACT7	0,293	0,787	0,295	0,705
ACT8	0,484	0,547	0,467	0,533
ACT9	0,646	0,542	0,290	0,710
ACT12	0,814	0,289	0,255	0,745
ACT13	0,780	0,293	0,305	0,695
ACT14	0,744	0,459	0,237	0,764
ACT15	0,583	0,525	0,385	0,615
ACT16	0,698	0,355	0,387	0,613
ACT17	0,762	0,109	0,408	0,592
ACT18	0,866	0,212	0,206	0,795
ACT19	0,839	0,224	0,246	0,754

**TABLE 8 - Factorial Analysis Results**

<b>id</b>	<b>Descrição da Atividade</b>	<b>Factor 1</b>	<b>Factor 2</b>
		<b>.81</b>	<b>.58</b>
18	Regular monitoring of network performance indicators	<b>.87</b>	
19	Evaluation and review of the scope, goals and strategies of the network	<b>.84</b>	
12	Definition and execution of an action plan for the network	<b>.81</b>	
13	Mapping strategic activities to the network	<b>.78</b>	
17	Provide information on the progress of the network to all members	<b>.76</b>	
14	Establishment of shared goals among network members	<b>.74</b>	
5	Management and allocation of resources and capacities in the network	<b>.73</b>	
16	Ensure that members' participation in the results of the network is fair	<b>.70</b>	
9	Establishment of commitment of members to the objectives of the network	<b>.65</b>	
6	Development of activities to encourage and facilitate collaboration among network members	<b>.59</b>	
15	Determination of rules of interaction and cooperation between network members	<b>.58</b>	
3	Interruption of partnerships that do not bring return to the network		<b>.80</b>
7	Resolving conflicts that hamper collaboration between network members		<b>.79</b>
2	Promotion of integration between network partners		<b>.74</b>
8	Mediation of interests among members of the network		<b>.55</b>
4	Diffusion of an identity and collective sense in the network		<b>.53</b>
1	Selecting key partnerships that add resources and capabilities to the network	<b>.45</b>	<b>.50</b>

*Extraction Method: Major Component Factors Rotation*

*Rotation Method: Varimax with Kaiser Normalization*

*Explanation power: 64.42%*

*Track 15 Stakeholders, Local and Global Networks*

**ID #676**

## **Digitalization and upgrading of emergent country firms in global value chains**

**Eduardo Armando** (Faculdade FIA de Administração, Brazil)

**Emanuela Todeva** (St Mary's University, UK)

**Cristina Espinheira Costa Pereira** (UNIP, Brazil)

### **Abstract**

*The seminal work on Global Value Chains (GVCs) by Gereffi (1994, 1999), Humphrey and Schmitz (2000, 2002), Sturgeon (2002), Gereffi, Humphrey, and Sturgeon (2005), and Kaplinsky and Morris (2001) posits, among other strengths, the idea that there are opportunities for suppliers in GVCs, with implications for industry structure (Strange & Humphrey, 2018). Events such as digitalization, can lead to industry structure change. Much has been published about the presence of firms from developing countries in GVCs and the contribution this article expects to make to the literature relates to whether, and how, adding digitalization will produce different results in relation to upgrading possibilities. The key contribution this paper expects to make is to clarify if and how an event such as digitalization is capable of changing industry structure, to a point where upgrading can be more or less difficult. Thus, the main question this article aims to answer is: Does digitalization facilitate or make more difficult the upgrading of emergent country firms in GVCs within a technology dominated industry, such as medical devices? This article proposes a framework to collect evidence of how digitalization may or may not facilitate the upgrading of emergent country firms in GVCs. In addition, it applies the framework in order to draw some initial conclusions about the phenomenon. The firms studied are located in clusters. The focus is on technology dominated industries, while the framework application concerns the medical devices industry. The method employed is the case study which examines firms located in two medical device clusters: one in an emergent country, Brazil, and the other in a developed country, England. The study is qualitative and information and data were collected from primary and secondary sources. The results contribute to advancing the literature on the participation of emergent country firms in GVCs.*

**Keywords:** Global Value Chains; Digitalization; Upgrading; Global Learning; Qualitative Comparison; Resource Dependency..

### **Acknowledgments**

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## **INTRODUCTION**

The purpose of this article is to propose a framework to collect evidence of how digitalization may or may not facilitate the upgrading of emergent country firms in GVCs. In addition, it applies the framework in order to draw some initial conclusions about structural repositioning. The main question this article aims to answer is: Does digitalization facilitate or make more difficult the upgrading of emergent country firms in GVCs within a technology dominated industry, such as medical devices? We seek to ascertain whether the challenges faced by firms to upgrade are different for those with different origins and different roles thus far in the GVC.

In terms of relevance, the key contribution this paper expects to make is to clarify if and how an event such as digitalization is capable of changing industry structure, to a point where upgrading can be more or less difficult.

Regarding originality and value, although much has been published about the presence of firms from developing countries in GVCs, the value of this article relates to whether, and how, adding digitalization will produce different results in relation to upgrading possibilities.

## **THEORETICAL BASIS**

On the grounds of theoretical basis, the article draws from the seminal work on Global Value Chains (GVCs) by several authors (Gereffi, 1994; Gereffi, 1999; Humphrey & Schmitz, 2000; Humphrey & Schmitz 2002; Sturgeon, 2002; Kaplinsky & Morris, 2001; Gereffi, Humphrey, & Sturgeon, 2005) to more recent literature (Todeva & Rakhmatullin, 2016) which posits, among other strengths, the idea that there are opportunities for suppliers in GVCs, with implications for industry structure (Strange & Humphrey, 2018).

Events in the modern world, such as digitalization, can lead to industry structure change, as has already been recognized for a while (Andersen, 2006). Actually, the challenge of upgrading in the digital world is faced also by G20 economies (Annunziata & Bourgeois, 2018). Although the majority of studies indicates that the productivity effect of information and communication technologies (ICTs) is indeed positive and significant, differences of the ICT effect between countries and regions in firm-level analyses show controversial results, concluding that more theoretical and empirical research is needed to better understand spillovers and externalities of ICT and how these technologies transform our economies (Cardona et al., 2013). These contradictory results are noted by more recent research as well, as prior work had yielded that firms might benefit from connectivity through increased efficiencies and improved access to markets, although they might also be further marginalized through increasing control of lead firms.

Even in firms located in the same country and in countries within the same region with similar development levels, research findings support more pessimistic expectations: small African producers are only thinly digitally integrated in GVCs. Moreover, shifting modes of value chain governance, supported by lead firms and facilitated by digital information platforms and data standards are leading to new challenges for firms looking to digitally integrate. Nevertheless, examples were found in these sectors, of opportunities where small firms are able to cater to emerging niche customers, and local or regional markets. Overall, this study shows that improving connectivity does not inherently benefit African firms in GVCs without support for complementary capacity and competitive advantages (Foster et al., 2018). The present article also considers works on how technology can drive emergent

countries towards higher competitiveness of firms and equips governments to overcome contemporaneous challenges (Amankwah-Amoah, 2016).

## **DESIGN, METHODOLOGY AND APPROACH**

The intended design, methodology and approach used in this article follows: the method employed is the case study which examines firms located in two medical device clusters: one in an emergent country, Brazil, and the other in a developed country, United Kingdom. The study is qualitative and information and data were collected from primary and secondary sources. The firms studied are located in clusters. The focus is on technology dominated industries, while the framework application concerns the medical devices industry.

## **RESULTS AND IMPLICATIONS**

Preliminary results and implications so far allow us to expect the results contribute to advancing the literature on the participation of emergent country firms in GVCs. The proposed framework and the evidence of upgrading or challenges faced by the identified firms, aims to highlight the differences between the upgrading path in GVCs for medical device firms originating from countries with distinct developmental stages. Although the results cannot be generalized to all industries and countries, some of the evidence suggests that under specific circumstances, upgrading of developing country firms in the GVC can occur. One such circumstance is related to business strategy and digitalization, while the other concerns the knowledge resources and information and communication technologies (ICT) capabilities available in the region. Resources like knowledge generated in universities, support from government and the association of business, university, and government can make a difference in this regard. These preliminary findings converge to what had been found by Foster et al. (2018) in two African countries. The conclusion from the preliminary results is that digitalization may be powerful enough to change industry structure in a manner that may facilitate upgrading.

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## **Track 16**

# ***Finance and Accounting***

*Track 16 Finance and Accounting*

**ID #560**

## **Mergers and acquisitions in the Brazilian health plan industry from 2007 to 2016**

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### **Abstract**

*In recent years, the volume of mergers and acquisitions (M&A) transactions involving the healthcare market has increased as a result of the opening of the market to foreign investment. This research aims to identify the determinants of M&A in the Brazilian health plan industry in the period from 2007 to 2016. In order to achieve the main objective, 55 economic mergers and 52 merger de-accreditation transactions were analyzed over a period of 10 years, based on data from the Administrative Council for Economic Defense (CADE) and the National Supplementary Health Agency (ANS), respectively. This combined information allowed among 1769 Brazilian health plan companies that had financial information available on the ANS website to identify 86 companies in M&A transactions. Of the 141 transactions identified, 120 were horizontal, while the others dealt with vertical and conglomerate transactions, 10 and 11 transactions, respectively. The analysis of the models proposed by means of the random forest algorithm made it possible to verify that the variables BENEFEXCL, BENEFTOT and CE were recurrent. This indicates that the number of consumers of dental health plans, the total number of beneficiaries and the composition of the indebtedness of health companies are the main factors in the decision-making process of M&As in the Brazilian supplementary health market. The results show that risk selection by health operators is a decision-making factor in the performance of M&A and consumers are a key factor in market access. As for indebtedness, a M&A transaction can be associated with high levels of debt, since the investor needs resources to pay for the M&A transaction.*

**Keywords:** Health Plan; Mergers and Acquisitions; Random Forest.

### **Acknowledgments**

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*Track 16 Finance and Accounting*

**ID #601**

**Consumption tax, economic growth and income distribution: A comparative study using capital and labor income taxes**

**Yasuyuki Nishigaki** (Ryukoku University, Japan)

**Abstract**

*By introducing consumption, capital, and labor income taxes into an endogenous growth model with a continuum of heterogeneous households that hold different amounts of capital stock, we conduct a comparative study on the effects of these taxes on economic growth and income distribution. We obtain the following results. First, the economic growth effects of the consumption tax are relatively higher than those of capital income tax and equal to that of labor income tax. Second, the long-term effects of income distribution on the consumption tax are more favorable to labor income earners than those of labor income tax, although it is more favorable to capital income earners than capital income tax.*

**Keywords:** Consumption Tax; Capital Income Tax; Labor Income Tax; Endogenous Growth; Income Distribution.

**Acknowledgments**

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## **INTRODUCTION**

As well as the increasing reliance of OECD countries on consumption tax to finance their government expenditures, many Asian countries also have growing concern on it. In order to fund infrastructures for further economic growth and to attain better national standards of living, countries need to shift their tax schemes from income-based to indirect consumption-based schemes.

A significant amount of research examines the effect of consumption tax on economic growth relative to that of capital and labor income taxes. Among them, previous studies focus on double taxation on savings. Mill and Kaldor (1955) demonstrate that income tax levies income including saving and hence, present and future consumption and show the superiority of the consumption taxation that could evade the double taxation on saving. King (1980) and Stern (1992) show that consumption taxation is not always superior to income tax, especially with the regard to economic growth. On the other hand, Feldstein (1978) and Summers (1981) demonstrate that capital and general income taxes reduces long-term capital accumulation because the rate of return on capital has a significant influence on savings decision. Furthermore, under optimal taxation theory, Atkinson and Stiglitz (1980), Judd (1985), and Chamley (1986) suggest that the long-term tax rate for capital income should be set at zero, and they recommend using consumption and labor income taxes. Moreover, under the endogenous economic growth model, Lucas (1990), King and Rebelo (1990), Pecorino (1993), Jones, Maunuelli, and Rossi (1993), Stokey and Rebelo (1995), and Ferretti and Roubini (1998) demonstrate that a tax shift from income toward consumption brings higher economic growth and consequently, higher welfare.

However, except for the studies on the short-run regressive nature of the consumption tax burden (Spiro,2017), there is a lack of research on the effect of income distribution especially the relationship in the long-term growth economy. Alesina and Rodrik (1994) investigated economic growth and income distribution focusing on the effect of fiscal expenditure procured by capital income tax under endogenous economic growth theory. They obtained the following results. There is a growth maximizing rate of capital income tax, and individuals with pure capital income prefer this rate. However, individuals with a relatively larger share of labor income prefer the higher rate of such tax, which maximizes their lifetime consumption.

In this paper, we focus on the long-run income distribution effects of the consumption tax and conduct a comparative study with the effects of income-based taxes such as capital and labor income taxes. By introducing consumption, capital, and labor income taxes into an endogenous growth model with a continuum of heterogeneous households that hold different amounts of capital stock, we investigate the relative effects of these taxes on both economic growth and income distribution.

We obtained the following main results. First, the economic growth effects of the consumption tax are relatively higher than those of the capital income tax and the same as that of labor income tax, although it takes both positive and negative signs depending on its tax rate. Second, due to these growth effects, the long-run effects of income distribution of the consumption tax are more favorable to those with a relatively larger share of labor income than labor income tax, although it is more favorable to capital income earners than capital income tax. To the best of the authors' knowledge, this is the first investigation of the relative advantage or dis-advantage of the long-run income distribution effects of consumption tax in comparison to capital and labor income taxes.

The rest of this paper is organized as follows. Section 2 outlines the basic model with capital income tax and its main results, which are used as a reference for our investigation. Sections 3 and 4 extend the basic model to include labor income and consumption taxes, respectively, and investigate their economic growth and income distribution effects. Section 5 concludes the paper.

## **BASIC MODEL WITH CAPITAL INCOME TAX**

### ***Basic model and economic growth***

In this section, we introduce our basic model based on Alesina and Rodrik (1994) and their main results on the capital income tax. In this research, we consider non-homogeneous individuals whose asset holding status is continuously different from each other. The total number of labor is constant and capital is accumulated through savings and investments. The government provides public expenditure that is raised through capital tax. In an economy, endogenous growth occurs due to the existence of public expenditure, as the temporary homogeneity of capital and labor is confirmed. Regarding the relationship between income distribution and economic growth, a conclusion that is consistent with "Kuznets' inverted U-shaped pattern" can be obtained.

In this paper, we use a simple endogenous growth model of labor and capital. In addition, for production, it is necessary to provide public services, which can be considered as a service of "law and order." For endogenous growth, capital and public services are essential to produce economically feasible resources<sup>21</sup>. It is assumed that the production process is represented by the Cobb-Douglas type production technology as follows,

$$y = Ak^\alpha(g \cdot l)^{1-\alpha} \quad (0 < \alpha < 1). \quad (1)$$

Here,  $k$  is the capital stock,  $g$  represents the public service, and  $l$  is labor.  $A$  and  $\alpha$  are technical parameters. A single good produced in this economy can be used for either consumption or investment, and its price is assumed to be 1. One of the features of this model is that the redistribution policy plays a constructive role. That is, redistribution policies can interact with growth promotion policies. Financial redistribution is often conducted through various expenditure programs that go beyond direct cash transfer.

In order to cover expenditure on public services, the government levies a tax on capital income. In equilibrium, the budget constraint formula is,

$$g = \tau_k k. \quad (2)$$

The labor supply is fixed using the relationship between the formulas (1) and (2), which normalize to equal 1. The production function is,

$$y = Ak^\alpha(\tau_k k)^{(1-\alpha)}(1)^{(1-\alpha)} = A\tau_k^{1-\alpha} k. \quad (3)$$

Wages and return on capital are based on perfect competition in the production factor market due to normal marginal productivity conditions. The maximum profit conditions are,

$$r = \frac{\partial y}{\partial k} = \alpha \tau_k^{1-\alpha} \equiv r(\tau_k), \quad (4)$$

$$w = \frac{\partial y}{\partial l} = (1 - \alpha) A \tau_k^{1-\alpha} k \equiv w(\tau_k) k. \quad (5)$$

<sup>21</sup> See for example Barro (1990).

Assuming that the labor force is supplied in-elastically, it can be seen from equation (4) that as the capital tax and government expenditure increases, the market interest rate rises. The marginal productivity of capital is also shown to be independent of the capital stock and is constant depending on the fixed parameters. Furthermore, it can be seen from equation (5) that the labor wage rises if the capital tax rate increases. In addition, capital income and net labor income are obtained as,

$$y^k = rk = [r(\tau_k) - \tau_k]k, \quad (6)$$

$$y^l = w(\tau_k)k. \quad (7)$$

Considering Walras' law on the income side,  $y^k + y^l + g = y$  is obtained to satisfy national income identity. Using the Cobb-Douglas production function, it is transformed into the following formula.

$$y^k + y^l + g = Ak^\alpha (\tau_k k)^{(1-\alpha)} \quad (8)$$

Capital tax plays two important roles in this model. First, it affects the net revenue of the owner of the capital and it can therefore change the incentive to accumulate capital. Second, there is a possibility that wage income will be higher if tax  $\tau_k$  is raised. This is because wage income increases due to the high taxation rate, as the tax revenue increases government productive service, which increases productivity.

We assume that individuals are homogeneous except for the initial ownership share of total capital and labor. Each individual is indexed according to their relative elements as,

$$\sigma^i \equiv \frac{l^i}{k^i/k}. \quad (9)$$

Remember that the aggregate labor endowment of the economy is normalized to unity. In addition, in principle,  $\sigma^i$  changes over time. Everyone earns income from capital and labor incomes. From equations (7) and (8), individual income is obtained as follows,

$$y^i = w(\tau_k)k l^i + [r(\tau_k) - \tau_k]k^i = w(\tau_k)\sigma^i k^i + [r(\tau_k) - \tau_k]k^i. \quad (10)$$

In equation (10), income depends on both individual ownership and total capital stock.

In order to set consumption and saving we assume that all individuals have the same logarithmic utility function. Decisions on individual's consumption and saving are determined by solving the following utility function.

$$U^i = \int \log c^i e^{-\rho t} dt \quad (11)$$

Here,  $c^i$  is consumption and  $\rho$  is a discount rate. In order to maximize utility, this utility function includes time; the temporal budget constraint equation is,

$$\frac{dk^i}{dt} = w(\tau_k)\sigma^i k^i + [r(\tau_k) - \tau_k]k^i - c^i. \quad (12)$$

The utility maximization problem at time  $t = 0$  is shown below.

$$\max U^i = \int \log c^i e^{-\rho t} dt \quad (13)$$

$$\text{s.t. } \frac{dk^i}{dt} = w\tau_k k^i + [r(\tau_k) - \tau_k]k^i - c^i \quad (14)$$

In order to solve the problem, a current value Hamiltonian is defined as,

$$H = e^{-\rho t} \cdot \log c^i + \lambda \{w(\tau_k)\sigma^i k^i + [r(\tau_k) - \tau_k]k^i - c^i\}. \quad (15)$$

The first-order conditions for equation (15) are represented as,

$$\frac{\partial H}{\partial c^i} = \frac{e^{-\rho t}}{c^i} - \lambda = 0, \quad (16)$$

$$\frac{d\lambda}{dt} = -\frac{\partial H}{\partial k^i} = -[r(\tau_k) - \tau_k] \lambda, \quad (17)$$

$$\frac{dk^i}{dt} = \frac{\partial H}{\partial \lambda} = w(\tau_k) \sigma^i k^i + [r(\tau_k) - \tau_k] k^i - c^i. \quad (18)$$

By rearranging these, we obtain the following conditions. First, according to equation (18) we obtain

$$\frac{d\lambda}{dt} / \lambda = -\frac{dc^i/dt}{c^i} - \rho. \quad (19)$$

Equation (19) represents a growth equation of the consumption as,

$$\dot{c} = r(\tau_k) - \tau_k - \rho. \quad (20)$$

In the steady growth equilibrium, as the growth rate of each variable is the same ( $\dot{c} = \dot{k}^i = \dot{k}$ ), the following relationship of the economic growth is obtained.

$$\dot{k}^i = \dot{k} = \dot{c} = r(\tau_k) - \tau_k - \rho \quad (21)$$

In order to obtain the relationship between the capital tax rate and the economic growth rate, let us assume that capital income tax  $\tau_k$  does not change over time. Each individual accumulates along the steady-state path as follows.

$$\dot{k}^i = \dot{c}^i = r(\tau_k) - \tau_k - \rho \equiv \Gamma(\tau_k) \quad (22)$$

Equation (22) implies that all individuals accumulate their capital stock at the same rate. Therefore, there is a common economy-wide growth rate  $\Gamma(\tau_k)$ , which is independent of the initial distribution of factor endowment. Moreover, the relative factor endowment  $\sigma^i$  remains constant over time, and the distribution of factor ownership is time invariant.

$$\frac{\partial \Gamma(\tau_k)}{\partial \tau_k} - 1 = \alpha(1 - \alpha) A \tau_k^{-\alpha} - 1 = \tau_k^{-\alpha} [\alpha(1 - \alpha) - \tau_k^\alpha] \quad (23)$$

$$\frac{\partial \Gamma(t)}{\partial \tau_k} \leq 0 \text{ as } \tau_k \geq [\alpha(1 - \alpha) A]^{1/\alpha} \quad (24)$$

Equation (24) states that the higher the capital interest rate after tax, the higher the economic growth rate. Capital tax, therefore, has a nonlinear effect on growth. When the tax rate is low, the productivity enhance effect of public expenditure is dominant, and the capital return after tax increases. If the tax rate is sufficiently high, the capital return after tax will decline as the tax rate rises. The relationship between economic growth rate and capital tax is as shown in Figure 1. As  $\tau_k$  gradually rises, the economic growth rate also increases, reaching the maximum and decreasing thereafter.

Figure 1. Capital income tax and economic growth rate (about here)

The tax rate that maximizes economic growth is shown as,

$$\frac{\partial \Gamma(\tau_k)}{\partial \tau_k} = 0 \rightarrow \tau_k^* = [\alpha(1 - \alpha) A]^{1/\alpha}. \quad (25)$$

$\tau_k^*$ , which is invariant over time, is determined by technical parameters.

### Capital income tax and income distribution

In this subsection, we examine changes in capital holding status and changes in income distribution. We approach this as a matter of choosing to maximize utility. Consumption and

investment in the steady growth equilibrium can be calculated in the following way. Individual income is shown as,

$$y^i = w(\tau_k)\sigma^i k^i + [r(\tau_k) - \tau_k]k^i. \quad (26)$$

By using the condition of the steady growth equilibrium, we obtain the following personal consumption for individual  $i$  as,

$$c^i = [w(\tau_k)\sigma^i + \rho]k^i. \quad (27)$$

To obtain the preferred tax rate, that is, the tax rate  $\tau_k$  that maximizes individuals' utility, we set a maximization problem as follows.

$$\max U^i = \int \log c^i e^{-\rho t} dt \quad (28)$$

$$c^i = [w(\tau_k)\sigma^i + \rho] k^i$$

$$\dot{k}^i = \Gamma(\tau_k)$$

$$\dot{k} = \Gamma(\tau_k)$$

These constraints indicate that policy choice affects both consumption level and growth rate.

Setting a current value Hamiltonian for the instantaneous maximization problem as,

$$\begin{aligned} H &= \log c^i e^{-\rho t} + \lambda \{c^i - w(\tau_k)\sigma^i k^i - \rho k^i\} + \mu_1 \{[r(\tau_k) - \tau_k - \rho]k^i\} \\ &\quad + \mu_2 \{[r(\tau_k) - \tau_k - \rho]k\} \\ &= \log [w(\tau_k)\sigma^i + \rho] k^i e^{-\rho t} + \mu_1 \{[r(\tau_k) - \tau_k - \rho]k^i\} \\ &\quad + \mu_2 \{[r(\tau_k) - \tau_k - \rho]k\}. \end{aligned} \quad (29)$$

By rearranging the first order conditions for equation (29), the following relationship is obtained.

$$\tau_k^i \{1 - \alpha A(1 - \alpha)(\tau_k^i)^{-\alpha}\} = \rho(1 - \alpha)\theta^i \tau_k^i \quad (30)$$

$$\theta^i(\tau_k^i) = w(\tau_k^i)\sigma^i / [w(\tau_k^i)\sigma^i + \rho] \quad (31)$$

where  $\theta^i$  is the share of labor income components in the consumption expenditure of the individual  $i$ , which increases with  $\sigma^i$ . As capital income tax increases, income from capital will decline, and the distribution of capital income deteriorates.

By setting  $\sigma^i = 0$  in equation (30), we obtain the tax rate that is most preferred by the pure capitalist as,

$$\tau_k^* = [\alpha(1 - \alpha)A]^{1/\alpha}, \quad (32)$$

which coincides with the growth maximizing tax rate as shown in equation (25). Therefore, individuals who have only capital income ( $\sigma^i = 0$ ) desire taxes to maximize economic growth. On the other hand, individuals with a high ratio of labor income ( $\sigma^i$  is higher) desire a higher tax rate on capital income as long as their consumption increases.

## LABOR INCOME TAX, ECONOMIC GROWTH, AND INCOME DISTRIBUTION

### *A model with labor income tax and economic growth*

In this section, to cover expenditure on public services, the government levies labor income tax. In equilibrium, the budget constraint of the government is shown as,

$$g = \tau_w w(\tau)l. \quad (33)$$

here,  $\tau_w$  is the rate of labor income tax. As in the previous section, the supply of  $l$  is fixed and is standardized as 1.

The production function is shown as,

$$y = Ak^\alpha g^{(1-\alpha)}. \quad (34)$$

Under normal marginal productivity conditions, perfect competition in the production factor market is assumed to exist. The maximum profit condition is shown as,

$$r = \frac{\partial y}{\partial k} = \alpha A g^{1-\alpha} k^{\alpha-1} = r(\tau_w), \quad (35)$$

$$w = \frac{\partial y}{\partial l} = (1 - \alpha) A g^{1-\alpha} k^\alpha = w(\tau_w)k. \quad (36)$$

Here, by substituting  $g = \tau_w w(\tau_w)k$  into the production function, we obtain the representation of  $g$  with  $\tau_w$ , and  $k$  as,

$$g = [\tau_w(1 - \alpha)A]^{\frac{1}{\alpha}}k. \quad (37)$$

By assigning public service  $g$  to interest rate and rearranging it, equations (35) and (36) are rewritten as follows.

$$r = \frac{\partial y}{\partial k} = \alpha A^{\frac{1}{\alpha}} [\tau_w(1 - \alpha)]^{\frac{1-\alpha}{\alpha}} \quad (38)$$

$$w = \frac{\partial y}{\partial l} = (1 - \alpha) A^{\frac{1}{\alpha}} [\tau_w(1 - \alpha)]^{\frac{1-\alpha}{\alpha}} k \quad (39)$$

Again, as we assume that the labor supply is fixed, it can be seen from equation (38) that as the labor income tax increases, the market interest rate rises. Moreover, by considering equation (39), we can see that as tax and capital increase, the labor wage also increases.

Here, the capital income and the net labor income are obtained as,

$$y^k = rk = \alpha A g^{1-\alpha} k^\alpha, \quad (40)$$

$$y^l = (1 - \tau_w)(1 - \alpha) A g^{1-\alpha} k^\alpha. \quad (41)$$

Walras' law, which is used to check the consistency of the market equilibrium, is established as,

$$\begin{aligned} & y^k + y^l + g \\ &= \alpha A g^{1-\alpha} k^\alpha + (1 - \tau_w)(1 - \alpha) A g^{1-\alpha} k^\alpha + \tau_w(1 - \alpha) A g^{1-\alpha} k^\alpha \\ &= A k^\alpha g^{(1-\alpha)}. \end{aligned} \quad (42)$$

Labor income tax plays two important roles again in this model. First, it affects net income in labor income; if taxes are raised, labor incomes may be higher. We can observe that the capital accumulation rate and growth rate are increasing.

From the viewpoint of individual income distribution,  $l^i, k^i$  are represented by individual labor force and capital stock as,

$$y^i = (1 - \tau_w)w(\tau_w)l^i k + r(\tau_w)k^i. \quad (43)$$

Again, using the relative income elements of  $(\sigma^i \equiv l^i/k^i)$ , individual's income is shown as,

$$y^i = [(1 - \tau_w)w(\tau_w)\sigma^i + r(\tau_w)]k^i. \quad (44)$$

From equation (44), the budget constraint is obtained as,

$$dk^i/dt = [(1 - \tau_w)w(\tau_w)\sigma^i + r(\tau_w)]k^i - c^i. \quad (45)$$

By applying equation (45), the utility maximization for the individual at time  $t = 0$  is shown as,

$$\text{Max } U^i = \int \log c^i e^{-\rho t} dt$$

$$\text{st. } dk^i/dt = [(1 - \tau_w)w(\tau_w)\sigma^i + r(\tau_w)]k^i - c^i. \quad (46)$$

Accordingly, the present value Hamiltonian is defined as,

$$H = e^{-\rho t} \cdot \log c^i + \lambda \{[(1 - \tau_w)w(\tau_w)\sigma^i + r(\tau_w)]k^i - c^i\}. \quad (47)$$

By solving this maximization problem, the first order conditions are shown as,

$$\frac{\partial H}{\partial c^i} = \frac{e^{-\rho t}}{c^i} - \lambda = 0, \quad (48)$$

$$\frac{d\lambda}{dt} = -\frac{\partial H}{\partial k^i} = -r(\tau_w)\lambda, \quad (49)$$

$$\frac{dk^i}{dt} = \frac{\partial H}{\partial \lambda} = \{[(1 - \tau_w)w(\tau_w)\sigma^i + r(\tau_w)]k^i - c^i\}. \quad (50)$$

From these conditions, the growth rate of each variable in the steady growth equilibrium is obtained as,

$$\dot{k}^i = \dot{k} = \dot{c}^i = r(\tau_w) - \rho. \quad (51)$$

From this equation, we can obtain the relationship between labor income tax rate and economic growth rate.

### **Labor income tax and income distribution**

First, the relationship between labor income tax and economic growth is shown as,

$$\Gamma(\tau_w) = r - \rho = A^{\frac{1}{\alpha}} \alpha [\tau_w (1 - \alpha)]^{\frac{1-\alpha}{\alpha}} - \rho. \quad (52)$$

In equation (52), if  $r(\tau_w) > \rho$ , it can be observed that when the labor income tax rate rises, it will raise the economic growth rate.

In the case of  $\alpha < \frac{1}{2}$ , the relationships between labor income tax rate and the rate of economic growth is shown in Figure 2.

**Figure 2. Increasing growth rate (about here)**

Next, the case of  $\alpha > \frac{1}{2}$  is shown in Figure 3.

**Figure 3. Decreasing growth rate (about here)**

If  $\alpha = \frac{1}{2}$  is shown in Figure 4.

**Figure 4. Linear growth rate (about here)**

In order to focus on income distribution, by rewriting (43), we obtain the following expression for individual's income,

$$y^i = \{(1 - \tau_w)(1 - \alpha)A\bar{a}[\tau_w(1 - \alpha)]^{\frac{1-\alpha}{\alpha}}\sigma^i + A\bar{a}\alpha[\tau_w(1 - \alpha)]^{\frac{1-\alpha}{\alpha}}\}k^i. \quad (58)$$

According to this equation, we can see that an individual with a high labor income ratio ( $\sigma^i$  is high) suffers a high<sup>22</sup> tax burden. However, as income increases due to public expenditure, consumption will increase until the tax rate maximizes consumption.

On the other hand, for individuals who only receive capital income ( $\sigma^i = 0$ ), they do not bear the labor income tax although their income increases with the labor income tax rate. Hence, they desire a high tax rate as long as the economic growth rate increases.

## CONSUMPTION TAX, ECONOMIC GROWTH, AND INCOME DISTRIBUTION

### *A model with consumption tax and economic growth*

In this section, we introduce consumption tax into the system and consider the effect of this tax on economic growth and long-run income distribution.

It is assumed that the government procures financial resources via consumption tax and supplies public expenditure. Again, assuming capital and labor as primarily homogeneous, endogenous economic growth will occur due to the provision of productive public services.

We examine the effect of the consumption tax increase on economic growth. How is the economic growth effect of consumption tax different from capital taxation and income distribution? How is the income distribution effect of consumption tax different from capital taxation?

In order to cover expenditure on public services, the government levies tax on consumption. In equilibrium, the budget constraint formula is,

$$g = \tau_c c. \quad (54)$$

As in the cases of capital and labor income taxes, we assume labor supply is fixed. Assuming the same production function as equation (1) and taking equation (54) into consideration, the production function is shown as,

$$y = Ak^\alpha g^{(1-\alpha)} = Ak^\alpha (\tau_c c)^{1-\alpha}. \quad (55)$$

According to equation (55), the rate of the interest and the wage in the regular marginal condition are shown as,

$$r = \frac{\partial y}{\partial k} = \alpha Ak^{\alpha-1} g^{1-\alpha} = r(\tau_c) \quad (56)$$

$$w = \frac{\partial y}{\partial l} = (1 - \alpha) Ak^{\alpha-1} g^{1-\alpha} k = w(\tau_c) k \quad (57)$$

According to these conditions, it is apparent that the interest rate is raised if the tax on consumption and government expenditure is increased. Labor wage is also raised if the capital stock is increased at the same time.

The capital and labor incomes are shown by equations (58) and (59), respectively.

$$rk = \alpha Ak^\alpha g^{1-\alpha} = \alpha y, \quad (58)$$

$$w = (1 - \alpha)Ak^\alpha g^{1-\alpha} = (1 - \alpha)y, \quad (59)$$

which constitute the income identity of Walras' law.

$$y^k + y^l = y = c + \tau_c c + \frac{dk}{dt} \quad (60)$$

To set the saving and capital accumulation, personal income of individual  $i$  is shown as,

$$y^i = w(\tau_c)\sigma^i k^i + r(\tau_c)k^i. \quad (61)$$

From equation (61), the budget constraint is obtained as,

$$\frac{dk^i}{dt} = [w(\tau_c)\sigma^i + r(\tau_c)]k^i - (1 + \tau_c)c^i. \quad (62)$$

By applying equation (62), the utility maximization for the individual at time  $t = 0$  is shown as,

$$\begin{aligned} \max U^i &= \int \log c^i e^{-\rho t} dt \\ \text{s.t. } \frac{dk^i}{dt} &= [w(\tau_c)\sigma^i + r(\tau_c)]k^i - (1 + \tau_c)c^i. \end{aligned} \quad (63)$$

Accordingly, the current value Hamiltonian is defined as,

$$H = e^{-\rho t} \cdot \log c^i + \lambda \{ [w(\tau_c)\sigma^i + r(\tau_c)]k^i - (1 + \tau_c)c^i \}. \quad (64)$$

By solving this maximization problem, the first-order conditions are shown as follows.

$$\frac{\partial H}{\partial c^i} = e^{-\rho t} / c^i - \lambda(1 + \tau_c) = 0 \quad (65)$$

$$\frac{d\lambda^i}{dt} = -\partial H / \partial k^i = -r(\tau_c)\lambda^i \quad (66)$$

$$\frac{dk^i}{dt} = \frac{\partial H}{\partial \lambda} = [w(\tau_c)\sigma^i + r(\tau_c)]k^i - (1 + \tau_c)c^i \quad (67)$$

By rearranging the first-order conditions, we obtain the following equation in steady growth equilibrium.

$$\dot{k}^i = \dot{k} = \dot{c} = r(\tau_c) - \rho \quad (68)$$

If  $r(\tau_c) > \rho$  in equation (68), it can be observed that when the consumption tax rate rises, it will raise the economic growth rate.

### Consumption tax and income distribution

Rearranging the budget constraint equation (62) and the steady growth equation (68), we obtain the following equation for the total tax liability.

$$\tau_c c = \frac{\tau_c}{1 + \tau_c} [w(\tau_c) + \rho]k \quad (69)$$

According to the government budget constraint  $\tau_c c = g$  and equation (69), we obtain the other representation of the government expenditure as,

$$g = \left[ \frac{\tau_c}{1 + \tau_c} (1 - \alpha + \alpha\beta)A \right]^{1/\alpha} k, \quad (70)$$

where  $\beta \equiv \rho/r \leq 1$  for the non-trivial segment of the interest rate<sup>23</sup>.

<sup>23</sup> The relationship between the consumption tax and economic growth is shown as

$$\frac{d\tau_c}{dr_c} = \alpha A \frac{d\tau_c c}{d\tau_c}, \quad \frac{d\tau_c c}{d\tau_c} = \frac{1}{(1 + \tau_c)^2} (1 - \alpha + \alpha\beta) + \left( \frac{\tau_c}{1 + \tau_c} \right) \alpha \frac{-\rho}{r^2}$$

Substituting equation (70) into the production function, we obtain the following relationships<sup>24</sup>.

The first term of the right-hand side of the equation is positive and the second term is negative. As the consumption tax rate increases, even if the first term becomes larger, the second term gradually becomes larger and the growth effect will eventually become negative.

<sup>24</sup> By using equations (72) and (73), we obtain macro-level capital versus labor income share as  $r^k/w = \alpha/(1-\alpha)$ . Therefore, the macro-distribution rate is constant, indicating that total capital income and total labor income grow at the same rate.

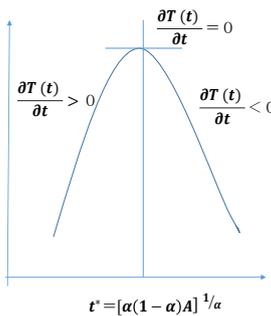


Figure 1. Capital income tax and economic growth rate

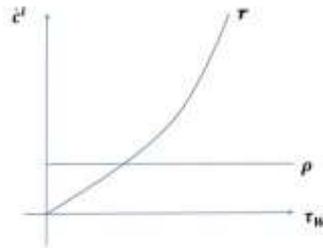


Figure 2. Increasing growth rate

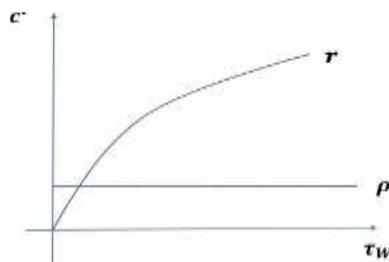


Figure 3. Decreasing growth rate

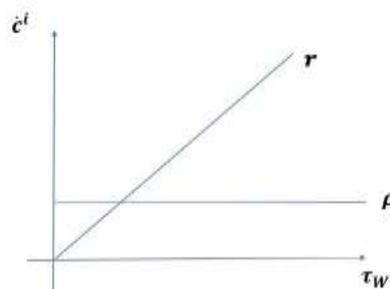


Figure 4. Linear growth rate

$$y = Ak^\alpha g^{1-\alpha} = A \left[ \frac{\tau_c}{1+\tau_c} (1 - \alpha + \alpha\beta) \right]^{\frac{1-\alpha}{\alpha}} k \quad (71)$$

$$r(\tau_c) = \alpha A^{\frac{1}{\alpha}} \left[ \frac{\tau_c}{1+\tau_c} (1 - \alpha + \alpha\beta) \right]^{\frac{1-\alpha}{\alpha}} \quad (72)$$

$$w(\tau_c) = (1 - \alpha) A^{\frac{1}{\alpha}} \left[ \frac{\tau_c}{1+\tau_c} (1 - \alpha + \alpha\beta) \right]^{\frac{1-\alpha}{\alpha}} k \quad (73)$$

Combining equations (71), (72), and (73) with the personal income equation (61) and the tax liability equation (69) for individual  $i$ , we obtain the after-tax income as,

$$y_{\tau_c}^i = \frac{1}{1+\tau_c} [w(\tau_c)\sigma^i + r(\tau_c)]k^i - \frac{\tau_c}{1+\tau_c} r(\tau_c)(1 - \beta)k^i. \quad (74)$$

According to equation (74), it is evident that a flat/proportional burden of the consumption tax is relevant only for the steady state ( $\beta = 1$ ), and in the steady growth economy ( $\beta < 1$ ), capital income earners' burden of the tax is decreased as the growth rate rises. Furthermore, an individual with a relatively high proportion of labor income ( $\sigma^i$  is high) suffers a heavier tax burden. However, unlike at the time of the labor income tax, individuals with pure capital income ( $\sigma^i=0$ ) also suffer the tax burden although it is relatively lighter than that of the capital income tax. Therefore, income distribution effects are pro-pure capitalist in comparison with the capital income tax and pro-labor income earners in comparison with the labor income tax.

## CONCLUSION

In this paper, we investigated the effects of economic growth and long-run income distribution of consumption tax. Specifically, we conducted comparative studies with income-based taxes such as capital and labor income taxes. By introducing consumption, capital, and labor income taxes into an endogenous growth model with a continuum of heterogeneous households that hold different amounts of capital stock, we focused on the personal income distribution and investigated the relative effects of these taxes on both economic growth and income distribution.

The main results are summarized as follows. First, we demonstrated that the economic growth effects of the consumption tax are relatively higher than that of the capital income tax and the same as that of the labor income tax. As the burden of consumption tax is partially borne by capital income, it takes both positive and negative signs depending on its tax rate. Second, due to these growth effects, the long-run effects of income distribution of the consumption tax are generally more favorable to those with a relatively higher share of labor income than that of the labor income tax, although it is more favorable to capital income earners than that of capital income tax.

Although, to the best of the authors' knowledge, this is the first investigation of long-run income distribution effects, this study also has some limitations. First, as labor supply is fixed in this model, the labor income tax has a somewhat lump-sum tax property. By incorporating flexible labor supply into the model, we can contrast the comparative growth effects between consumption and labor income taxes. Second, if we extend our model to focus on human capital investment, our results concerning the effects of consumption tax will develop into a new phase of economic growth and income distribution effects, which will be the focus of our future study.

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## NOTES

<sup>1</sup> See for example Barro (1990).

<sup>3</sup> The relationship between the consumption tax and economic growth is shown as

$$\frac{d\Gamma(\tau_c)}{d\tau_c} = \alpha A \frac{d\tau_{cc}}{d\tau_c}, \quad \frac{d\tau_{cc}}{d\tau_c} = \frac{1}{(1+\tau_c)^2} (1 - \alpha + \alpha\beta) + \left(\frac{\tau_c}{1+\tau_c}\right) \alpha \frac{-\rho}{r^2}$$

The first term of the right-hand side of the equation is positive and the second term is negative. As the consumption tax rate increases, even if the first term becomes larger, the second term gradually becomes larger and the growth effect will eventually become negative.

<sup>4</sup> By using equations (72) and (73), we obtain macro-level capital versus labor income share as  $r^k/w = \alpha/(1 - \alpha)$ . Therefore, the macro-distribution rate is constant, indicating that total capital income and total labor income grow at the same rate.

*Track 16 Finance and Accounting*

**ID #651**

## **The relationship between mandatory IFRS and value creation**

**Johnny Silva Mendes** (Universidade Presbiteriana Mackenzie, Brazil)

**Wilson Toshiro Nakamura** (Universidade Presbiteriana Mackenzie, Brazil)

### **Abstract**

*The main goal of this research was to empirically investigate the connection between the mandatory IFRS and the value creation of non-financial Brazilian public companies. A sample of Brazilian companies regularly traded on B3 in the period between 2003 and 2014 was utilized for such purpose. The econometric method *diffs-in-diffs* was used, isolating IFRS' effect through non observed characteristics. The models estimated were composed by pooled data and randomizing panel data analysis. On the measures of value creation, significant and positive effects were found on the Market to Book and Q-tobin variables. The Data shows that the mandatory IFRS has a positive impact on value creation, it also displays that the quality growth on financial accounting information causes a decrease on information asymmetries, and so, increases the motivation for disclosure inside the companies. Considering that Brazil is seen as a country of weak legal protection, a low enforcement power has not stopped the country from reaping benefits with the norms of the IFRS, aligned with Houge and Easton's research (2013). This translates Bushman and Smith's concept of greater economic performance through the high quality of financial and accounting information (2001, 2003).*

**Keywords:** IFRS; Information Asymmetry; Value Creation; Diff-in-Diff.

### **Acknowledgments**

We are grateful to Mackenzie Presbyterian University.

*Track 16 Finance and Accounting*

**ID #652**

**The impact of investments in corporate social performance measured by the value of cash holdings**

Eloisa Perez de Toledo (MacEwan University, Canada)

**Abstract**

*Corporate investment in environmental and social initiatives has increased substantially in recent years as a response to increasingly complex and demanding socio-economic environments. Nonetheless, a question that remains unanswered is whether investments in social and environmental initiatives create firm value and, if yes, in which way value is created. The objective of this study is to fill this gap by investigating the relationship between investments in Environmental, Social and Governance (ESG) practices and firm value by comparing the market value of an extra dollar of cash for firms with high and low ESG ratings. Our results show that an extra dollar of cash is valued at a premium of \$0.13 (or 13%) in high ESG firms as compared to low ESG firms. We find evidence to support the stakeholders theory and the resource based view by showing that managers who invest in ESG practices that have received the support of key stakeholders are acquiring resources that are unique and inimitable. Therefore, they create a sustainable competitive advantage for their companies, which positively affects value and reduces agency costs. We also show evidence that financial slack has value in the presence of future investment opportunities and when the cost and availability of capital is uncertain.*

**Keywords:** Environmental; Social and Governance (ESG) practices; cash holdings; firm value..

**Acknowledgments**

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## INTRODUCTION

Corporate investment in environmental and social initiatives has increased substantially in recent years, mainly as a response to an increased pressure from different stakeholders aimed at improving companies' social and environmental performance (Waddock 2004). Similarly, investment managers and asset management firms have increased their allocations to Socially Responsible Investment (SRI) funds. These funds use Environmental, Social and Governance (ESG) ratings to incorporate these dimensions into their investment strategy and asset selection. The United Nations Principles for Responsible Investment (PRI) initiative has contributed to the increase in the amount invested in SRI funds and portfolios that follow an ESG strategy from \$6.5 trillion in 2006 to \$59 trillion in 2015, a growth of 28% per year.<sup>25</sup>

Despite such dramatic increase, a question that remains to be answered is whether corporate investments in ESG initiatives provide positive financial return or, in other words, create firm value. After 40 years of academic research on the relationship between corporate social performance (CSP) and corporate financial performance (CFP), hitherto there is no consensus whether there is a positive association, on the contrary, decades of research in this area has provided mixed and divided results. The meta-analyses of Orlitzky, Schmidt, and Rynes (2003), Margolis and Walsh (2003), Peloza (2009) and Tonello and Singer (2015) show a general positive impact of CSP on CFP with slightly more than 50% of the studies showing a rather small positive impact. The research conducted in the last decade tend to show a more consistent pattern of a positive association between the adoption of ESG practices on financial performance than older studies (studies conducted in the 80s and 90s), nonetheless doubts remain on how CSP affects CFP (Peloza 2009). Another reason for the lack of evidence to support a direct relationship is attributed to some methodological weaknesses, in special model misspecification of previous studies (Margolis and Walsh 2003). However, probably the most prevalent problem among such studies is the lack of a clear understanding of the relationship between CSP and CFP, or in which ways the investment in social, environmental and governance practices affects financial performance. The majority of studies try to establish a *direct* relationship between CSP and CFP, which not always exist. In many cases, investments in ESG are long-term and strategic, as it strengthens the relationship with stakeholders, having longer maturities than mainstream investments. Therefore the effects of ESG investments on firm performance can be lagged many years (e.g. increase in employee attraction and retention, improvement in brand recognition, built stakeholders trust, etc.), and only studies that tried to appropriately measure these effects have succeeded in showing a positive effect. This is the case with some recent studies that propose the association between CSP and CFP is mediated by other factors, such as customer awareness (Servaes and Tamayo 2013), customer satisfaction (Luo and Bhattacharya 2006), firm-idiosyncratic risk (Luo and Bhattacharya 2009), and intangible assets (Surroca, Tribo and Waddock 2010).

In this paper, we follow the same logic and examine the value effects of investments in ESG practices by focusing on the valuation of a specific asset class, namely cash holdings. The main idea is that shareholders would value one dollar of cash at a premium when this dollar is invested in companies that follow a more stringent ESG strategy than in companies that do not. We argue that ESG initiatives can be value-enhancing investments if they enable companies to acquire resources that are valuable, unique, and inimitable (Barney 1991), and if they receive the support of key stakeholders (Freeman 1984). Therefore, by internalizing these resources

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<sup>25</sup> This new reality is evidenced by the growing number of investment managers, business owners and investment corporations that are signatories of the United Nations (UN) Principles for Responsible Investment (PRI) initiative. It currently has 1380 signatories that committed to the six principles, which represents \$59 trillion in assets under management (April 2016). <http://www.unpri.org/about-pri/the-six-principles/>

companies create a sustainable competitive advantage that ultimately increases firm value. ESG practices include a wide array of activities ranging from establishing a procurement policy that requires higher standards of compliance from company's suppliers to investments in new technologies that increase the overall environmental performance of the company. However, the majority of these initiatives are discretionary (although some are mandatory, e.g. the ones required to comply with environmental law) and require sometimes substantial cash investments.

Cash, as the most liquid of all assets, is the most vulnerable to managers' discretion and potential misuse (Jensen 1986). As firms accumulate cash beyond the optimal level prescribed by corporate finance theories (i.e. the precautionary and transaction costs motives), they create excess cash or short term discretionary slack that can be used in different ways. From investors' perspective, there are three possible ways in which cash can be used: (1) managers can simply accumulate or "hoard" cash which will sit idle; (2) managers can invest in value-destroying activities, such as acquisitions (Harford, 1999); or (3) managers can invest in value-enhancing activities, such as good ESG initiatives. We hypothesize that investors would observe these options and value a dollar of cash invested in value-creating ESG practices at a premium, as compared to the other options. Therefore, we measure the value effects of investments in ESG practices by comparing the value of one dollar of extra cash in companies that present superior ESG performance with the value of the same dollar of cash accumulated by companies with poor ESG performance. By comparing these two groups, we are able to gauge investors' perception of the degree of agency costs associated with investments in ESG.

Our measure of ESG performance is the ranking provided by the *Sustainalytics* responsible investment research firm called ESG index (previously known as SiRi Pro and Jantzi Research). We use the company scores that is calculated by weighing the different dimensions (environmental, social and governance) based on a matrix that includes 160 items grouped into different categories such as business ethics, board characteristics, employees, supply chain, customers, operations, and products and services. The dimensions include a wide range of activities carried out by firms, from the way they treat their employees and how they select their suppliers to board composition and the engagement in bribery and tax evasion activities. Our sample is composed by 201 non-financial publicly traded firms listed on the Toronto Stock Exchange (TSE) for the period of 2009-2012. To measure the effect of ESG practices on the value of cash, we use the model proposed by Faulkender and Wang (2006) and the adaptation proposed by Dittmar and Mahrt-Smith (2007) to include ESG, which is estimated using panel data fixed effects. Our main finding is that the same dollar of cash is valued at as high as \$1.13 for companies with high ESG performance (companies in the top quartile of the distribution), at \$1.07 for companies with average ESG performance and at par, \$1.00, for companies presenting poor ESG standards (companies in the bottom quartile of the distribution)<sup>26</sup>.

Our results support the stakeholders theory by showing that the same dollar of cash is more valuable in firms that: (1) have a clear orientation towards adopting high standards of corporate governance; (2) not only have a clear environmental policy, but also a social and environmental strategy that is embedded into their overall corporate strategy; (3) understand that the management of complex and dynamic environments, such as the current competitive environment, require superior managerial capabilities from companies' executives and board members, as it requires the successful coordination of multiple stakeholders. By creating this

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<sup>26</sup> Ignoring transaction costs and taxes at shareholders level, one dollar of cash should add one dollar to firm value. As our results show, investors are valuing one dollar of cash accumulated by companies with superior ESG performance at a premium of \$0.13 and of \$0.07 for companies with average ESG performance. As expected, they value one dollar of cash at par (\$1.00) for all other companies.

so-called “good management” (Freeman 1984), managers can ultimately determine and secure the survival of their organizations and deliver results in a more efficient and effective way than those who are still working exclusively within the paradigm of shareholder wealth maximization.

Our study has important insights for practitioners and academics as it contributes to the literature on the value effects of investments in ESG practices, cash holdings and corporate social performance by providing empirical evidence on the value shareholders attribute to the marginal value of cash for companies with different standards of ESG practices.

The remainder of the paper is organized as follows. Section 2 offers a revision of the literature and presents the hypotheses. Section 3 describes the data and methodological approach. Section 4 analyses and discusses the results and, Section 5 concludes the paper.

## **THEORY AND HYPOTHESES**

### ***Stakeholder management and ESG practices***

The stakeholder approach developed in the 80s provided the conceptual framework for the development of the idea that a firm has a broader spectrum of groups that interact with the organization, beyond the shareholders’ group (Freeman 1984). This approach postulates that in order to develop a successful business strategy, managers need to understand and internalize the needs of key stakeholders, and these relationships need to be managed in a way that secures the survival of the firm. In contexts of high competition, scarcity of resources and complex and dynamic environments managers are required to demonstrate the capability of orchestrating all stakeholders (including shareholders) in order to maximize value creation. The current business environment is particularly challenging for managers, as firms’ stakeholders are now composed by a crowd of more powerful groups with aligned or divergent interests. These groups have become more organized and structured in recent years, with more articulated arguments and ways to pressure companies to attend their interests. Social media plays an important role in this new reality, especially considering the use that some stakeholders make of it, it has since become a double-edged sword: it can boost a company’s marketing strategy but it can also damage a company’s reputation in the blink of an eye. These phenomena have created a new reality for businesses that requires managers that are capable of implementing an effective stakeholder management system. Donaldson and Preston (1995) argue that the stakeholder theory can be descriptive, instrumental or normative. From a normative perspective, the theory is justified by the argument that it respects the notion of a social contract, and that moral and ethical values should guide the actions of any corporation. Phillips (1997) argue that when two groups enter into a collaborative agreement, they have the moral duty to act fairly. The application of such principle to stakeholder’s management is straightforward and implies that managers should consider, respect and weight the interests of key stakeholders when making corporate decisions, as the results of these decisions affect all stakeholders. Harrison and St. John (1996) justify a proactive stakeholder management from an instrumental perspective arguing that “it pays off in the end” by providing higher returns to the corporation<sup>27</sup>. However, they point out to the fact that probably the most important benefit of stakeholders’ management

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<sup>27</sup> The authors list several reasons as justifications for stakeholder management, to mention a few: enhanced ability to predict/control the external environment; higher levels of operating efficiency; fewer incidents of damaging moves by stakeholders; less conflict with stakeholders resulting in fewer legal suits (Harrison and St. John 1996) p. 48.

is that “it creates and preserves organizational flexibility” (p. 49). Organizational flexibility is related to firms’ capacity to adequately respond to environmental changes that result in an alteration in the level and availability of resources in a given system (Dess and Beard 1984). Financial crises or other environmental jolts (Meyer 1982) are examples of situations where drastic changes in the level of resources available in the environment cause a major system reconfiguration. We argue in this paper that managers who promote a proactive stakeholder management strategy are better positioned to quickly respond and to lead their organizations in the adaptation process to this new configuration, and thus create a competitive advantage over their competitors that are not as quickly responsive to the change. By creating this so-called “good management” (Freeman 1984), managers can ultimately determine and secure the survival of their organizations by coordinating and addressing the demands of multiple stakeholders in a fair way. The successful coordination of multiple stakeholders requires a set of management skills and capabilities that enable managers working within the stakeholder’s perspective to deliver results in a more efficient and effective way than those who are still working exclusively within the paradigm of shareholder wealth maximization.

Therefore, stakeholder theory (Freeman 1984, Donaldson and Preston 1995) suggests that by increasing efficiency, “good management” can ultimately improve financial performance (Waddock and Graves 1997b, Freeman and McVea 2001, Orlitzky, Schmidt, and Rynes 2003). Conversely, increased financial performance is an enabling condition for firms to improve their social and environmental performance, as it provides the necessary slack for firms to invest in ESG practices. This assertion is supported by the arguments put forward by the slack resources theory (Waddock and Graves 1997a, Nohria and Gulati 1996), that firms need financial slack to invest and engage in innovation. According to Nohria and Gulati (1996, p. 1246) slack is defined as “the pool of resources in an organization that is in excess of the minimum necessary to produce a given level of organizational output.” Investments in ESG practices can be viewed as risky investments due to its uncertain nature, are highly discretionary but at the same time have a high potential to provide superior financial return, which make them very similar in nature to investments in innovation. Moreover, we argue that by investing in ESG practices, firms can acquire resources that are unique (and as such inimitable) and valuable, as stated by the resource-based view (Barney 1991), which can enable them to create a sustainable competitive advantage. However, while financial slack provides a cushion of protection against possible losses with experimentation and innovation, being a necessary condition for firms to engage in ESG practices (Waddock and Graves 1997b, Bowen 2003, Zona 2012), we also argue that only ESG practices that receive the support of key stakeholders are able to provide such sustainable competitive advantage for firms in the long run.

### ***ESG practices and cash holdings***

Companies hold cash for one or more of the following reasons: to avoid the transaction costs of new debt and equity issues when future growth opportunities are present (transaction costs motive), to face their cash short term needs (precautionary motive) and as a hedge against future shortfalls of cash (hedging motive) (Keynes 1936, Acharya, Almeida and Campello 2007). Opler, Pinkowitz, Stulz, and Williamson (1999) and Kim, Mauer and Sherman (1998) argue there is an optimal level of cash that according to the trade-off approach is the one that offsets the costs of holding it. Assuming a firm whose cash holdings are at the optimal level, any marginal dollar of cash added to the firm’s assets should add one dollar to the firm’s market value (ignoring taxes and the cost to transfer that dollar of cash to shareholders). However, some frictions make this value differ from one for a series of reasons<sup>28</sup>, one of them being the

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<sup>28</sup> For an extensive discussion on this topic, see Faulkender and Wang (2006).

degree of financial leverage. Recently, a number of studies has showed that the level of cash is also associated with other factors such as firm value and firm risk (Opler et al. 1999, Dittmar, Mahrt-Smith, and Servaes 2003, Faulkender and Wang 2006, Harford, Mansi, and Maxwell 2008, Hartzell, Titman, and Twite 2005). Moreover, because firms' financing and investment policies are intimately related to the value of cash, recent empirical studies have focused on determining the moderating effect of corporate governance in the relationship between cash holdings and firm value (Ammann, Oesch, and Schmid 2011, Dittmar and Mahrt-Smith 2007, Pinkowitz, Stulz, and Williamson 2006, Harford, Mansi, and Maxwell 2008, Kalcheva and Lins 2007, Kusunadi 2011, Attig et al. 2013). These studies are based on the argument that cash, the most liquid of all assets, can be used at managers' discretion in value-enhancing or value-destroying activities. As postulated by the agency theory (Jensen and Meckling 1976), managers may misuse corporate resources if no mechanisms of control and monitoring are in place. For this reason, corporate governance is an important determinant factor in the valuation of cash holdings, as it is expected that the same dollar of cash will be invested in value-enhancing activities in well-governed firms but will probably be invested in value destroying activities in poor governance companies.

We argue that investors value investments in ESG practices in a similar way. In other words, since ESG rankings are widely available and a growing number of investors use these scores to make investment decisions, we hypothesize that investments in ESG practices influence the valuation of firms' cash resources. The logic is that by investing in environmental and social initiatives companies are adapting to this new reality where resources are scarce and expensive, customer awareness is a critical factor, and they need to create a competitive advantage to guarantee its survival in the long run. From an investor's perspective, the same dollar of cash should be more valuable when accumulated by firms that invest in ESG practices in an efficient way as compared to firms that inefficiently or disguisedly invest in ESG or that do not invest in ESG practices at all. The "quality" of the investment in ESG initiatives is observable by investors from the ESG scores released by investment research firms. Using ESG scores as a proxy for corporate social performance (CSP) we expect companies with superior CSP to receive a higher valuation of its cash holdings by the market. Our main hypothesis is as follows:

*H<sub>1</sub>: Ceteris paribus, the value of a marginal dollar of cash is positively associated with firms' ESG score.*

Because the ESG rating is an aggregate measure of all three components (environmental, social and governance), some authors suggest that the positive effect of governance on firm value, for example, which is widely described in the literature may be offset by the still unclear effect of environmental investments on value. Therefore, by analyzing the individual effect of each component of the score on firm value gives us a better understanding of the direction of the relationship for each component. The following hypotheses are postulated accordingly:

*H<sub>2</sub>: An extra dollar of cash is more valuable in firms with higher standards of environmental practices.*

*H<sub>3</sub>: An extra dollar of cash is more valuable in firms with higher standards of social practices.*

*H<sub>4</sub>: An extra dollar of cash is more valuable in firms with higher standards of governance.*

## EMPIRICAL METHODS

Our sample is composed by 201 non-financial publicly traded firms listed on the Toronto Stock Exchange (TSE) for which there is at least two years of observations from 2009 to 2012 in the Sustainalytics database (previously known as SiRi Pro and Jantzi Research). To be consistent with the previous literature, banks and financial services firms were excluded from the sample, as the level of their cash reserves is highly regulated. The Sustainalytics database provides data on ESG practices for hundreds of companies around the world, and it is the most important supplier of qualitative analyses of responsible investment in North America and Europe. From Sustainalytics, we use the company scores that is calculated by weighing the different dimensions (environmental, social and governance scores) based on a weighting matrix that includes 160 items including different categories such as business ethics, board characteristics, employees, supply chain, customers, operations, and products and services. The ESG scores range from 0 (worse) to 100 (best). All financial and accounting data was collected annually at the end of each fiscal year from COMPUSTAT.

### Research variables

To measure the effect of ESG practices on the value of cash, we use the model proposed by Faulkender and Wang (2006) and the adaptation proposed by Dittmar and Mahrt-Smith (2007) to include ESG. The excess return for firm  $i$  during year  $t$  less the return of stock's  $i$  benchmark portfolio, as defined by Fama and French (1993), is intended to be the measure of *change in firm value*. The dependent variable is the stock return and the independent variables are the change in cash, both by itself and its interaction with (1) the lag value of cash ( $C_{i,t-1}$ ); (2) the leverage ratio and, (3) the ESG company score. To determine the effect of ESG on the value of cash, we allow for the interaction between the change in cash with the company score, but also with the individual scores (environmental, social and governance). We also include control variables that control for the optimal level of cash (i.e. operating profitability, investment and financing decisions, dividend payout, the level of cash at the beginning of the year and the degree of financial leverage). The dependent variable is the stock's excess return for year  $t$  which is defined as the return of the stock during the calendar year  $t$  less stock's  $i$  benchmark portfolio return during the same period. The benchmark portfolios are formed on size and book-to-market value following Fama and French (1993). The excess return for firm  $i$  is the difference between the benchmark returns for this company's stock and the return of the stock. The dependent variable is calculated by simply subtracting the portfolio return to which stock  $i$  belongs from its realized return during year  $t$ .

Therefore, the main specification used is the model proposed by Faulkender and Wang (2006) adapted to include the interaction between the change in cash and ESG, as follows, which is estimated using panel data fixed effects:

$$\begin{aligned}
 r_{i,t} - R_{i,t}^B = & \gamma_0 + \gamma_1 \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_2 \frac{\Delta E_{i,t}}{M_{i,t-1}} + \gamma_3 \frac{\Delta NA_{i,t}}{M_{i,t-1}} + \gamma_4 \frac{\Delta I_{i,t}}{M_{i,t-1}} + \gamma_5 \frac{\Delta D_{i,t}}{M_{i,t-1}} + \\
 & + \gamma_6 \frac{C_{i,t-1}}{M_{i,t-1}} + \gamma_7 L_{i,t} + \gamma_8 \frac{NF_{i,t}}{M_{i,t-1}} + \gamma_9 \frac{C_{i,t-1}}{M_{i,t-1}} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_{10} L_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \\
 & + \gamma_{11} ESG_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \varepsilon_{i,t}
 \end{aligned}$$

Where  $\Delta X$  indicates a change in  $X$  from year  $t - 1$  to  $t$ . The dependent variable is the excess stock return  $r_{i,t} - R_{i,t}$ , where  $r_{i,t}$  is the stock return during year  $t$  and  $R_{i,t}$  is the benchmark portfolio return (calculated following Fama and French (1993) methodology). The independent variables are:  $M_{i,t}$  is the market value of equity.  $C_{i,t}$  is cash and cash equivalents.  $E_{i,t}$  is earnings before extraordinary items.  $NA_{i,t}$  is net assets (total assets net of cash),  $I_{i,t}$  is interest expenses,  $D_{i,t}$  is dividend payments,  $L_{i,t}$  is  $Debt_{i,t} / (Debt_{i,t} + M_{i,t})$ , to measure leverage and is calculated as total debt (short term debt + long term debt) divided by the sum of total debt plus the market value of equity,  $NF_{i,t}$  is new finance (net cash from financing activities),  $ESG_{i,t}$  is the Sustainalytics company score. The variables are described in Table 3. The other variables control for profitability ( $E_{i,t}$ ), investment ( $NA_{i,t}$ ) and financing ( $I_{i,t}$ ,  $D_{i,t}$ ,  $L_{i,t}$  and  $NF_{i,t}$ ) strategies. The initial prediction is that coefficient  $\gamma_{11}$  (ESG) is positive and statistically significant which means that we expect the interaction between changes in cash and ESG to be statistically significant ( $H_1$ ). The interaction between the change in cash with our measure of CSP is calculated by multiplying the change in cash to the ESG score ( $ESG * \Delta C_i$ ). We expect the interaction of changes in cash with the initial cash level, coefficient  $\gamma_9$  ( $C_{i,t-1}$ ), to be positive and statistically significant since the amount of cash on hand at the beginning of the year is a determinant factor of how much cash is accumulated during the year. The interaction of changes in cash with leverage, coefficients  $\gamma_{10}$  ( $L_{i,t}$ ), is expected to be negative and statistically significant since cash is defined as negative debt as cash increases it should be used to pay back debt. All independent variables (except leverage) are deflated by the lagged market value of equity ( $M_{i,t-1}$ ), therefore we are able to measure the dollar change in the market value of one dollar of cash added to the firm's cash reserves.

Table 1 provides descriptive statistics for sample variables. Panel A shows data on cash and cash equivalents as a percentage of total assets and ESG scores for the sample firms. The average sample firm held around 10% of its assets in the form of cash during the sample period. However, the distribution is highly skewed with the median cash holdings to total assets being around only 5%. Excess return for the median firm is -7.1% and, as expected, the distribution is right-skewed with the mean being -1.8%. Earnings have grown during the sample period, since the average change in earnings is 1.4% (mean 0.3%), an important result considering that our sample period includes the years following the 2008 financial crisis. The average ESG score for the sample firms is 43.74 out of 100, but the median firm has a score of 52.91. It can be observed from the breakdown per dimension that the environmental score has the lowest average (39.75) and the governance score the highest (50.91). Total assets, a proxy for firm size, have increased by 32% from 2009 to 2012 and the average leverage ratio has remained around 21% of total assets for the entire sample period. Panel B reports the industry average for cash and leverage ratios to total assets. Real Estate Investment Trusts (REITs) present the highest leverage ratio and the lowest cash to assets ratio, with Metals and Minerals presenting the highest cash to assets ratio and the lowest leverage ratio.

\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\*

The correlations between research variables (ESG, R&D expenses, stock return, cash and leverage) are provided in Table 2. The correlations among variables are relatively low (all coefficients are below 0.3) which does not raise concerns over multicollinearity. As previous research has pointed out to the endogeneity of CSR and governance, we avoid drawing any conclusions from the analysis of correlations.

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\*

## RESULTS

Table 4 reports the estimated coefficients for different specifications of the model. Column [1] shows the regression coefficients of the model without interactions. This first specification is intended to measure the marginal value of cash for the average firm, and it shows that shareholders value an extra dollar of cash at \$0.79. This value can be compared with the results obtained for the U.S. by Faulkender and Wang (2006) of \$0.75 and Pinkowitz and Williamson (2007), who report an estimate of about \$0.97 on the marginal value of a dollar of cash. If we ignore transaction costs and taxes at the shareholders level, one dollar of cash should add one dollar to firm value. Since our results show a discount being applied to the value of one extra dollar of cash, it indicates that transaction costs are relevant in the Canadian context. In Column [2] we allow for the interaction of cash with the level of cash the firm has on hand in the beginning of the year ( $C_{t-1} * \Delta C_t$ ) and leverage ( $L_t * \Delta C_t$ ). The results of this specification suggest that an extra dollar of cash in a firm with initial cash holdings of 10% of its equity is worth 9.9 cents more than in a firm with only 5% of cash at hand in the beginning of the period. The fact that the coefficient of the interaction term ( $C_{t-1} * \Delta C_t$ ) is positive and statistically significant supports the hypothesis that firms that accumulate cash as a hedging strategy against future shortages of financing (hedging motive) receive a higher market valuation. Similarly, the interaction of cash with leverage ( $L_t * \Delta C_t$ ) shows a positive and statistically significant coefficient, which contradicts our prediction that this coefficient should be negative. The relationship between cash and leverage is complex, as high leverage firms can suffer from two potential problems: the debt overhang problem and the underinvestment problem. These two problems derive from the fact that in high leverage firms the likelihood that shareholders will pocket this extra dollar of cash is lower than in firms with lower levels of financial leverage. Besides, the increased risk of bankruptcy caused by high levels of financial leverage create an incentive for shareholders to increase their required return on that specific stock, reducing its present value. The coefficient on leverage alone (level variable,  $L_t$ ) and on the interaction of leverage with cash ( $L_t * \Delta C_t$ ) are both positive and statistically significant, which indicates a positive association with firm value. If in theory the agency problems between shareholders and debt holders created by financial leverage negatively affect the relationship between leverage and firm value, why are our results showing a positive association? One explanation lies on the context of our study. Our sample covers the period of economic recession of 2009 to 2012, when growth opportunities are scarce and isolated. In this context, financial leverage works as a governance mechanism to discipline managers, as companies with more leverage have less rent available for expropriation. As proposed by Jensen (1986), companies with excess cash that are not subject to the discipline of external financing have increased agency costs. We interpret this result as evidence that, in the current context, shareholders value an extra dollar of cash in firms with higher levels of leverage at a premium. For instance, the same dollar of cash is valued at 3.8 cents higher in a company with 30% leverage ratio than in a company with a leverage ratio of 20%. We use the coefficient of the change in cash and the coefficient of the interactions (leverage and beginning cash) with the change in cash to estimate the marginal value of cash for the average sample firm. The sample means for leverage and beginning cash to equity are 20.9% and 10.4% respectively, therefore, the value of an extra dollar of cash for the average sample company considering the interactions is \$0.62.

Next, we allow for the interaction of cash with CSP, thus Columns [3-6] introduce the interaction between ESG scores and the change in cash. The results indicate that the marginal value of cash is sensitive to firm's CSP. The estimated coefficients of the interactions of cash with the ESG company score ( $ESG_{t-1} * \Delta C_t$ ) and with each dimension of the company score

(environmental, social and governance) are positive and statistically significant (with the exception of the governance score that is positive but not significant). Since we use the change in all variables deflated by the market value of equity, it allows us to measure the market value of a dollar held by the firm. Therefore, the economic interpretation of these coefficients is as follows: considering the sample means for cash, leverage and ESG, for an average firm with cash holdings of 10.4% of equity, financial leverage of 20.9% and average ESG score of 54.48, the marginal value of its cash is valued at \$1.07. However, the same dollar of cash is valued at as high as \$1.13 for companies with higher CSP (companies in the top quartile of the distribution) and at par, \$1.00, for companies with lower ESG standards (companies in the bottom quartile of the distribution).

Our results support the stakeholders theory by showing that the same dollar of cash is more valuable in firms with superior CSP, as opposed to firms with poor CSP. A question that has intrigued scholars and practitioners for the last 40 years is whether investments in corporate social responsibility (CSR) create value. Our results show evidence that investors are paying a premium for stocks of companies that efficiently invest in ESG practices and consequently present higher CSP as measured by the ESG scores. This result supports the resource based view (Barney 1991), as companies that invest in ESG are acquiring competencies and resources that are hard to copy or imitate and that can create a sustainable competitive advantage. It is also corroborated by recent surveys showing that most CEOs believe that investing in CSR is critical for their company's future and its competitive position (MIT Sloan Management Review, 2012).

Columns [4], [5], and [6] report the coefficients for the regressions using the individual scores for the environmental, social and governance dimensions. All three coefficients are positive but only the environmental and social dimensions present statistically significant coefficients, the governance dimension has a positive impact on firm value but it is not statistically significant. The positive effect of governance on firm value is well described in the literature (Gompers, Ishii, and Metrick 2003, Ammann, Oesch, and Schmid 2011, Dittmar and Mahrt-Smith 2007, Harford, Mansi, and Maxwell 2008). However, our results are consistent with the results obtained by other Canadian studies (Gupta, Kennedy, and Weaver 2009, Klein, Shapiro, and Young 2005) that show no significant effect of governance (as measured by a composite index) on long term stock return (Gupta et al., 2009) or on firm value (Klein et al., 2005).

A possible explanation for the absence of a positive relationship (or the absence of statistical significance of such positive association), is that either governance improvements have no information content or the improvement is irrelevant to investors. In which case, corporate governance does not matter to investors, or corporate governance is in equilibrium in that market, thus no effect is observed. Another hypothesis to explain the lack of significance of the governance score coefficient derives from the work of Klapper and Love (2004) and La Porta, Lopez-De-Silanes, Shleifer and Vishny (2000), as they show that the degree of investor protection varies from country to country. In countries with a higher degree of investor protection, where companies are required by law to comply with higher governance standards, investors do not distinguish between companies by their quality of governance but rather by other firm attributes.

Finally, our results corroborate the hypothesis proposed by Myers and Majluf (1984) that financial slack has value when future growth opportunities are present and financing is expensive and unavailable. Our sample covers the years following the financial crisis (2009-2012), which is a period characterized by an economic recession. After 2008, firms have accumulated cash as a hedging strategy against possible future shortages of capital when growth

opportunities become available again, so they do not have to pass up positive NPV projects due to unavailability of cash. We also find evidence to support the transaction costs motive for holding cash, as the sample firms have systematically reduced the payment of dividends (the average change in dividends paid to equity is -0.15% with a standard deviation of 2.64%). It indicates that they prefer to reduce the distribution of cash to shareholders (i.e. via dividends) to raise new capital at a higher cost in the next period.

## **CONCLUSION**

Our objective with this paper was to analyze the effect of CSP on the value of cash holdings, as measured by investments in Environmental, Social and Governance (ESG) practices. Our setting is a sample of 201 Canadian publicly traded firms for the period of 2009-2012. We use the value of cash to gauge the effect of CSP on CFP because cash is the asset that is more vulnerable to potential misuse by managers, for its liquidity and discretionary nature. Moreover, north American firms have accumulated increased amounts of cash in the last decade, with some important economic implications, for instance the amount of cash held by US corporations represent approximately 33% of its Gross Domestic Product (GDP)<sup>29</sup>. Canada experiences a very similar situation with companies holding \$600 billion in cash in 2012, which represents 32% of the Canadian GDP<sup>30</sup>. If companies have accumulated cash in an unprecedented way, it is conceivable to assume that part of this cash will be used for investments in either value-enhancing or value-destroying activities. For this reason, we use ESG scores to measure the “quality” of firms’ investments in ESG practices and ultimately their CSP.

Our results show that the value of an extra dollar of cash accumulated by firms with superior CSP (as measured by the Sustainalytics score) is higher than in forms with low CSP. The same dollar of cash in two otherwise identical firms (both with average cash holdings of 10.4% and average leverage ratio of 20.9%) is valued at a premium of 13 cents in the high CSP firm. These results show evidence to support the stakeholders theory and the resource based view, as companies that accumulate cash to invest in ESG are creating the so-called “good management” and acquiring resources that are unique and hard to imitate, which creates a sustainable competitive advantage. Most importantly, our study reports evidence that the market is paying a premium for companies that invest in ESG initiatives and present superior CSP (rank higher in the ESG scores).

Our study contributes to the literature on the value effects of investments in ESG by showing that the same dollar of cash is more valuable in firms with higher standards of ESG practices than in firms that either have lower ratings or do not invest in these initiatives. This study expands the literature on cash holdings and on corporate social performance by providing empirical evidence on the value shareholders attribute to the marginal value of cash for companies with different standards of ESG practices. Moreover, it shows that in the post-financial crisis context where our study is conducted, investors pay a premium for liquidity, evidence that the benefits of holding cash when future growth prospects are good, capital

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<sup>29</sup> US GDP in 2011 was \$14.99 trillion and cash holdings were estimated at \$4.97 trillion.

<sup>30</sup> RBC Global Asset Management estimate by chief-economist Eric Lascelles  
(<http://www.canadianbusiness.com/economy/dead-money/>)

availability is restricted, and the cost of new issues is expensive, compensate for the agency costs associated with holding higher levels of cash than that of its optimal level.

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**Table 1:** Summary statistics

<b>Panel A. All Sample Firms</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>25<sup>th</sup> percentile</b>	<b>75<sup>th</sup> percentile</b>
Cash/ Total Assets 2009	10.4%	5.5%	14.2%	1.3%	12.3%
Cash/ Total Assets 2012	8.3%	3.6%	11.0%	1.0%	11.4%
Cash/ Total Assets 2009-2012	9.6%	4.8%	12.6%	1.1%	12.9%
Excess return ( $r_{i,t} - R_{i,t}$ ) 2009-2012	-1.8%	-7.1%	74.9%	-27.1%	13.3%
Change in Earnings ( $\Delta E_t$ ) 2009-2012	1.4%	0.3%	31.4%	-2.26%	3.3%
ESG Total Score	54.48	53.67	7.09	49.41	59.62
Environmental Score	50.03	49.58	9.12	43.39	55.94
Social Score	53.70	52.86	8.54	48.30	58.79
Governance Score	62.32	61.70	10.10	55.34	68.91
Total Assets 2009	5,827.4	2,006.6	10,271.8	890.8	4,905.5
Total Assets 2012	7,673.6	2,801.5	13,013.5	1,403.9	7,496.9
Total Assets 2009-2012	6,682.4	2,343.4	11,621.8	1,027.3	5,905.5
Leverage ratio 2009	21.0%	17.7%	17.9%	5.9%	30.3%
Leverage ratio 2012	21.5%	20.0%	15.8%	9.7%	32.1%
Leverage ratio 2009-2012	20.9%	18.9%	16.8%	7.0%	31.9%

<b>Panel B. Industry Average</b>	<b>Leverage/Total Assets</b>	<b>Cash/Total Assets</b>
Metals and Minerals	7.1%	27.1%
Oil and Gas	21.1%	5.6%
Manufacturing	17.0%	9.1%
REITs	41.7%	4.5%
Services	22.2%	7.7%
Utilities	31.9%	4.8%
Food and Beverage	21.6%	6.2%
Retail – Miscellaneous	14.3%	12.5%
Transport	28.1%	8.1%
ITC (Information Technology and Communications)	21.6%	9.8%

*Panel A shows descriptive statistics (mean, median, standard deviation, minimum, and maximum) for total assets and the cash-to-assets ratio. Panel B provides the industry average for total assets and the ratio of cash holdings to total assets (Cash/TA) for the period of 2009-2012.*

**Table 2:** Pearson correlations

	Lag Cash	Excess Return	Lever	ESG score	New Finance
Excess Return	0.1827***				
Lever	0.1208***	0.2019***			
ESG score	-0.0456	-0.1327***	0.0312		
New Finance	-0.0124	0.1755***	-0.0490	-0.1456***	
R&D	0.2219***	0.0113	0.0717**	-0.0125	-0.0181

This table provides Pearson correlations for selected variables used in the study. \*, \*\*, \*\*\* denotes statistical significance at the 10%, 5% and 1% respectively.

**Table 3:** Research variables

Variable	Measure	Code
ESG company score	Company score from Sustainalytics (from 0 to 100)	$ESG_{i,t}$
Cash	Cash and Cash equivalents in year $t$	$C_{i,t}$
Leverage	Total debt / (Total debt + Market value of equity) in year $t$	$L_{i,t}$
Dividends	Dividends paid in year $t$	$D_{i,t}$
Earnings	Earnings before extraordinary items in year $t$	$E_{i,t}$
Interest	Interest expenses in year $t$	$I_{i,t}$
Stock return	Stock annual return	$r_{i,t}$
Portfolio return	Fama and French (1993) benchmark portfolio return	$R_t$
Market capitalization	Stock price times the number of shares outstanding at the end of year $t$	$M_{i,t}$
Net Assets	Total assets net of cash in year $t$	$NA_{i,t}$
New finance	Net cash from financing activities (net new equity issues plus net new debt issues) in year $t$	$NF_{i,t}$

**Table 4: Regression results**

This table presents the return regressions following Faulkender and Wang (2006) and Dittmar and Mahrt-Smith (2007) models. The dependent variable is the firm's excess stock return relative to the portfolio return calculated according to Fama and French (1993). All variables except for  $L_t$  are deflated by the lagged market value of equity ( $M_{t-1}$ ).  $\Delta$  indicates the change from previous year and the panel data fixed effects regressions are estimated on a panel of 201 non-financial Canadian firms listed on the Toronto Stock Exchange from 2009 to 2012. The dependent variables are described in Table 2.  $P$ -values based on robust standard errors are in brackets. \*, \*\*, and \*\*\* means significance at 10%, 5% and 1% levels respectively.

Dependent variable = excess stock return ( $r_{i,t} - R_{i,t}$ )						
	[1]	[2]	[3]	[4]	[5]	[6]
$\Delta C_t$	0.787*** (0.000)	0.322 (0.252)	0.072 (0.816)	0.031 (0.921)	0.093 (0.767)	0.113 (0.716)
$ESG\ score_t * \Delta C_t$			0.013* (0.073)			
$Environmental_t * \Delta C_t$				0.015** (0.039)		
$Social_t * \Delta C_t$					0.012* (0.095)	
$Governance_t * \Delta C_t$						0.010 (0.122)
$\Delta E_t$	0.718*** (0.000)	0.428*** (0.000)	0.389*** (0.001)	0.384*** (0.001)	0.392*** (0.001)	0.395*** (0.000)
$\Delta NA_t$	0.056*** (0.000)	0.103*** (0.004)	0.097*** (0.007)	0.096*** (0.000)	0.098*** (0.006)	0.099*** (0.006)
$\Delta I_t$	-0.023 (0.986)	2.272 (0.129)	1.699 (0.266)	1.669 (0.273)	1.723 (0.261)	1.757 (0.252)
$\Delta RD_t$	-8.169 (0.125)	-8.966* (0.088)	-9.135* (0.081)	-9.172* (0.080)	-9.130* (0.082)	-9.094* (0.083)
$\Delta D_t$	-0.044 (0.965)	-0.231 (0.816)	-0.142 (0.886)	-0.131 (0.895)	-0.149 (0.880)	-0.155 (0.875)
$NF_t$	-0.310*** (0.006)	-0.187 (0.103)	-0.157 (0.175)	-0.149 (0.197)	-0.161 (0.165)	-0.163 (0.160)
$C_{t-1}$	1.820*** (0.000)	1.946*** (0.000)	1.924*** (0.000)	1.917*** (0.000)	1.923*** (0.000)	1.935*** (0.000)
$C_{t-1} * \Delta C_t$		1.985*** (0.005)	2.083*** (0.003)	2.134*** (0.003)	2.065*** (0.004)	2.048*** (0.004)
$L_t$	0.222*** (0.001)	0.131* (0.067)	0.141** (0.049)	0.141** (0.048)	0.140** (0.050)	0.140* (0.051)
$L_t * \Delta C_t$		0.375*** (0.002)	0.383*** (0.002)	0.387*** (0.002)	0.382*** (0.002)	0.381*** (0.002)
<i>Intercept</i>	-0.354*** (0.000)	-0.313*** (0.000)	-0.314*** (0.000)	-0.313*** (0.000)	-0.313*** (0.000)	-0.315*** (0.000)
Observations	804	804	804	804	804	804
R-squared	0.1715	0.1971	0.1960	0.1965	0.1961	0.1954

**ID #674**

**Transaction costs in bank financing for infrastructure in  
Brazil: An exploratory study on attractiveness,  
accessibility, adversity and benignity**

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Frederico Araujo Turolla (ESPM, Brazil)

**Abstract**

*The present study intends to explore the formation of transaction costs in the banking financing operations to the infrastructure, based on the analysis of real contracts and assuming the perspective of the financing conditions for the debtors. To this end, it establishes a structural model to evaluate quantitative data extracted from these contracts. It is also used the bootstrapping technique, for sample expansion, reaching the number of 10,000 samples, from the application Partial Least Squares (Smart PLS). The results suggest situations different from those commonly reported in the literature regarding the sharing of risk among banks, the higher the volume of investments and the conditions for borrowers to improve with multi-bank lending.*

**Keywords:** Infraestructure; Financing; Banking; Transaction Costs.

**Acknowledgments**

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*Track 16 Finance and Accounting*

**ID #710**

**Finance-management from Hitopadesha: The book of good-counsels**

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**Rajeshwari Narendran** (M L Sukhadia University Udaipur, India)

**Abstract**

*The present research-paper entitled “Finance-Management from Hitopadesha: The Book of Good-Counsels” is an attempt to present the concept of finance-management according to Hitopadesha written by Narayan-Panditah. This paper is divided into nine-parts. Firstly, introduction of Hitopadesha and Narayan Pandit; secondly, concept of finance in Hitopadesha; thirdly, concept of nature of man and money; fourthly, phases of money (three-stages of money); fifthly, finance-management practices; sixthly, mal-management of finance acquisition/management; seventhly, mis-management of finance; eighthly, su-management (good-management)/ethics of finance-management; and lastly, conclusion*

**Keywords:** Mal-management of finance-management; mis-management of finance; Daana; Charity; Dharma; Miser..

**Acknowledgments**

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## INTRODUCTION OF HITOPADESHA AND NARAYAN PANDIT

This part of the research-paper presents a detailed-description of introduction of Hitopadesha and about its author Narayan Pandit.

### *Introduction of Hitopadesha*

Hitopadesha (Beneficial-Advice) is one out of the two world-famous fables written in Samskrit-language in ancient-India. According to its author, the purpose of creating the work namely 'Hitopadesha' is two-fold. Firstly, is to increase proficiency in Samskrit-Uktishu (Samskrit-Verses) and secondly, is to encourage the Niti-Vidyam (Knowledge of Wise-Behavior). It consists of fables with both animal and man-characters. It presents the maxims, worldly-wisdom, advices on political-affairs and management in simple and elegant-language.<sup>1</sup> The Hitopadesha is divided into four-parts and has a preface section called Prastavika (Introduction). The first-part is Mitra-Labha (How to Gain a Friend); the second-part is Suhrd-Bheda (How to Lose a Friend); the third-part is Virgaha (War); and the last-part is Sandhi (Peace). There are several-versions of Hitopadesha-text available, though the verses are quite similar. The shortest-version has six hundred and fifty-five verses while the longest-version has seven hundred fourth-nine verses.<sup>2</sup> Hitopadesha is described as an anthology of verses from wide-spread sources relating to State-Craft.<sup>3</sup> The title Hitopadesha is translated in English as the "The Book of Good-Counsels" by Edwin Arnold in 1861.<sup>4</sup> Hitopadesha contains the quotations that are taken from Panch-Tantra. According to Ludwik Stembach, the Panch-Tantra is the primary-source of about seventy-five percent of the Hitopadesha's content, while one-third of its verses can be traced to the Panch-Tantra.<sup>5</sup>

### *Authorship of Hitopadesha*

A very-little is known about the origin of Hitopadesha and the surviving-text is believed to be from the twelfth-century, but it was probably composed by Narayana Pandit between 800-950 CE.<sup>6</sup> The oldest-manuscript of Hitopadesha was found in Nepal and dated to the 14th century. According to the last two-verses of oldest-manuscript of Hitopadesha that is dated 1372 found in Nepal mentions Narayan Pandit as the author and King Dhavala-Chandra as the patron of the text.<sup>7</sup>

Thus, it can be said that Hitopadesha is a classic of fables that speaks about the knowledge of wise-man and is written by Narayan-Panditah.

## CONCEPT OF FINANCE IN HITOPADESHA

Hitopadesha presents both the glory and criticism of money. First-part presents the glory of money and second- part presents the criticism of money.

### *Glory of Money*

Hitopadesha accentuates-upon the notion that in this world, man is supposed to be powerful<sup>8</sup> and **Pandit** (intelligent) by money,<sup>9</sup> and all the endeavors of an unintelligent-man are spoiled without money.<sup>10</sup> Further, it states that "in this world, man who has money, has friends, relatives and he is supposed to be great-man and intelligent.<sup>11</sup> Man who has plenty of money, gets respect even though he is a **Brahampaatak** (murderer).<sup>12</sup> Man without money does not get respect even though he is born in good-clan and has good-conduct; because man without money is abdicated by his own wife too then what to say about others.<sup>13</sup> Thus, Hitopadesha presents the supremacy, power and majesty of money and mentions that it makes one adorable.

### ***Criticism of Money***

According to Great-men, “Aishwarya (wealth, name, fame, success) deforms the **Chitta** (mind).”<sup>14</sup> According to Hitopadesha, “only money is the enough for sorrow.”<sup>15</sup> and “prosperities are the places of **Vipattis** (problems and tensions).”<sup>16</sup> Hitopadesha raises a questions that “Who is the man, who does not have ego after getting the money?”<sup>17</sup> and Who is the man, who does not proud on the money?<sup>18</sup> In answering the question, Hitopadesha asserts that, “that is the property which gives birth to ego.”<sup>19</sup> and money makes everyman to feel proud.<sup>20</sup> Thus, money is the cause of development of ego and proud. Further it comments that man who has proud on his money desires for the thing that is rare; then what to say about those things that are easily available.<sup>21</sup> Ahead, it mentions that without the heat of money, man changes within a few-seconds.<sup>22</sup>

In this way, Hitopadesha presents the concept of finance by presenting both its glory and criticism.

## **CONCEPT OF NATURE OF MAN AND MONEY**

This section presents the notions regarding the nature of man in reference to money.

### ***Nature of Man and Money***

According to Hitopadesha, “every living-being desires for money.”<sup>23</sup> Thus, Hitopadesha presents the universality of desire/wanton of man towards money. Further, it says that “there is no man exists in this world who does not want and desire for **Laxmi** (money); as who is here who does not look at youthful and beautiful women of other’s.”<sup>24</sup> Further, it asserts that “man who is in bliss with the richness is very rare.”<sup>25</sup> According to Hitopadesha, the mentality of being a rich or poor is dependent on the man with whom he is being compared. In this regards, Hitopadesha asserts that “man feels proud and glorified as he looks at those who are poor to him and feels himself poor as he looks at the men those who are richer than him.”<sup>26</sup> In this way, two derivations can be taken from this. Firstly, every man wants money and secondly, no man becomes happy after getting the riches.

### ***Acquisition of Money to Man***

Hitopadesha mentions that money automatically comes to a man who has these following seven-characteristics viz. first, highly-enthusiastic; second, without laziness; third, well-knower of the art of performing the tasks; fourth, free from **Vyasana** (addictions) like gambling; fifth, brave; sixth, grateful; and lastly, having firm-friendship with the friends.<sup>27</sup> Further, it mentions three-characteristics of a man who gets money through the earth continuously, namely, firstly, static in bliss and anger; secondly, having firm-belief in **Shaastras** (sciences); and lastly, highly-affectionate to **Sevak** (servants).<sup>28</sup> Further, commenting upon the need of ethics in money-acquisition Hitopadesha asserts that “Money that cannot be purchased by paying the cost of giving-up of life; that money runs at the doors of homes those who possess the well-knowledge of ethics.”<sup>29</sup> Man who has made great-austerities at some holy-place, his son gets riches.<sup>30</sup>

Money is said to be “the equal to the dust of foot.”<sup>31</sup> Hitopadesha emphasizes upon doing work for earning-money and says that man must believe in the work and says “only that men are not engaged in the work those who think that prosperity and calamity are due to the destiny.”<sup>32</sup> Thus, Hitopadesha presents the superiority of work against destiny towards gaining the money.

According to Hitopadesha, both the industriousness and cleverness is required to get the money. Further, highlighting the importance of industriousness in life of men Hitopadesha asserts that “an industrious-man gets all-types of prosperities automatically”<sup>33</sup> and “a clever-man gets riches.”<sup>34</sup> Apart from the industrious-man and clever-man, fool-man also gets the money. The method of acquisition of money for the fool, according to Hitopadesha is as such, “a fool-man gets best-prosperity with the servicing of intelligent-men; as the tree near the pond’s-water always gets the water.”<sup>35</sup> Thus, Hitopadesha emphasizes on hard-work and knowledge of ethics to achieve the money for industriousness-man, and servicing as a method for fool-man.

### ***Non-Acquisition of Money to Man***

Hitopadesha presents a direct clarion that “money does not want that man who has any-characteristics out of these four-characteristics namely: firstly, non-industrious; second, laziness; third, sitting silently by the belief that, that will happen that is in fate; and lastly, not interested in attaining **Purushartha** (achieving-goals of a man).”<sup>36</sup>

Thus, Hitopadesha speaks about the nature of man in reference to money. Further, it speaks about the man who gets the money and lastly it speaks the man who does not get the money.

### **PHASES OF MONEY (THREE-STAGES OF MONEY)**

According to Hitopadesha, **Daana** (charity), consumption and destruction are the three-stages of money. Highlighting the importance of both charity and consumption, Hitopadesha asks “What is the use of that money, which is neither being used in charity nor being consumed?”<sup>37</sup> Further, it asserts that, “one who neither makes charity nor consumes then its last-stage is destruction.”<sup>38</sup> Now, a brief description of these three-phases is presented:

#### ***Charity***

According to Hitopadesha, “making charity to true-man is the preservation of earned-money as pulling-water out of pond that is completely filled with water is the cause of pond’s purification.”<sup>39</sup> Thus, two-conclusion can be drawn from this: firstly, charity must be made only to true-man then it is the preservation of money; and secondly, the purification of money is made through the charity.

## **Consumption**

According to Hitopadesha, one ought to consume the earned-money in a proper manner but one not to be an over-spender of money. One must consume money in good-things. According to Hitopadesha, when money is spent in these eight-things, then it is not a waste of money, namely: sacrifices, marriages, crisis, destruction of enemies, works that spreads glory, respect of friend, loved-women, and in the poor-relatives.<sup>40</sup> Highlighting the limitation of money, Hitopadesha focuses upon the notion that money is for the consumption for a few-days.<sup>41</sup> Hitopadesha gives a direct-clarion not to become a miser because “the happiness and pleasure of a miser-man comes to an end.”<sup>42</sup>

Collectively highlighting the importance of both charity and consumption of money, Hitopadesha mentions four-things and states that –

- “One who passes his days without charity and consumption, then he is equals to a dead-man even though he breathes; as the Dhokani (Blower) of an iron-smith.”<sup>43</sup>
- Only that money is of yours that is being either used in charity or consumed; otherwise other-men uses/plays with that money after your death.<sup>44</sup>
- One who makes charity to good-men and consumes daily only that money is of yours and remaining money is of others and you only preserve that money.<sup>45</sup>
- Those who are rich with the money that is not being used in charity nor consumed, then are we not rich with that money?<sup>46</sup>

Thus, Hitopadesha emphasizes upon charity and consumption as a best-tool for the cycling of money.

## **Destruction**

According to Hitopadesha, a rich-man always has fear from these five-things as creatures fear from death viz. first, King; second, water; third, fire; fourth, thief; and lastly relatives.<sup>47</sup> A rich-man is a thing/goods of gamblers and thieves; as eagle in the sky, lion in the land and crocodile in water.<sup>48</sup> A rich-man who does not uses his money in the works of Devtaas (Deities), **Brahmanas**, and brothers-relatives; then the money of that miser-man either fired-out or stolen by thieves or taken by the King.<sup>49</sup> Crooked-men make rich-men mal-conductive for the growth of their community.<sup>50</sup>

Thus, Hitopadesha speaks about the three-phases of money and mentions that charity, consumption and destruction are the three stages of money.

## **FINANCE-MANAGEMENT PRACTICES**

Hitopadesha speaks about the two finance-management practices. First is the collection of money and second is the profit-maximization.

### **Collection of Money**

Hitopadesha accentuates-upon collection of money by stating that an intelligent-man ought to think like this before money-collection that – “I will never grow-old and will never die.”<sup>51</sup> So, this must be the mentality that a man must have before initiating the collection of money. Hitopadesha presents the method for collection of money, “as the pitcher fills with the every-drop of water, the same-case is that of money.”<sup>52</sup> It means as drops fills the pitcher, man ought to collect money in such a way slightly-slightly. Further, it asserts that “man ought to collect

money daily but not in extremes.”<sup>53</sup> Here, it is important to note that Hitopadesha stresses on collection of money daily but not in extremes. Further, it adds that “those men who collect money by giving-up their **Sukha** (happiness); they ultimately get sorrow/pain/tribulation same as the laborers who bear the burden for others.”<sup>54</sup> Thus, four-things can be said about the collection of money: firstly, man must collect money slightly; secondly, money must be collected in a regular-manner; thirdly, money ought not to be collected in extremes, fourthly, never collect money by giving-up of desires.

### ***Profit-Maximization***

Hitopadesha speaks about the profit- maximization. This section is divided into two-parts. First-part presents the guideline for the profit-maximization for man (individual) and second part presents guideline for profit-maximization for organizations.

*(a) Guideline for profit-maximization for man:* Highlighting the supremacy of profit-maximization, Hitopadesha states that gaining of daily-profit is one out of the six-happiness of the world.<sup>55</sup> Further, commenting upon the importance of profit-maximization, it asserts that, one ought to worry about the profit-maximization because acquisition of money is very-difficult, if one gets then its preservation is always painful; and loss of acquainted-money equals to death.<sup>56</sup> Emphasizing upon the importance of profit-maximization Hitopadesha asserts that “without thinking about profit-maximization, a man whether who is as rich as **Kuber** (God of Money) becomes penny-less if he spends money rapidly without thinking according to his desires only.”<sup>57</sup> Hitopadesha present the notion that knowledge should be the basis of profit-maximization. **Vidya** (Knowledge) that leads towards profit-maximization is one of the happiness of world.<sup>58</sup>

Hitopadesha presents the notion that man ought not to be satisfied with the little-bit of money because, when “a man who becomes happy only with his little-prosperity; then the **Vidhaata** (God) does not raise the prosperity of that man.”<sup>59</sup> Further, it asserts that “a well-knower of ethics whether trade or business here and there, but he gets only that profit that has been written by Vidhaata.”<sup>60</sup> Criticizing the man those who are not interested in the profit-maximization, Hitopadesha asserts that, “he is equals to the urine and toilet of his/her mother.”<sup>61</sup>

*(b) Guideline for profit-maximization for organizations:* Emphasizing upon the nature, importance, role and officials of treasury Hitopadesha asserts that, “assuredly, that minister is best, who increases the **Kosha** (treasury) because a treasury-ful King is not alive due to his vital-air but because of his treasury. So, a King must pay critical-attention towards his treasury.”<sup>62</sup> Further, it asserts that treasury must be there where King resides. According to Hitopadesha, “any organization that is established and founded on the solid-basis of money and respect results into profit.”<sup>63</sup> Thus, Hitopadesha concludes that, in organization only those officials should be appointed in the terms of finance those who can raise the profit for the organization; and that both money and respect are essential for the profit-maximization for organizations.

## **MAL-MANAGEMENT OF FINANCE ACQUISITION/MANAGEMENT**

The term mal-management refers to the wrong-management, bad-management and improper-management. This portion of the paper is divided into three-parts namely, firstly, ill-practices of money; secondly, debt-planning and begging for money.

### ***Ill-Practices of Money***

Hitopadesha mentions four ill-practices/addictions of money viz. first, over-spending; second, not to desire for money; third, collect the money with injustice; fourth, take-away money of someone by unjust/improper/illegal-means.<sup>64</sup>

### ***Debt-Planning***

Hitopadesha criticizes debt. According to Hitopadesha, having good-food is one the happiness of the world but it states that “having delicious-food with the money of debt is not a real-happiness.”<sup>65</sup> It asserts that a debt-ful father is an enemy of his children.<sup>66</sup> Thus, Hitopadesha criticizes debt and declares debtors as the enemy of his own family-members. Further, it accentuates-upon the notion that the “true-behavior and nature of man is recognized at the time of debt.”<sup>67</sup>

### ***Begging for Money***

Hitopadesha gives a direct clarion that man ought not to beg others for money and asserts that “begging for money kidnaps hundreds of good-qualities and virtues of the concern.”<sup>68</sup> Further, it asserts that “it is not a difficult-task to make fraud with a beggar of money.”<sup>69</sup> Out of this, it can be said that due to these two reasons begging must be prohibited firstly, when a man begs he surrenders himself completely to the concern; secondly, it raises the fraud and forgery at every-level.

Thus, Hitopadesha present the wrong management of finance acquisition/management. It mentions one ought to neither take debt nor beg for money. Out of this, it can be said that debt and begging, these two are the wrong-method of money-acquisition.

## **MIS-MANAGEMENT OF FINANCE**

The term mis-management refers to the absence of management. When the managing thing is not present means when thing is not available is said to the mis-management. The collective term mis-management of finance means: when the finance is missing in finance-management. It means what to manage in finance-management when the finance is missing or absent. The situation when there is no money is termed as poverty and the concern is said to be the poor. Hitopadesha speaks about the poverty and presents the method for its complete eradication

### ***Poverty***

Defining poverty, Hitopadesha asserts that it is the centre of emptiness; it means it is free from every happiness.<sup>70</sup> Criticizing poverty, Hitopadesha states that, “man who is born in the moon-like pious-family/clan gets insulted due to poverty.”<sup>71</sup> Further, commenting upon the poverty, Hitopadesha mentions that “a hungry-woman gives-up her own-son, a hungry female-serpent eats her own eggs. O Hunger! Leads to various sins; because men residing in absence are without compassion.”<sup>72</sup>

According to Hitopadesha poverty is a vicious-circle which ultimately leads to the destruction. “Poverty causes shame; shame destroys the Parakrama (Power, Valor and Heroism); without Parakrama one gets insult; insult initiates sorrow; sorrow results into tribulation, tribulation weakens intelligence and without intelligence one gets perished away. So, Poverty is the root-cause of **Aapatis** (problems, tensions).<sup>73</sup>

Hitopadesha gives a direct-clarion that “it is better to live under the trees of forest with the lions and elephants; eating the fruits that are found in forest; and sleeping under the grass-bed but it

is not good to live without money among the brothers.”<sup>74</sup> Hitopadesha compares poverty with the death and says that “out of poverty and death, poverty is more harmful and bad, because death gives tribulations for a short-time and poverty always gives tribulations.”<sup>75</sup> Thus, poverty begets unhappiness and tribulations. Further, it asserts that “it is good for a penny-less man to pour himself into the fire.”<sup>76</sup>

### ***Method to Eliminating the Poverty***

Hitopadesha presents a very distinct notion regarding eliminating the poverty by stating that “not to give money to the rich-men but that money should be used in looking-after/welfare of the poor-people because medicine is beneficial to the patient not to a healthy-man.”<sup>77</sup>

Thus, Hitopadesha speaks about the poverty and its complete eradication.

## **SU-MANAGEMENT (GOOD-MANAGEMENT)/ETHICS OF FINANCE-MANAGEMENT**

The term su-management means good-management, proper-management and right-management. The term su-management of finance management means what type of finance-management will be good, proper and right. This section is divided into two-parts. First-part presents the Su- management/ethics of finance-management for man and second-part is the guideline to the top-management regarding su-management of finance-management

### ***Su-Management of Finance-Management for Man***

Highlighting the importance of ethics Hitopadesha asserts that “ethics destructs every type of aapatti, and non-ethics destructs the highly increased prosperities.”<sup>78</sup> According to Hitopadesha, “one who wants money for the sake of **Dharma** (righteousness); he ought not to desire for money, because it is best not to touch mud from distance than washing after touching it.”<sup>79</sup> Hitopadesha presents four-fold method for the ethics of finance-management – “desiring the money not yet earned, safe-guarding the earned-money from destruction like stealing; increasing the safeguarded money through businesses; then the earned-money ought to be donated (Charity) in a proper-manner.”<sup>80</sup>

Hitopadesha not only emphasizes on ethics but also on bravery to get prosperities because “not only the brave-man (who without thinking about good and bad) but also the man who is not able to sort-out his problems (**Upaya**) does not get more prosperity because all of the prosperities resides there where ethics and bravery resides.”<sup>81</sup> Further, Hitopadesha emphasizes upon not to become greedy about money because the Dharma (righteousness) of a greedy-man perishes away.<sup>82</sup> One ought not to behave in wrong-manner when he gets the high-riches because harshness and wrong-behavior destroys the money as the old=age perishes the beauty.<sup>83</sup> A Panditah (intelligent-man) ought to give-up his money and even his life too for the **Paropkar** (welfare of others) because death is inevitable. So, it is better to die for the sake of good-actions and good-men.<sup>84</sup>

### ***Guideline to the top-management regarding Su-Management of Finance-Management***

Hitopadesha presents these five guidelines and clarions to the top-management of any organization that

- A King ought to kill his own father, brother or friend if anyone out of them want to kill him.<sup>85</sup>

- A King who gives complete authority to a single-minister over his money, gets sorrow and pain when that minister either dies or involves in calamities like a blind-man cannot move independently.<sup>86</sup>
- Laxmi does not give-up that king who takes back even a single-penny by considering it as thousands that is about to be used in bad-path and gives crores at the proper-time for the expense.<sup>87</sup>
- Laxmi serves both king and minister as they more development, then Laxmi chooses one out of them due to her's feminine-characteristics of not bearing the burden of both of them.<sup>88</sup>
- Laxmi serves that man whoever resides in the eyes of king then whether that is – son of king, ministers of king or a common-man.<sup>89</sup>

Thus, Hitopadesha presents the good management of finance-management both for individual and society.

## CONCLUSION

Out of the above-mentioned description, it can be said that Hitopadesha presents both the glory and criticism of money. Money is glorified because it is powerful and is criticized because it develops the ego. Further, regarding the relation between man and money, it is said that every-man wants and desires for money. Hitopadesha emphasizes on ethics and morality in achieving money. It emphasizes on the role of hard-work and industriousness and rejects the role of destiny and luck in achieving money. As well as, it emphasizes on the personal-values to achieve the money. After achieving the money, man ought to spend the earned-money in a proper manner but gives a clarion that man ought not to be an over-spender. Hitopadesha gives two clarions that one ought not to be miser and greedy of money. Because when a man becomes miser then he blocks his own happiness and when he becomes greedy, he destroys his own-Dharma. During achieving the money, man ought to neither beg for money nor become debtful. With the remaining money, man must try to maximize it through the trade. Thus, Hitopadesha emphasizes on profit-maximization but gives two clarions. First is that: profit ought not to be maximized through wrong, bad, improper and illegal means. Secondly, one ought not to be satisfied with the earned profit. Hitopadesha presents guidelines for both individuals and organizations to maximize their profit. Hitopadesha criticizes poverty and presents a very different model to sort the problem of poverty. Lastly, Hitopadesha presents the model for good-management of finance-management.

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## **Track 17**

# ***Human Resource Management & Organizational Behavior for Social and Business Development***

*Track 17 Human Resource Management & Organizational Behavior for Social and Business Development*

**ID #550**

## **Family succession: Gender relations in a food distribution company in southern Brazil**

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### **Abstract**

*Succession in family businesses is both common and delicate because it involves family members. According to data from Sebrae (2015), in Brazil, the southern region has the highest proportion (60%) of these firms in the country's business reality, representing a considerable percentage in the state economy. Many of these organizations are run by women who have inherited the management of their parents, or who are involved in the daily life of these companies. In this context, this study aims to identify gender relations in the succession process of a family-owned food distributor. Methodologically it is a research with qualitative approach and exploratory-descriptive character. The empirical material was collected through semi-structured interviews and for data analysis, four thematic axes were defined that were contemplated in the script of the interviews: preparation for succession; family succession, gender in family succession and vision of the employees in the management of the successor and successors. The content obtained in the interviews was analyzed based on the theoretical basis and could thus confront the theory with the reality of the studied company, being possible to reach the central objective of this study. The results evidenced that the company under study is in the second and with members of the third generation in the succession process. The process of governance was initiated with external consultants, but due to health problems of the president the firm stopped the process. The company has statute, and holds council meetings bimonthly with an external member, but also part of the family. According to the business and culture of the wholesale sector, the male figure is still preponderant to take the place of what happened. The interviewed employees, trust in the current management of the successors, but if they could choose, they preferred the previous management of greater collection and of entrepreneurial vision of the happened one.*

**Keywords:** Family business; Succession; Gender.

### **Acknowledgments**

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## INTRODUCTION

Family-owned enterprises are the subject of studies and discussions in the academic world, due to their representativeness in the Brazilian economy, and also because they influence productivity and employability, having a strong influence and contributing to the development of the country. (Freitas, Barth, 2012).

Family businesses, for national economies, are considered one of the most important types of business (Ayranci, 2014; Hiebl et al., 2015; Beuren et al., 2016). In the Brazilian scenario, according to *Family Firm Institute* (2015), 90% of the private companies are family owned, accounting for 85% of the jobs generated and 50% of the Gross Domestic Product (GNP) and 85% of the jobs generated. They differ from other companies because they have a base of family involvement in the conduct of business (Donckels; Frochich, 1991; Chua et al., 1999; Shyu, 2011).

For a company to be considered familiar, it usually occurs with the second generation of successors, that is, while the company is in the hands of the founder it is only a personal business. (Donneley, 1967; Lodi, 1998).

Family businesses have qualities such as values, loyalty among employees, shared goals, and a list of challenges for their internal processes. The process of changing a conservative culture, the qualification of successors, and the process of succession, creates doubts and insecurity in Brazilian family businesses. These doubts are often perceived by the employees themselves who are part of the organizational context. In this sense, its peculiar characteristics significantly influence the objectives of the company and the implemented strategies (Chua, Chrisman, Sharma, 1999; Erbetta, et al., 2013; Hiebl, et al., 2015), distinguishing them from non-family businesses.

Grisci e Velloso (2014) say that when best practices in family businesses are implemented, the trust and credibility of shareholders and the market in relation to the company are increased, generating value, increasing transparency in ownership and management relationships, and reducing conflicts. In this line of thinking, Roth et al, (2017) emphasize that the risk factor can be mitigated, bringing a tool of renewal and strengthening to the company when the processes work in an appropriate and professional way.

Some strategies like early planning can lead to better results. Vaccari and Beuren (2017), warn that in order to ensure the longevity of family businesses and to present competitiveness, it is necessary to promote changes and innovations in structural composition, organization of processes and professionalization, as well as planning succession.

The issue of succession has been researched by different approaches becoming one of the main focuses of study, because there are still gaps in the understanding and interpretation of the field of family succession. (Petry; Nascimento, 2009).

In family business management, it is necessary to consider the interconnection of the family vs. company dimensions. This is also reflected in the gender inequality in the succession process. (Carrieri, et al. 2008). Even men and women occupying similar positions within family enterprises at equal hierarchical levels, female gender bias is still observed in certain organizations. (Teston; Filippim, 2016). In this respect, a research gap perceived by Vaccari and Beuren (2017) concerns women in leadership positions, especially at strategic levels of family firms.

This paper deals with the topic of family organizations and the process of succession and aims to identify gender relations in the succession process of a family food distributor.

For the empirical consolidation of the research, a study was carried out in a family business in the wholesale / distributor branch of the state of Santa Catarina / Brazil, in which the succession preparation, the gender question, and the perception of the employees of the (father / president), and successors (children / (directors)).

To meet the objective of the study, a qualitative approach was chosen, performing four in-depth interviews. Participants in the survey were members of the business family, including the younger successor, the oldest successor; as well as a manager who has been working for more than 20 years in the company and another for more than 25 years in the company. It is noteworthy that all interviewees participated in the succession process.

Besides this introduction, the work is composed of theoretical reference, which deals with family businesses, family succession and the gender issue in family succession. Following is the methodology and data analysis. From this point on the four thematic axes included in the interview scripts: preparation for succession, family succession, gender in the family succession and vision of the employees in the management of the successor and successors. Finally, we present the final considerations and the theoretical reference used in the research.

## **THEORETICAL REFERENCE**

This section deals with the theoretical foundations on which research is based.

### ***Family businesses***

Family businesses are defined by various national and international authors, such as those initiated by a family member; who has family members participating in the property or direction, and who has succession tied to the hereditary factor. (Martins, 1981; Bernhoeft, 1989; Leone, 1992; Lodi, 1993; Ultich, 1997; Gonçalves, 2000; Bornholdt, 2005).

A family business according to Barry (1975, p. 24), "is one that, in practice, is controlled by members of a single family. " Many definitions of family businesses stand out in context, which is one that has members belonging to a single family in the management of the business. Authors relevant to the area, such as Gersick et al., (1997), Lodi (1998), Chrisman, Chua e Steier (2003) e Davel, Silva e Fischer (2000), present different definitions on the subject, and each one takes into account different criteria to contextualize family business.

The concept of a family business, according to Lodi (1998), would be born with the second generation of heirs, because for the author, while in the hands of the founder, it is only a personal business. Family businesses began to be studied by experts from 1960 onwards. In the beginning the business and the family were analyzed as two subsystems. (Gersick et al., 1997).

In the early 1980s, studies proposed the three-family family business model. The subsystem of ownership of the capital of the company, the family and the company. In this model there are three independents but overlapping subsystems: management, property and family. (Gersick, et al, 1997).

Other authors, such as Chua et al. (1999) establish a definition of a more complete family business, such as that type of firm controlled and directed with a business vision established by members of a family, that is, associating to a succession strand. This understanding quoted

above by Bernhoeft (1989); Lodi (1998), has a broader definition. The authors conceptualize the family companies presenting characteristics involving the second generation of leaders.

For Lodi (1987), in Brazil, family businesses are no more than the third or fourth generation. Their survival depends on the ability of the family to manage their relationships, so the longevity of family businesses has been questioned by some authors.

### ***Family succession***

For the company to be considered familiar, it is emphasized the need for the family to stay for at least two generations. (Lodi, 1998). Therefore, succession is a delicate and significant process in the life cycle of organizations. According Costa et al., (2015), to have competent successors in executive positions, is a complex factor, mainly to keep the family business between generations, is even more challenging.

It is important that a planned and adequate process of succession is carried out, so that it does not compromise continuity and may bring some risk with the inefficiency of the process. (Oliveira, 1999; Duarte; Oliveira, 2010). “The consequence of the unpreparedness of the inheritance process may endanger the stability of the company by leaving both the company and families vulnerable to any type of risk”. (Batista et al., p. 66, 2015).

Even if there are several factors, Farington et al. (2012), the lack of planning is the main interference in the cause of family business failure. The level of complexity for succession may vary from company to company, depending on the characteristics and structure of each organization. (Oliveira, 2006).

Selecting a successor in the process is a challenge, especially when the family has more children. It is necessary the maturity of the father and the acceptance of the children, in view of the affective ties, it is interesting that there is no dispute of power. (Desordi; Frantz, 2012; Grzybovski et al., 2012). It is important that the successor is willing to carry out the process, and integrated with the objectives of the company (Sharma et al., 2012).

Leone (2012), affirms that the success will follow the management model of the successor, considered for the members of the family as a preponderant factor for longevity of the firm. It is essential to establish processes in succession such as: a) a structured development program for heirs; b) strategies for the moment of succession; c) structure governance body; d) policy of family membership; etc. (Cheng et al., 2014).

Simon et al. (2012); Bornholdt, (2014), emphasize that one of the sources of success in the process of family succession, ensuring business sustainability is having clear and objective values. The dimensions that characterize a successful sequence according to Vozikis et al. (2009), is the effectiveness of the process and how it impacts the performance of the family business, and especially the satisfaction of the peers involved.

### ***Gender issue in family succession***

The issue of gender is the subject of studies in the process of succession. In family businesses, men and women may find themselves at the forefront of business, but in the moment of representation and / or management of firms there may be some differences (Machado, 2003).

According to Barbieri (1997), women are pressured and prejudiced when they are conducting business, and in family businesses, discrimination against women is evident. There are still some barriers to the inclusion of women in the management of family businesses. (Jimenez,

2009, Machado, Wetzel and Rodrigues, 2008). Some impediments prevent the female gender from moving forward (Machado; Silveira; Gouvea, 2008).

The role of women, according to Hamilton (2006), is not only little researched, but that empirical studies often present it assuming stereotyped roles in relation to the family business. The discourses present in the literature of the area, reinforce the figure of the male gender, rendering women invisible in this process. (Hamilton, 2006). Women are not commonly considered successors, regardless of their competence or preparation, except in crisis situations or in the absence of male successors. (Haberman Danes, 2007).

Women face discriminatory practices in society that, for Jimenez (2009), often prevent them from assuming positions of responsibility. Both socially and organizationally, some factors restrict women's access to the labor market, or make it more time-consuming. Sometimes women's activities are restricted to certain market segments, and may affect their motivation to pursue a professional career. (Jimenez, 2009).

In the family context, it is possible to observe the social roles to be played by men and women in relation to the business and the family. Thus, the son man should prepare to assume the role of the founder and give continuity to the company. And women were discouraged from pursuing a career with the company, and are often seen to care for their children and the home, reinforcing the traditional female stereotype still present in society. (Albuquerque, 2014).

Ahrenset et al. (2015) conducted a study comprising 804 successors in German family firms in the period of 2002 and 2008. The authors sought to understand how the issue of gender in the succession process is perceived. It was evidenced that entrepreneurs of family organizations seem to have a preference for male successors when it comes to taking over the family business. The authors also identified that if male and female genders are present among the children of the founders, the successor to the male family is chosen on average 81,2%.

In the study by Santos et al. (2017), it is possible to evidence the process of succession in a family-run real estate company led by women, and that the gender issue did not influence the choice of successor, since ownership and family are separated and legitimized in the organization studied. However, the succession process was not planned in advance, and the successor in process did not show sufficient preparation to manage the company alone.

However, the research by Vasconcelos et al. (2017), regarding the gender issue, the successor women participating in the study report the feeling that there is a difference and this is evidenced, mainly, in the need to prove their abilities, both for men and for society generally. For successors, this fact would not occur if they were men.

## **MATERIAL AND METHOD**

The present study had as reference the assumptions of the qualitative approach. According to Bauer (2002), the qualitative approach seeks to discover how the notions settle, the quality of the interactive processes and how a singular fact can acquire relevance in relation to the broader contexts. "Qualitative research is multi-method par excellence and uses a variety of sources of information". (Godoi et al. 2010, p. 133).

The work is characterized as a case study, which for Alvez-Mazzotti (2006), the most common are those that focus only on an institution or a small group. For the mentioned author, the qualitative case study establishes an investigation of a specific place, located in some context, using several sources of data, offering a holistic view of the phenomenon analyzed. According

to Godoi et al. (2010, p.116), it has been widely used in corporate studies, "to identify the types and strategies of qualitative research used in organizational studies." According to the authors cited, the case study must be situated in a particular circumstance, whose importance comes from what it reveals about the phenomenon under investigation.

The qualitative strategy used is similar to that mentioned by Merriam (1998), since it was a small sample not chosen at random, conforming a flexible design of the research, with obtaining of primary data to develop comprehensive and descriptive conclusions. Thus, the empirical material was obtained through semi-structured interviews, which were recorded and later transcribed for analysis. Godoi et al. (2010) contextualize that, the use of the recording is recommended because it registers oral expressions, however, it must only occur with previous authorization of the interviewees. According to the same authors, to supplement the recording, it is necessary to make records through notes during and after the interview. Prior to the recordings, the respondents were explained to the research objectives and asked to sign the informed consent form.

Fieldwork developed in a private family business, located in the coastal region of the state of Santa Catarina, on 18, 27, 28 December 2018 and 30 January 2019. The justification for choosing the organization was given by: a) convenience, because one of the researchers is part of the staff of the organization studied; b) by the objective of the research, to have gone through at least one process of succession, since, according to the literature in past successions from father to son; c) the successor is a member of the family; and d) the subjects' willingness to participate in the research.

The research participants were members of the business family, including the younger successor, the oldest successor, as well as a manager who has worked for more than 20 years in the company and another who has worked for more than 25 years in the company. It is noteworthy that all interviewees participated in the succession process.

The treatment of the data was based on principles of the qualitative research, marked by indicatives of the content analysis. For Bardin (2004) it consists of a set of techniques of analysis of the communications that aims to obtain indicators through systematic procedures and objectives of description of the content of the messages for the inference of knowledge regarding the conditions of the generation of these messages.

## **DATA ANALYSIS**

In the qualitative research, in the data classification phase, Oliveira (2007) points out that empirical categories are defined, which originate from the topics of the interviews and from each question elaborated and applied in field research. According to the author, the answers obtained must be classified carefully, observing the similar or convergent answers to define the units of analysis that are worked in the light of the theoretical reference.

As can be seen, the highlighted theoretical assumptions are converted into categories of analysis. These categories are the condensed and delimited essence of the theoretical observations, previously scaled in their respective analyzes.

Thus, to analyze the data, four thematic axes were defined that were contemplated in the script of the semi-structured interviews. These dimensions were configured as guides for the reflection on the process of family succession which are: preparation for succession; family succession, gender in family succession and vision of the employees in the management of the

successor and successors. It should be emphasized that in this article we chose to situate the interviewees' speeches on the theoretical aspects addressed in the research and, for organizational purposes, the interviewees were identified as: F1 (successor one - younger son); F2 (successor two - eldest daughter); E1 (one employee - 26 years working in the company); E2 (employee two - 22 years working in the company).

### **Company History**

The organization under study is wholesaler and distributor and is located on the coast of the state of Santa Catarina. Founded in 1967, throughout its history, it has accumulated important achievements, going from a small wholesale of sweets, to a representative company in the branch of activity. Currently, it has an infrastructure that guarantees ample storage capacity and an advanced logistics system.

The food distribution company is family owned, currently run by members of the second generation, i.e. four children, two women and two men; and members of the third generation are part of the staff. Because of his 82 years, and due to health problems, what happened, still signs the company's documents, but decisions are made by the successors.

### **Preparation for succession**

The dream of the successor has always been to work with sales and have a food company. According to F1 talk the company was growing, *"...the father sold, bought and sold, the mother stayed inside, took care of the financial part, the service, etc. So all four children were raised within the company"*.

Therefore, there was no separation, that is, the family history is confused with that of the company, and vice versa *"...I was born within the company, I think it does not have a junction, I think when we started people was already in the company, "everything was inside ..., the company within the family, and the family within the company, I imagine, that there was no separation".(F2)*

In 1992 there was a divergence of suppliers and the company had to be split, that is, another company was created. The youngest son was emancipated to run the new company, because the elder son already worked in the commercial area of the other company, with the father (succeeding) managing and managing everything. *"We did not command anything, had no command of anything, was the father who ruled in everything, the financier, who was, let's say, the right arm was a trustworthy official". (F1)*

Carrieri, et al (2008), emphasize that in the management of family businesses it is necessary to consider the interface of the family and company dimensions, which is also reflected in gender inequality in the succession line.

Currently the company is run by four children of the same family, in which the story is initiated by the founder (F0), who keeps operationally away, however, maintains the title of president and still signs for the company. The succession process happens when there is the capacity of the successor to pass on your knowledge, and the successor to receive it. (Weismeier-Sammer; Hatak, 2014).

The children are two men who are focused on the commercial area and two women who are responsible for the financial area and decisions are taken jointly in relation to the company strategies. Some grandchildren who are part of the third generation work operationally in the company as employees, or by providing outsourced services.

The company is structured with statute of succession established, however, does not count on any outsourced support in the process of family succession. We can compare the statute as a set of elaborate and detailed rules, as Geertz's (1989) studies are written and passed from generation to generation.

*"We have the status of our family, we have meetings every two months, only the parents and the four directors (children), always accompanied by the lawyer who is a member of the family. There is a nephew within the company he is working for, now he has an interest in doing an internship outside the firm to get to know and 'catch up' a bit to see a different market. At first this is, well organized, just need to run". (F1)*

*"We've had our family document for a long time. We did the statute just so as not to enter everyone, not to become a job hanger ... So, it was done this very right statute, not to give confusion, as it has been sibling, and my ex-husband also worked here and did not work, has to have competence for such ... That was agreed between us that no one was going to enter ... So you have to want to stay here, and not have that dream of the founder, we do not have this claw of the founder, because he is a Pathfinder. So, we got the thing done the way it was and adjusted to what we believe it has to be. We made many mistakes; some things are going well. But the new generation has less of that connection with the dream of the founder. And it's another culture, which is different from ours ... " (F2)*

According to Bhabha (1998, p. 240) "culture moves forward to create a symbolic textually, to give the alienating quotidian an aura of individuality, a promise of pleasure." For Geertz (1989), the culture of a people is a set of texts and both societies and lives, have their own interpretations.

### **Family succession**

The process of family succession in the company under study had its beginning through a consultancy. For Lodi (1987), bringing together the heirs and dealing with the subject succession demonstrates the ability of good management. The successor sought the support of a professional from the state of Paraná to identify the competence of each of the children. *"My father at the time already thought, 'We had to do tests, a lot of things like that.' We would go out to lunch with the consultants, they would meet each of us. But it did not give much time, soon after it gave problem with the father. Then we had to take it in stride ". (F1)*

When everything was moving towards the process of identifying the competencies of the successors, unfortunately the consultancy remained for a short time in the company, because what happened had health problems in the middle of 1998. *"His father infuriated ... he almost died. Then he had to have a breast, saphenous. " (F1) "We had that process of family succession in progress, that's when it happened that the father was bad, and we took a sudden turn". (F2)*

As a researcher and member of the company, it is possible to identify that there was planning for the family succession, however, a health incident occurred with the President. One of the problems in the process of succession is the founder. Often it cannot disassociate itself from the company, even though the succession process has occurred. Therefore, planning is important so that there are no problems in the transition process (BUANG; GANEFRI; SIDEK, 2013).

Even though they were working in the company, the children (successors) were not professionally prepared, they worked operationally. And with the sudden infarction of the father, they had to immediately take control and make the decisions of the company. *"At first no one saw us as owner of anything, we were the owner's children. So, my brother already saw a lot and wanted to change. We started to see the process, to understand the process, because*

*... me and my sister knew about the financial part, my younger brother knew the commercial part, deposit, he was already connected because he was looser, he was not stuck at work. My other brother was shopping, there in the commercial, and of course, he saw everything there with his father, his father deciding, doing things and such. And I was not, I was in credit and collection, and there I stayed, my father never shared anything and never called to decide anything". (F1)*

For Miranda et al. (2013), women in front of executive functions often encounter asymmetries of power due to their status as a woman and the prejudice of being a manager of a company.

As the successors were very young at the time, and had to take over management on a full-time and tax basis, they did not gain experience in other companies. Until the departure from the happened, the company worked of informal way. The children, when they suddenly took over, had to organize themselves. *"We sort of got caught up and started to get together, to see how he was going to do it, how he was going to do it". (F1)*

Upon returning from the period of sick leave, the successor perceived great changes generated by the successors, as Lodi (1987) affirms, the process of succession goes through crises between members and periods of time. *"Then the father had depression. I know we changed a lot of things, and even an uncle at the time was very upset. " (F1) "When the father came back he was shocked because there were already people doing many things he did, like buying trucks, there was already, someone doing. He felt this thump a little because he was not 100% more in the process, he was not 100% right anymore. From the screw, the purchase of the truck, had to be with it. If he were going to buy a nail, he had to get it in his hand." (F2)*

There was another withdrawal moment, practically 10 years after the first health incident occurred, it was at this moment that the children had to assume definitively. *"Gradually we assumed, because, after 10 years had a heart attack on him again, there put a stent and another long period of separation, then it was already with us, we had to assume". (F1)*

This change in management was even perceived as can be observed in the reports of the employees interviewed. *"...the management was the president, after a while, the administration began to change, when the two children came. Everything that the president did, they were together, the children took something from their father in the administration. Then in time they began to command, to know all the steps that the father did. And the president has, in time, been moving away and today the children are touching the company "(E1). "... after a few years, when there was a health problem, the children began to run the company, because when the president started, they were very young, very young, so they came in the footsteps of their father" (E2).*

In the idealization of what happened, who would take over the business would be the eldest son, according to the two brothers interviewed *"he has always been more dashing, with this going after developments for the company, of going after technology, so he kind of headed to be our president ". (F2)* Schröder et al. (2011), when analyzing a sample of 106 family-owned companies, identified in the same way as the interviewees mentioned above, the paternal preference for men to take over the management of their family businesses.

They also consider that at no time of the day was it thought of an outside professional. At present they have even considered the possibility of a professional who is not a member of the family. *"Thought it was, but we never had the person, ... in the family business is not easy to have a person like that, because we want you to think like family, and think just as we think*

*here, this is not easy, we still have this will to have someone else is complicated because of our manias, our culture. (F2)*

For Geertz (1989), whatever the level at which it operates, there are forms of different cultures, and can even compare in order to make some definition, but it is necessary to discover access to these cultures.

*Already in the perception of one of the employees interviewed, believed that the management of the company under study would be by a professional contractor. "I figured a manager would take the role. It was even a surprise that the children stayed because they were new, so I thought they would not follow in their father's footsteps. So, by the managers who already had more knowledge, who were already closer to managing the company, I thought it was the managers, but to my surprise were the children." (E1)*

### **Succession and gender**

Researchers had an interest in knowing about the gender relationship, whether there is any difference in management between men and women within the organization, since the company is run by two sons and two daughters. In the perception of the younger successor *"I do not see anything different, woman asks a little more, she asks more not to err, and the man is often more impulsive, so he makes mistakes and then he goes back, that's all. In our family, I think we have a difference mainly because of the function they wanted to occupy, the financial one. In the financial you only receive, do not go behind, do not become dynamic, you will get used to paying this, that, do not go in business meetings, will not visit customer, but that's just that point. It's the function, it's not the gender issue, it's waiting to happen. Only that, but today they are well developed too, any commercial matter that was not passed on to them today, is all past. (F2).*

While the official interviewed E1 *"I cannot see the women in the administration, the contact they do not have with the warehouse, with some processes ... like this, they do not participate in all sectors of the company. So, I do not imagine daughters running the company in general".* And the interviewee E2 reports that *"... women do not participate in all the processes of the company, so in my opinion, men impose themselves more and participate more fully".*

The successor interviewed, however, perceives a great difference in relation to gender, in affirming: *"..., the greater voice is of the boys, because they are connected to the commercial area and such. And also, because they were a little ahead of the two of us. Now that we have come, before we did not even talk much ... We have to think everybody together, otherwise it will not work. When the father was, he was the one who gave the final endorsement, but since it's the four of us, we have to decide what to do, but of course it always gives one or the other conflict, that in the end, boys do what they want and we see what will happen". (F1)* Some problems of succession reported by successors, perhaps the basic ones, are: lack of planning, divergence of opinions, and especially conflicts between members, emphasizing Lodi's (1987) vision that elucidates the general, succession process characterized by crises of this nature.

So, the successor interviewed emphasizes when asked if she really perceives if there is a difference between men and women, *"... because in commercial companies, our type of follow-up, it's not what makes a difference, it's that women automatically go to the side (financial type) and the parents take the boys (when there are boys) to the area commercial. When you do not have leads the girls, 'what's left'. But usually boys go that way, there are exceptions, that women are at the front, but there are few companies that the woman is in the commercial. (F1)*

Still in relation to the gender, the researchers insisted on the question within the organization object of study, if it is perceived some inequality in question of leadership. *“No, I do not see any of this, it's because the market of salespeople, supervisors and managers was man-dominated, and not today, we have a number of salespeople and supervisors who are also women ”. (F2)*

This report comes in agreement with the thinking of the authors Grzybovski et al. (2002), where they consider that the Brazilian culture that the male child is the inheritor of the family business still exists, making the daughters occupy few strategic positions in the companies. In the wholesale wholesaler sector, this cultural factor is still quite significant.

*“...By the position of the organization chart, because here what has more value for our company, is the commercial, the commercial that orders everything. In the time of the father it was also like that, it was everything for the commercial, the commercial sent and nobody said anything, it was just the commercial and the boys also learned it. So it's actually a cultural thing, it's not their fault, it's what they've learned”. (F2)*

In companies in the wholesale and distributor segment, Danes (2007) emphasizes that the decline of myths and prejudices about the acceptance of female managers in family enterprises represents a slow challenge, since the manager with more decision-making power in the commercial area that gender inequalities are deeply rooted in family culture.

For the employees interviewed, they do not perceive a difference in relation to gender in the administration of the company under study. *“Not because she is a woman, but because she is not prepared to be taking over the administration, as I mentioned before, she is not prepared because she is not in the day to day, she does not know what is happening in the operation. (E1) "It's not the fact of being a woman, is not it! It's because they are not prepared to run the company”. (E2)*

Even with the increasing introduction of women in the corporate world, and especially in family businesses (Cruz Machado et al., 2008; Jimenez, 2009), there are still some obstacles that prevent them from moving forward (Machado et al., 2008), with the gender issue still an important factor in certain segments, in the choice of the successor (Ahrenset et al., 2015).

### ***Vision of the employees in the management of the successor and the successors***

When the successors were asked how they perceive the employees' views regarding their acting as manager, at all levels, from the operational, supervisor and manager. For the interviewee F1, *“I notice that they like simplicity, and often there are some problems that I do not have pope in the language, what has to talk we talk. I say even a bit more badly created, a little stronger, but I have no problems, I think they like this simplicity enough, if you need to put your hand in the dough and help, if you need to get a truck I'll get it, I notice that air is a good point with them, and this is not forced, and everything natural”.*

Already the interviewee F2 feels recognized as director only in company II of the economic group, in company I of the group that exists more than 50 years and was where all the businesses of the family began, she does not realize. *“...My brother imposes himself more, because anywhere he goes. But I, by this way of being ... But I see that for some I am director of company II and point. And even with the brothers themselves ... it has nothing to do with gender, it has to do with this business of giving value to those who have value”. (F2)*

The opinion of the interviewed employees regarding the management of the successor and the successors at the time of the change was quiet, however, some problems were observed, either by the exit of the happened or by conflicts of management installed in revealed form or not, generating inconsistencies of the current generation of managers (Lodi, 1987) “... because we were already accustomed to the father, so the segment of the son is being the same. Of course it's a different charge, today we have a different charge than the father, because today does not have a collection as strict as his father. The charge has changed a bit, but the segment is the same”. (E1)

*“The management is a little quieter, has a collection, but he is always in the workplace with us, asking questions ... but not as frequent as it was with their father, because their father was almost everyone the days with us and even charged. Anything we were not seeing, he saw, what was wrong he charged us.” (E2)*

The employees participating in the survey also identified problems related to the company's business, when in the interview they comment that, at the moment when the father was permanently removed, there was a fall in the company's turnover. “He had trouble so the father left, had problems in sales, fell a lot of quality, both sales, salesman, delivery, gave a very big fall, so much is that he left because of illness, after two years he had to return. ” (E1) “... when the president left the company had a fall, and when he came back, she went up again. Again after a few years he left, due to illness, the company fell a little in sales, but without it coming back, it was able to rebound again”. (E2)

During the interview the employees demonstrate satisfaction and confidence in working in the researched organization “...one son is different from the other, the two have the command of the company, but a son is more with us, another is more separated, but we feel that the two understand each other well to run the company. (E1). Even feel comfortable with the current administration of the successors, believe the company is on the right track. “Quiet, I'm sure the company is on the right track, because that's how I said it, they're fine with us, well at work all day, asking, and the company is getting better and better by their management.” (E2)

In order to identify the vision of the employees participating in the research in relation to the management of the successor and the successors, the researchers sought information regarding the comparison of the administration of the past X to the current one, if they could choose, what would be the preference? Without thinking, the response of E1 and E2 was unanimous: “the administration of the past”.

As the answer was succinct, the interviewers asked why? “Because of the charge he had and the confidence we had in his work, in the face of employees, clients, society in general ”(E1). “By the trust the client had, the trust the employee had. To this day, when he comes into the company, he talks to employees, greets everyone, looks in the eye ... and does it naturally ... this is very important, he causes them to produce more and more”. (E2)

## **FINAL CONSIDERATIONS**

Studying family business has interested some researchers because these organizations occupy much of the country's economy. The present study was originated by the accessibility and the desire of one of the researchers to be inserted in their professional activity within the context of a family business that have members of the third generation. The main objective is to identify gender relations in the succession process of a family food distributor.

In order to meet the objective, a qualitative case study was carried out in a family business, from the wholesaler / distributor branch of the state of Santa Catarina, where the succession preparation, the gender issue, and the perception of (father / president), and successors (children / (directors).) Semi-structured interviews were conducted based on pre-established scripts that were applied to the four members of the research.

In the course of the interview, it was possible to verify that the family company is structured with statute, and this is followed by the company's governing members. The family meets bimonthly to discuss matters pertaining to organization and status.

The history of the company is confused with the family history because the children cannot perceive a distinction where one begins and where the other ends and vice versa because they were born and grew within the company. The family culture is strong and seeks to follow the model of the founder.

It can be seen through the interviews, and by the researcher who participates as a member of the organization that the figure of the founder presents a remarkable presence before the employees, clients and society. The entrepreneurial profile has always positively influenced the business, because since the foundation of the company, it has played a management and leadership role.

In relation to succession, the successors (children) did not have time to prepare and had to suddenly assume control of the company, due to the health factor of the happened. There was initially the hiring of an outsourced company from the state of Paraná, a specialist in family succession, for the preparation of the children, but then, the founder infatuated and almost died.

In relation to succession and gender, both the children interviewed and the employees perceive that there is no distinction or discrimination for some female leadership to take the lead. So far, employees do not recognize any of the daughters who act as directors of the company assume the position of the president, considering that they are not very participative in the operation, and yet they are not prepared.

Still in relation to the gender, what was very evident through the interviews, was the fact of the culture of the wholesale and distributor sector. The case analyzed in this study suggests that the female succession, according to Eloi et al. (2016), can be complex when one considers the influence of the patriarchal culture that still exerts in the families, the acceptance of the role of successor (by the woman) must be thought from the masculine domination.

The founder's management style is different from the children who now take over the company's business. This perception is reported by the research participants who have been in the work activity for more than 20 years. Officials liked the charge, even if it was rigid and sometimes rough. However, they felt that there was a greater participation in professional activity and people's lives.

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*Track 17 Human Resource Management & Organizational Behavior for Social and Business Development*

**ID #644**

## **Development of a coding scheme for classifying group interactions in International Business Negotiations**

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### **Abstract**

*This paper proposes a simple and versatile method for categorising face-to-face interactions exchanged within an international business negotiation setting. The increasing prevalence of such situations in today's global business environment points to the need to review and improve existing coding schemes that can aim at supporting empirical investigations in this domain. Following a review of the literature on coding schemes, we propose a scheme or process based on a 24-category typology using the Interaction Process Analysis (IPA) model as the root for its development. Our proposed coding model simplifies the coding process of face-to-face interactions carried out within a two-team cross-cultural business negotiation simulation that was initially coded using the IPA model. Kappa's measure of inter-rater agreeability ( $\kappa$ ) was used for validating the new coding scheme. The accuracy rate between coders using the new scheme was 98% on average while the coding times per negotiation session were almost halved when compared with the IPA model. Our proposed methodology for coding should support more accurate and speedier coding of face-to-face interactions in group negotiations.*

**Keywords:** Coding Scheme; Face-To-Face Interactions; IPA Model; Kappa's Measure of Inter-Rater Agreeability; Business Negotiation; Role-Play Simulation..

### **Acknowledgments**

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## **INTRODUCTION**

In today's global marketplace, where business relationships are constructed increasingly rapidly, managers spend a substantial part of their time negotiating (Gettinger, Koeszegi, and Schoop 2012; Yang, De Cremer, and Wang 2017). Byrnes (1987) states that managers spend 20% of their time negotiating and this 20% affects the remaining 80% of their activities. From this, it would be right to infer that negotiation skills are important in our day-to-day formal and informal social interactions. The "mutual movement" that characterises negotiation occurs through interactions, and interactions define the negotiation process and determine negotiation outcomes (Cai and Drake, 1998; Weiss, 1996). Adler (1991) states "negotiation is one of the single most important international business skills" (p. 182). Contemporary negotiations entail interactions with both internal and external stakeholders and can involve various modes of communication and interaction, including face-to-face, telephone and a range of electronic modes (Baltes et al. 2002). Analysing business interactions can help individuals involved in negotiations recognise some strategies that can help secure the desired outcomes through joint benefits, understand how complex business deals might be managed through group decisions, and learn how conflict can be handled and healthy business relationships sustained with stakeholders. Since stakes are high in business negotiations, owing to the careful planning and preparation involved (Ghauri 1986), studying both verbal and non-verbal interactions would seem a useful way forward, as such interactions have long-term implications and occur in many facets of life, from organisational to educational settings. Reiterating this importance of negotiations in today's hyper-connected and competitive business world, our study proposes a coding scheme to analyse face-to-face interactions that are exchanged within business negotiations. Through this proposed scheme, we aim to eventually evaluate interactions that can be successfully incorporated during business negotiations to eventually learn the art of negotiating. However, at this stage of our study, we merely validate our proposed coding scheme to attest its ease of use.

One of our interests in generating such a coding scheme stems from the notion that theoretically validated coding schemes to study business negotiations have been scarce (Angelmar and Stern 1978; Beers et al 2007; Kelly 2000; Putnam and Jones 1982), despite coding schemes being important research tools that help structure and organise interactions for further analysis (Angelmar and Stern 1978; Schermuly and Scholl 2012). Kelly (2000) in one of his studies corroborates this notion by stating that there has been a decline in the development of coding schemes since 1970s. Some of the reasons for this could be the time-consuming nature of their development (Beers et al 2007; Garrison et al 2006), followed by the ultimate high costs involved. Additionally, it is vital to note that most of the schemes developed so far have been used to code interactions within specific communication settings, e.g. student-teacher (Hermkes Mach and Minnameier 2017) or physician-patient interactions (Kaplan Greenfield and Ware 1989; Roter Hall and Katz, 1988). The basic difference between our proposed typology and Bales' Interaction Process Analysis (IPA) model lies predominantly in its ease and agility of use by trained coders.

While negotiation is not a straight forward process (Ghauri, 2003), it is worth noting that cultural inferences can make the negotiation process more complex (Johnson et al., 2006; Tinsley et al., 2006). Adler et al. (1986) makes an interesting point that when parties involved do not share the same way of thinking, feeling and behaving, the negotiations are cross-cultural and hence all international negotiations are cross-cultural.

Our goal in the following section is to provide a comprehensive framework that integrates culture, communication and business negotiations. Given the interdisciplinary nature of the

negotiations literature that not only draws upon fields such as business and management but also psychology, international relations, law and communication (Cai and Drake, 1998), we also review other coding methods and schemes that have facilitated investigations in interactions.

## **LITERATURE BACKGROUND**

### ***Conceptualising national culture, communication and negotiations***

We define each of the three concepts (i.e. culture, communication and negotiation) before we integrate them conceptually (Figure 1).

Hofstede being a pioneer researcher on culture states that “Culture is the collective programming of mind, which distinguishes one category of people from another” (Hofstede, 1980, p. 43).

Keesing (1974) defines culture as a “system of knowledge that enables communication with others and allows interpretation of their behaviour” (p. 89).

Nam et al., (2009) states that “Culture is a unique combination of rituals, religious beliefs, ways of thinking, and ways of behaving that unify a group of people” (p. 772).

Spencer-Oatey (2008) defines culture as “the set of attitudes, values, beliefs, and behaviours shared by a group of people, but different for each individual, communicated from one generation to the next” (p. 2).

From the four above mentioned definitions, we can see that culture has different interpretations, but the combined understanding of these definitions is that it is a set of values, beliefs, attitudes and behaviours that can influence an individual’s interaction towards others. According to Weiss (1994), negotiation practices differ from culture to culture. It is one of the major factors that can impact a negotiation process (Brett, 2000).

The second concept ‘communication,’ is the process of sending messages between a sender and a receiver (Adler, 1991; Thomas, 2002). Adair and Brett (2004) state that communication is culture-dependent and different social groups have different ways of expressing themselves, handling conflict (Ting-Toomey, 1988) and negotiating (Harris and Moran, 1991). Culture and communication are inextricably tied, which makes the encoding and decoding of verbal and non-verbal interactions intercultural in nature (Gudykunst and Kim, 1992). Adaptability and flexibility to one’s culture seems necessary for intercultural communication to be successful and these have been described as critical components of communication competence (Rubin, 1990; Spitzberg and Cupach, 1989). While individuals plan their interaction goals to discuss them, most individuals tend to perceive the response they receive during the interactions and remain inflexible during the interactions, which makes it difficult to achieve task goals (Cegala and Waldron, 1992). However, those individuals who are adept at monitoring and adjusting their plans during interactions are competent and subsequently able to accomplish group goals effectively (Greene and Burlison, 2003). They foresee likely implications for their actions and can integrate their goals and adjust their plans according to the situational, relational and cultural conditions.

The third concept ‘negotiation,’ can be termed as the process of communicating back and forth for the purpose of reaching an agreement (Fisher, Ury and Paton, 1991). It is a process in which a joint decision is made by two or more parties (Pruitt, 1981). In intercultural negotiation, which

focuses primarily on business with people from foreign countries (Adler, 1991; Graham and Andrews, 1987), cultural considerations is an important part of the negotiation process as it helps parties identify their common, complimentary and conflicting interests with an attempt to achieve their business goals (Cai and Drake, 1998). Social interaction is a goal-driven process (Bylund et al., 2012 and the process of negotiation involves social interactions. We use the Goals-plan-action (GPA) theory (Dillard, 2008) to provide a substantive theoretical review to examine communication relating to business negotiation and the role of culture in the negotiation process. This theory takes into perspective communicative behaviour, the accomplishment of goals (Berger, 1997; Wilson, 2002), and cognitive rules (Wilson, 1990; 1995), which is what a negotiation process comprises of.

The below model (Figure 1) conceptualises the three concepts (i.e. culture, communication and negotiation) with the three components of the goals-plans-action theory, which are – goals or outcomes; plans and the action (Baxter and Braithwaite, 2008; Bylund et al., 2012).

From the conceptual model (Figure 1), we link *culture to plans* because during the planning stage, it is important to consider the other parties' cultural background as this can make the negotiation process less complicated. According to Maaja, et al., (2009), "one of the first places where cultural differences arise in international business is when the East and West meet at the negotiations table" (p.165) and this can make the negotiation process difficult to manage. Martin and Nakayama (1999) state that a clear negotiation strategy is one of the most important factors for cross-cultural business relationships to succeed since negotiation practices differ from culture to culture (Weiss, 1994).

***Communication is linked to action***, since planned strategies and actions are carried out through verbal and non-verbal interactions. Cross-cultural negotiations can be challenging as negotiators come with different views and preferences (Buckley, Cross, De Mattos 2015; de Almeida and Wachowicz 2017; De Mattos, Sanderson and Ghauri 2002). These views often stem from their cultural upbringing and can give rise to misapprehensions during the negotiation process (Metcalf et al 2006). Such issues can be overcome to a considerable extent through effective communication, a fundamental ingredient for interactions between parties (Mircică, 2014). According to Hall (1976) and Earley (1993), negotiators with different communication styles have trouble understanding each other. And one negotiator's behaviour acts as a stimulus for the other's party's response and the second negotiator's response provides the stimulus for the first and the cycle goes on (Weick, 1969). This means communication can be structured in sequences that could emerge as predictors of negotiator's outcomes (Olekalns and Smith, 2013).

***Negotiation is linked to goals*** since these are fundamentals for business negotiators to consider during their interactions (Brett, 2000) and as Wilson and Putnam (1990) concisely put it, 'goals are the basis of the negotiating script.' Since negotiators come from either the East or the West, otherwise known as a high-context culture or a low-context culture (Hall, 1976), they tend to think and communicate differently. Goals are the general orientation that negotiators have towards the negotiation and so differences in the goal can pose a threat to cross-cultural negotiations (Tinsley et al., 2012). It is thus important for negotiators to have goals to proceed with negotiations in order to reach an agreement on their common, complementary and conflicting objectives (Fisher, Ury and Patton, 1991; Pruitt, 1983).

Through this comprehensive diagram () that conceptualises culture, communication and negotiation, we examine cross-cultural negotiations within a simulated environment. The Goals-Plans-Action theory (Dillard, 2008) provides the impetus to further our research and

focus on introducing a 24-category typology, which is an extension of Bales IPA model (1950) to categorise face-to-face interactions.

### ***Overview of Bales Interaction Process Analysis Model***

Our study uses Bales IPA model to study face-to-face interactions with the aim of developing more coherent and robust categories for coding. Bales' main area of research focused on group observations and on measuring interaction processes (Bales 1950). The IPA model has been used by numerous researchers over several decades in studies relating to group interactions and communications (Littlejohn 2002; Nam et al. 2009; Rosenberg and Bonoma 1974). It has also been used in other contexts, e.g. in observing child protection teams (Bell 2001), psychotherapy groups (Waxler and Mishler 1966), on-line group interactions (Fahy 2006), and construction-professionals' meetings (Gorse and Emmitt 2007).

As we see, Bales' main area of research was focussed on group observations and measuring interaction processes. Here, he classified group-behavioural patterns into two main areas: task-related and socio-emotional (or relationship-oriented) (Bales, 1950). The IPA model consists of a structured set of twelve categories for studying both verbal and non-verbal influences in face-to-face interactions. These categories provide a systematic framework for coding observed interactions (Bales 1950; Fahy 2006). The six socio-emotional activities include inter-personal behaviours while the remaining six categories are based on task-related input. Categories 4 to 9 cover task-related areas and categories 1 to 3 and 10 to 12 cover socio-emotional areas (McGrath 1984) (see Table 2). Socio-emotional categories attempt to capture interactions concerned with emotions in a social context, e.g. laughing to ease tension, showing solidarity, satisfaction, acceptance or agreeableness, disagreement or rejection, anxiety or withdrawal from discussion, and antagonism or defensiveness. Task-oriented categories are concerned with actions relating to the negotiation, e.g. making suggestions or giving directions or opinions, expressing desire, giving information or clarification, asking for information or clarification, opinions or suggestions or directions.

To sum up, we find the IPA model a suitable base for us to develop our proposed coding scheme as it is the earliest and most durable system for examining face-to-face small group interactions (Bales and Strodtbeck 1951; Perakyla 2004), which is what we aim to analyse in business negotiations. Furthermore, it is recognised as a sound method for analysing decision-making and problem-solving interactions (Fahy 2006).

### ***Theoretical Context on Negotiation coding schemes***

Interaction coding schemes have been proposed within various disciplines, including computer sciences (Helgeson et al. 2006; Kleppe et al. 2003), mathematics (Gencer and Gürpınar 2007), information technology (Olson et al 1999), and engineering (Tsai 2005). To use these systems, substantial knowledge of programming languages or experience in quantitative research methods is usually required. On the other hand, few studies have proposed coding schemes to study interactions within a business-negotiation setting (Putnam and Fuller 2014).

In Table 1 we briefly illustrate nineteen coding models that were used to identify and classify behaviours displayed during interactions within teams/groups. We find this a relevant illustration since negotiations generally comprise of groups of individuals interacting with each other. Some of these illustrated schemes were developed to study group interactions and communication patterns in different contexts, such as nuclear power plants (Kettunen and Pyy 2000; Kim et al 2010; Min Chung and Yoon 2004), fire-fighting simulations (Schraagen and Rasker 2001), construction work (Ghosh and Dickerso 2015), academia (Jones et al. 1999, or

group communication in general (Facon et al. 2005; Schermuly and Scholl 2012). Of the nineteen coding schemes we have identified, eight of these were inspired by Bales' IPA model (see Table 1, items a, b, e, k, m, n, r, s).

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

For instance, Rackham's coding system (Rackham Honey and Colbert 1971), SYMLOG (Bales, Cohen and Williamson 1979) and the Interactions Process Scores (IPS) (Borgatta, 1961) used the IPA model as their root due to its widespread deployment in examining face-to-face group interactions (Bales and Strodtbeck, 1951; Perakyla, 2004), whereas the Conference Coding Scheme (Fisch 1994) and Act4teams (Kauffeld Frieling and Grote 2002) incorporated the IPA scheme along with other coding schemes. Borgatta's IPS scheme was used to study role-play interactions in general by assigning scores to the behavioural characteristics of the participants. In addition to these, the Discussion Coding Scheme (DCS) (Schermuly and Scholl, 2012) comprises grids that focus on a particular kind of interactions or on the characterisation of behaviours that individuals reflect through their interactions. The DCS is a software-based model and requires the coder to define the units of analysis before proceeding with the coding. While the DCS model has been validated in several studies, there is the hindrance of limiting the functional categories during the coding (Schermuly and Scholl, 2012).

The 'Sign Process Analysis' coding model developed by Mills in 1964 was used to study group interactions in a learning environment. Here, the interactions were grouped into what men say about women and what women say about men (Mills 1964). Another IPA-based coding scheme proposed by Bales and Cohen (1979) is 'SYMLOG' – System for the Multilevel Observation of Groups. This theoretical-based framework considers both verbal and non-verbal behaviours and has two main methods of use. The first is scoring, which is complex and requires the coder to be trained, and second is the rating, which is composed of adjectival phrases that allow group members to retrospectively code their interactions. It is mostly used to obtain information on the relationships between group members and to make group-to-group comparisons. Though user-friendly, SYMLOG is a computer-based model that can be time-consuming and expensive (Keyton and Wall 1989). Polley (1987) designed 'Group Field Dynamics' as a unifying model based on SYMLOG and Lewin's field theory (Polly 1987). It is a computer-assisted method that has an automated report writer to produce results. 'Speech Act Coding' was introduced by Kettunen and Pyy (2000) to analyse communication within the nuclear plant sector. It was based on the IPA model and consisted of eleven elements (Kettunen and Pyy 2000). An extended speech act coding system to analyse verbal communication of main control room operators during emergency conditions and based on the IPA model was introduced by Min, Chung and Yoon (2004). A multimodal coding scheme for annotating group behaviour and influenced by the IPA model was introduced by Falcon, Leonardi, Pianesi and Zancanaro (2005). This system generates a multimedia relational report based on audio-visual analysis of human-to-human interaction (Pianesi et al 2008). The 'Discussion Coding System' (DCS) - a software-based coding instrument introduced by Schermuly and Scholl (2012) - was influenced by the IPA model and used to examine face-to-face interactions in real time or in video-supported formats. A 'Macro-ergonomic model' was introduced by Ghosh and Dickerson (2015) to analyse communications within a construction work setting. This model was also influenced by the IPA model (Ghosh and Dickerson 2015).

Several models were not influenced by Bales' IPA model. For instance, the 'Decision Proposal Coding System' was introduced by Fisher (1970). Mills (1964) used grounded theory construction to develop his model - it fell short in not providing validated evidence to support his observations (Poole and Folger 1981) and was hardly used. Mabry's (1975) 'Pattern

Variable Coding System' was also not influenced by the IPA model. The subject interpretations in this system focused more on interactions relating to conflict, tension and disagreement than on positive interactions. This coding system also had less representational validity for decision-making interactions compared to both Bales and Fisher's coding systems (Poole and Folger 1981). 'TEMPO' – Time by Event by Member Pattern Observation - is a computer programming-based coding system introduced by Futoran, Kelly and McGrath (1989). Its main strength is to establish strong empirical links between group processes and group productivity; its disadvantage is high usage cost (Futoran, Kelly and McGrath 1989). The 'Turn-and-episode-based Coding System' was introduced in 1999 and focuses on content rather than on interactions (Jones et al 1999). A Coding Scheme used to classify communication within the information-technology sector was introduced in 1999. However, this 11-element scheme could only evaluate communication at the paragraph level (Olson et al 1999). Another coding scheme to analyse communication in fire-fighting simulations was introduced by Schraagen and Rasker (2001); it was not based on the IPA model and consisted of 7 elements. The 'Generalised Attitude Measure (GAM)' and 'Generalised Belief Measure (GBM)' were instruments introduced by McCroskey (2006) to measure attitudes and beliefs across a range of different topics. However, these had limited use in intercultural studies, for instance attitudes between two countries had to be measured by two separate GAMs used by individuals (McCroskey 2006). Another extended version of a speech act coding scheme to explain communication patterns of operators' conversations in abnormal conditions within a nuclear power-plant environment was introduced by Kim, Park, Han and Kim (2010). 'Act4teams', a coding system consisting of five facets, was introduced by Kauffeld and Lehmann-Willenbrook (2012) to study verbal behaviour in small-group team meetings. However, this system could not be verified on interactions present in an inter-cultural environment (Kauffeld and Lehmann-Willenbrook 2012).

While these coding schemes have been used to analyse small-group interactions, only one was designed for business-negotiations coding. The 'Towers Market Coding Scheme', intended initially for the analysis of decision-making activities (Beggs, Brett and Weingart 1993), was later validated and used for coding negotiation behaviour (Weingart, Olekalns and Smith, 2004).

### ***Simulation Role-Plays: Our empirical data collection approach***

Simulations have long been used to analyse communications and negotiations (Bales, 1950; Donohue, 1981; Keys and Wolf, 1990; McGrath and Julian, 1963; Morley and Stephenson, 1978; Wall and Adams; 1974). Researchers from as early as the 1950s have used various simulation techniques to analyse negotiations (Adler and Graham 1989; Bales 1950; Donohue 1981; Drunkman 1967; McGrath and Julian 1963; Putnam and Jones 1982; Wall and Adams 1974).

Simulations are described under different terminologies, such as 'symmetry acting' (Weiss, 2003) and 'role plays' (Bales, 1950; Morley and Stephenson, 1970). Keys and Wolf (1990) describe simulations as simplified and artificial situations created to conduct an experiment and containing enough illusion of reality to generate real-world responses from participants. In this study we utilise role-play simulations because, among other reasons, of their long use in investigating communications and negotiations and their perception as reliable by numerous researchers (Weiss 2003; Lewicki 1997; Wall and Adams 1974). Simulations or experiential learning are also commonly adopted in teaching (Gudykunst and Hammer 1983; Lewicki 1997). Simulations can help participants develop skills necessary for successful performance (Ko and Yang 2011) and are more effective for developing decision-making skills than case study and

other experiential methods (Pacios Alvarex et al. 2011). Observing such simulations is beneficial for the researcher to see what does and does not happen as students engage emotionally, cognitively and behaviourally during the negotiation process (Weiss, 2003); they are generally enthusiastic and engaged by role-play and hence prepare and learn key traits and values of the culture they are enacting. Thus, the data collected may be said to be similar to real-world data, particularly with regard to human-behaviour research.

## **METHODOLOGY**

### ***Simulation Background***

Our empirical data was collected over a six-year period from 2009 to 2014. The participants in the role-play simulation exercise were Masters' degree business students from a reputed long-established British university. Our reasons for choosing Masters' students was because they came with a minimum of two years of work experience in a managerial position that would have exposed them to business negotiations. Additionally, the six-years of data collected enabled us to analyse an extensive range of business negotiation scenarios and validate our proposed coding scheme.

In the initial stage of our data collection, sixteen dyads of four to five members took part in the role-play exercise. This generated a total of eight negotiating sessions. Each dyad emulated a culture (i.e. Saudi Arabian or British). These cultures were chosen to broadly project a cross-cultural setting with both Eastern and Western influences. Instructions were provided to participants two weeks prior to the simulation date. The role-play simulations were set for a maximum of 30 minutes and were recorded using one fully adjustable and three or four fixed video-cameras. Valley, White and Iacobucci (1992) state that video recordings are highly reliable tools for thoroughly analysing interactions. Through these multiple recordings both verbal and non-verbal cues were captured. The observation of captured non-verbal behaviour helped in minimising ambiguous coding by clarifying the participants' intentions behind dubious verbal interactions.

### ***Overview of our Proposed 24-Typology Coding Scheme***

Coding schemes are important research tools for studying interactions and communication processes (Poole and Folger 1981). Our proposed coding scheme (Figure 2) adopts a flowchart-based structure comprising of 24 categories and is an extension of the IPA model. The idea behind developing a flowchart-based model is to simplify the categorisation of interactions. One of our reasons for expanding from 12 to 24 typologies is to ensure that every verbal interaction can be appropriately assigned a category and to eliminate problems associated with multiple interpretations for one interaction. Our proposed scheme can be used to identify interactions at individual-interaction level and focuses on face-to-face business interactions that occur in real-time. This was one of the challenges encountered in the pilot-study stage of the project, when four trained coders attempted to categorise the same set of transcribed interactions. Additionally, the extensive range of categories helped to keep uncertainties in the assignment of categories during the coding process to a minimum.

\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\*

### ***Development of the Proposed Coding Scheme***

The development of the modified coding scheme was carried into two phases. In the first phase, 1770 verbal interactions associated with eight simulation sessions were initially coded using

the IPA model (Bales 1950), under a 12-category systematic framework for coding transcribed interactions (see Section 2.3). In both phases, the video recordings were observed multiple times to understand who was speaking from each team and to observe the body-language of the participants. This procedure minimised uncertainties that were associated with multiple interpretations when using the IPA model to code the interactions. Furthermore, observing the non-verbal behaviour of the speakers and associating this with the verbal interactions also helped confirm the categories chosen during the coding process. Once a level of familiarity and expertise was achieved with the IPA model, the modified coding scheme and process was developed. Our 24-category scheme (Figure 4), which is based on the IPA model (see Table 2 for correspondence between the schemes), can be used to categorise interactions at an interaction-by-interaction level and focuses on face-to-face business interactions that occur in real-time.

In the second phase, 32 negotiation simulation sessions involving 64 teams were transcribed and coded to verify coding speed and accuracy. This phase involved coding 4303 new interactions. Two coders were used for these interactions to identify any discrepancies arising from the coding process. The accuracy rate achieved using the proposed scheme was approximately 98% (with 36 identified discrepancies) and the accuracy rate achieved using the IPA model was approximately 93% (with 120 identified discrepancies). During this phase, difficulties associated with coding verbal interactions using the proposed scheme were ironed out to further enhance its features. Most of these hitches were associated with renaming some of the categories and sub-categories to simplify the flowchart-based proposed coding scheme. For example, instead of the sub-categories ‘emotional’ and ‘rational’ we thought of ‘emotional’ and ‘unemotional.’ Similarly, instead of the sub-categories ‘positive’ and ‘negative’ we thought of ‘favourable’ and ‘unfavourable.’

Both coders found the revised coding scheme comparatively easier to use. Furthermore, the speed of coding was verified by coding eight sessions from the first phase of the study, which were initially coded using the IPA model. Compared to the IPA model, where coding took 40 to 60 minutes for a 30-minute simulation session, coding time was reduced by 20-30 minutes.

An example of the coding of a verbal interaction from a transcript of a negotiation simulation is presented below. Consider the following interaction: “May I introduce you to ‘X’, the President and owner of the company. Next, this is ‘Y’. He is the engineer and oversees the production of the milk plant. Lastly, ‘Z’, is a representative of the government.”

The coding for the above interaction initially considers whether the interaction is content-related or relational in nature. In this case the coder considers that it is content-related. Next, the coder decides that it is rational rather than emotional in nature (see Figure 3). Next, the coder decides that it is more a giving than an asking gesture, because it is about giving information to the other team. Finally, the coder selects one from categories 4B, 5B and 6B, which are listed under giving gestures. Category 6B is the best category for this interaction, as it is about giving information to the other party. Thus, this is a content-related, rational, and giving interaction, coded as category 6B.

\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*

### ***Overview of the Coding Procedure using the 24-category typology***

The steps followed in coding of face-to-face interactions are as follows:

In step 1, each transcribed interaction exchanged within the business negotiation role-play setting would be classified as either 'Content-Related' or 'Relational'. *Content-related* interactions are those that only include information about the contract or agreement and hence are of a business nature. *Relational* interactions are those interactions that involve rapport-building between the teams and are not of a business nature (see Figure 3 below).

\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*

In step 2, the 'Content-related' interactions are further classified into either 'emotional' or 'rational' interactions to account for most of the types of face-to-face interactions exchanged between negotiators (see Figure 4). Business interactions generally follow a transactional protocol, making them impersonal in nature (Brislin, Worthley and Macnab 2006), and emotional interactions on the other hand, are more personal in nature and cause friction and personality clashes (Rose and Shoham 2004). An example of a *content-related emotional interaction* is 'we ask you to please consider what we have to offer'; and, an example of a *content-related rational interaction* might be 'well, our normal delivery period for this kind of project is nine months.' Both examples relate to the agreement and are of a business nature.

The second classification, 'Relational' interactions are further divided into either 'positive' or 'negative' to account for all types of interactions (see Figure 4). Commonly personal interactions can be either positive or negative in nature and Bales also introduced positive and negative sub categories under emotional interactions in the IPA model (Bales 1950; Fahy 2006). A 'Relational positive' interaction might be '[I] hope you are enjoying the weather here.' A *relational negative interaction* might be 'maybe the market rules are too much to continue further business.'

\*\*\*\* FIGURE 4 ABOUT HERE \*\*\*\*

In the third step, the four sub-categories – *Emotional / Rational, Positive / Negative* are each further divided into 'Giving' and 'Asking' gestures, to include all interactions that are giving in nature (examples – giving opinion or giving direction) or asking in nature (examples – asking for reaffirmation or asking for suggestions/opinions). With regards to 'Content-related' interactions, giving gestures that are emotional in nature are coded as 4A, 5A and 6A; and asking gestures that are emotional in nature are coded as 7A, 8A and 9A. Giving gestures that are rational in nature are coded as 4B, 5B and 6B; asking gestures that are rational in nature are coded as 7B, 8B and 9B. Similarly, with regard to 'Relational' interactions, giving gestures that are positive in nature are coded as 1A, 2A and 3A; asking gestures that are positive in nature are coded as 1B, 2B and 3B. Giving gestures that are negative in nature are coded as 10B, 11B and 12B; asking gestures that are negative in nature are coded as 10A, 11A and 12A (see Figure 5).

Our proposed coding scheme proposed allows researchers to use a mixed method approach of quantifying the qualitative data while maintaining reliability. And, we would also like to point out that such a methodological approach has not been frequently discussed, especially within the context of coding interactions (Chi, 1997; Syed and Nelson, 2015).

\*\*\*\* FIGURE 5 ABOUT HERE \*\*\*\*

### **Reliability of the proposed coding scheme**

The parameters that define the level of usefulness of a coding instrument are validity and reliability (Fisher 1980; Poole and Folger 1981). Achieving reliability in a coding scheme greatly depends on the construct that is being coded (Beers et al. 2007; Rourke et al. 2001).

While literature on inter-coder agreement has been extensive over the last two decades (Banerjee et al 1999; Conger 2017; Vanbelle and Albert 2009; Warrens 2008), a defined system for measuring levels of agreement in qualitative contexts has not been thoroughly explored. In this study, we use Cohen's (1960) Kappa coefficient as the measure of inter-coder agreeability for qualitative categories to determine the extent to which the results produced by two coders are reproducible and reliable. This considers agreements that occur by chance, which makes for a more robust calculation than percentage agreement calculation (Cohen 1960).

In this case, the manifest content, or the conscious and obvious social action (Graneheim and Lundman 2004), were the transcribed interactions, which were relatively easy to code as there was little need for subjective interpretations. The latent content, or the subtle and unclear social action (Graneheim and Lundman 2004), that seemed ambiguous in some respects and required subjective interpretations was decoded from the non-verbal behaviour, which could be repeatedly observed from the video-recordings.

Cohen's (1960) Kappa coefficient (**K**) is defined as:

$$\mathbf{K} = (\mathbf{F}_a - \mathbf{F}_c) / (\mathbf{N} - \mathbf{F}_c),$$

Where:

$F_a$  is the observed frequency of interactions that were agreed upon;

$F_c$  is the frequency of interactions based on chance;

$N$  is the total number of interactions.

As Kappa tends to '1', agreement between coders tends towards perfect congruence; as Kappa tends to '0', a low level of agreement prevails (Viera and Garrett 2005).

Although the transcribed interactions were mostly easy to code, few ambiguous interactions were interpreted from the observable non-verbal behaviour apparent on the video-recordings. As previously mentioned, the statistical procedure for determining the magnitude of agreement between the two coders was performed on a total of 1770 transcribed verbal interactions from eight simulated role-play sessions. The same sessions were coded using initially the IPA model and subsequently by the new coding scheme. The Kappa coefficient was calculated separately for each of these sessions (see Table 3). In Session 8 the two coders had perfect agreement ( $K_{\text{new scheme}} = 1$ ) and in all session's agreement was high ( $K_{\text{new scheme}} \geq 0.96$ ). Kappa for the aggregated eight sessions increases from 0.92 ( $K_{\text{IPA}}$ ) to 0.98 ( $K_{\text{new scheme}}$ ) indicating higher agreement between coders under the proposed scheme.

To test for the significance of the difference between two independently-measured Kappa, we can use the normal curve for the 'z' coefficient as indicated below.

$$z = (\kappa_1 - \kappa_2) / ((\sigma_{\kappa_1})^2 + (\sigma_{\kappa_2})^2)^{1/2} \quad (3)$$

Where:

$\kappa_1, \kappa_2$  are Kappa coefficients calculated independently;

$\sigma_{\kappa_1}, \sigma_{\kappa_2}$  are the standard deviation of respectively of  $\kappa_1$  and  $\kappa_2$

Using formula (3), the significance of the difference between  $\kappa_{\text{IPA}}$  and  $\kappa_{\text{new scheme}}$  is less than 0.01% (see Table 3), indicating the very low probability of arriving at these different Kappa values by chance alone. Table 3 shows the Kappa coefficients, standard deviation and z scores separately for the coding using the IPA model and independently by our proposed scheme.

\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*

The simple accuracy rate (number of agreements between coders / total number of interactions) for each session is indicated in Table 4. The accuracy rate for the aggregated eight sessions using the IPA model and referring to 1770 verbal interactions coded independently by the two trained coders and resulting in 120 identified disagreements was 93.2%.

As indicated, the observed verbal interactions were coded to understand the observed cases of agreement (Banerjee et al 1999). Thus, none of the cases of agreement was left to chance or assumptions. Disagreements between coders were discussed before concluding on the coding category, and when required a third trained coder was consulted before proceeding to the next step. The above procedure for measuring the reliability of the qualitative text coding was established from Kappa's measure of inter-rater agreeability, which is based on an unbiased measure of reliability (Guggenmoos-Holzmann 1996).

Next, the proposed coding scheme was used to code the remaining 32 sessions comprising of a total of 4303 transcribed verbal interactions to understand identified discrepancies. This was again carried out by two coders and resulted in 46 discrepancies leading to an accuracy rate of 98.9% on average (see Table 5); the IPA model yielded 93.2%.

Furthermore, the proposed scheme brought down the coding time by nearly 50%. This was assessed from the coding of eight role-play simulations comprising an average of 120 verbal interactions each, 1770 interactions in total (see Table 4)

\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*

\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*

The coding schemes most comparable to our proposed scheme are the Interaction Process Scores, the Decision Proposal Coding System, the Pattern Variable Coding System, SYMLOG, Group Field Dynamics, the Multimodal coding scheme, Act4teams and the Discussion Coding System - these are all used to study group behaviour and team interactions in a business environment. However, SYMLOG, Group Field Dynamics, the multimodal coding scheme and the Discussion Coding System are software-based systems; the Decision Proposal Coding System and the Pattern Variable Coding System are both used to solely study decision-making interactions; Act4teams was a coding system not tested in an inter-cultural environment; and lastly Interaction Process Scores are used to study interactions in general, not specific to business negotiations.

Our proposed coding scheme was validated in a cross-cultural environment to study verbal interactions occurring within business negotiations, and this affirms its relevance. The flowchart-based structure allows a coder to follow straightforward instructions to categorise interactions. Both qualitative and quantitative methodological approaches can be used to analyse data. This flexibility allows researchers to gain important insights into the facets of negotiation from different academic perspectives, such as psychology, social sciences, international relations, communication and others.

### ***Representational Validity of the Proposed Coding Scheme***

According to Garrison et al (2006), a coding scheme should be straightforward and reliable to use as this can allow coders to apply a consistent protocol during the coding process. Achieving this should involve discreet and well-defined categories that can be applied efficiently by the coders especially when coping with large amounts of data (Garrison et al 2006). Poole and Folger (1981) discuss the critical importance of representational validity, in which coding systems should capture the meaning of the subject being studied; it is different from predictive

validity, which is based on predictive success. With the utilization of 24 categories in our scheme, it requires little rationalization from the coders, which is one of the approaches for assessing representational validity (Poole and Folger 1981). Additionally, the flowchart-based structure leaves little room for subjective interpretations, establishing straight forward coding.

## **CONCLUSION**

The rising volume of cross-cultural business interactions in our time calls for a review of existing methods that were designed within an emic or culturally-specific environment (Buckley et al. 2014). This demands simpler, and yet effective, methodological process to be developed based on what is known. This paper proposes a coding scheme that is an extension of the Bales IPA model. It aims to benefit coders who would like to further their study in negotiations and also, examine specific areas like decision-making and problem-solving, and the kind of leadership styles that are important in face-to-face business negotiation. Our proposed modified scheme is comprehensive, simple to use and is found to reduce the coding time by nearly 50% compared to coding using Bales' (1950) IPA model.

Our review of previous literature on coding schemes and models devised over nearly seven decades indicates that developments in such schemes have been quite limited, and a helpful contribution may open new opportunities for scholars to advance their studies in business negotiations. While our coding scheme has its limitations, it has been developed based on the sound and reliable IPA model (Fahy 2006) and has been validated through Cohen's (1960) Kappa statistic for inter-rater reliability. This alternative methodology for categorising verbal interactions can be practically applied with immediate effect to studies relating to negotiation and small group interactions. Forthcoming studies will reveal how our revised scheme can be applied to study favourable and unfavourable negotiation strategies.

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Figures

Figure 1 – Conceptual model of culture, communication and Negotiation

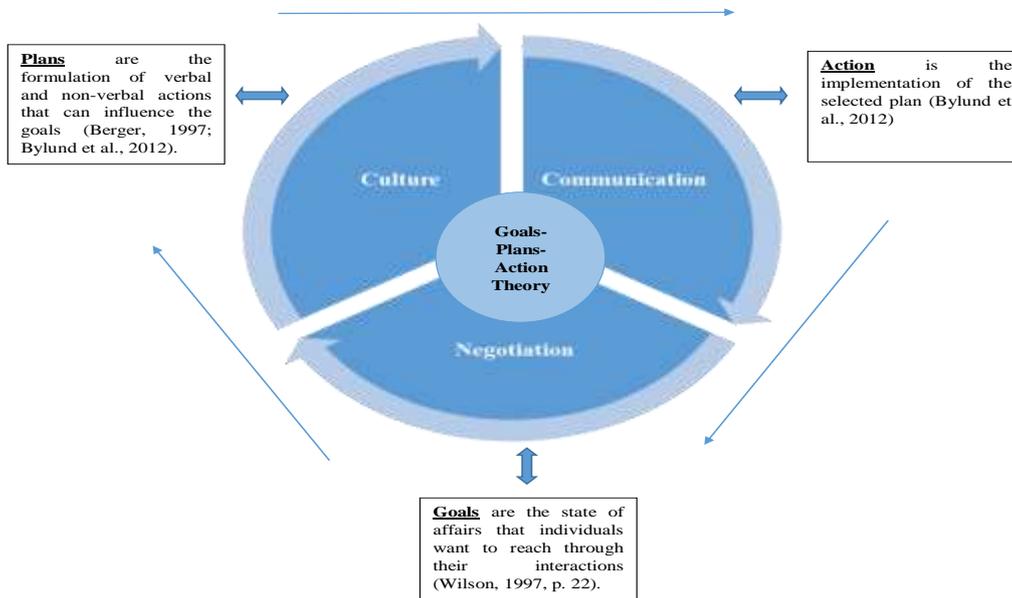


Figure 2 – The proposed 24-category Typology



Figure 3 – Coding Procedure step 1

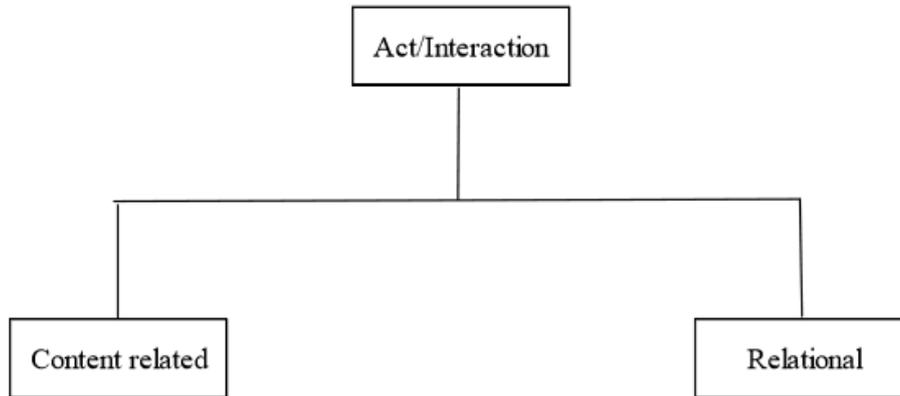


Figure 4 – Coding Procedure step 2

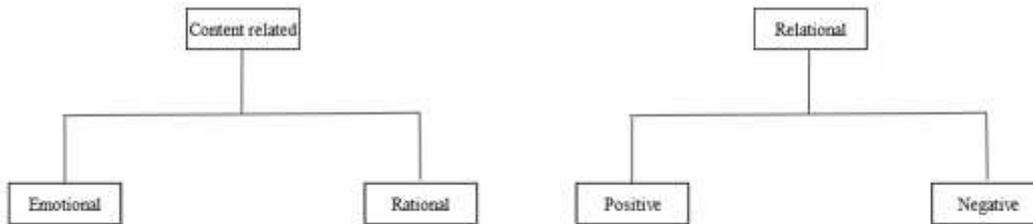


Figure 5 – Coding Procedure step 3

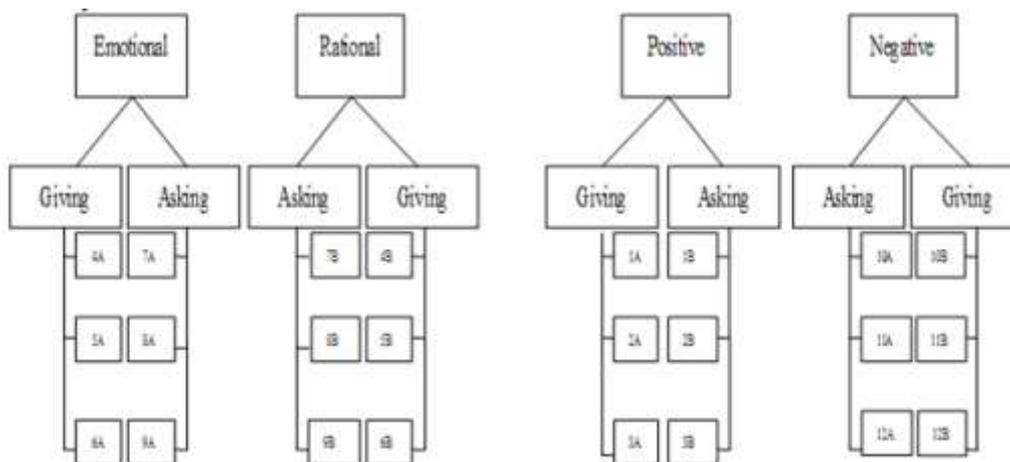


Table 1 – Brief overview of coding schemes from 1960 to 2015 (post Bales IPA model)

	Author(s) year	Coding Scheme Title and Purpose	Influenced by IPA model
a	Borgatta 1961	Interaction Process Scores - to study role-play interactions in general, not specific to business negotiations.	Yes
b	Mills 1964	Sign Process Analysis - to study group interactions within an academic setting.	Yes
c	Fisher 1970	Decision Proposal Coding System - to study decision-making interactions in small groups.	No
d	Mabey 1975	Pattern Variable Coding System - to study decision-making interactions in small groups.	No
e	Bales and Cohen 1979	System for the Multilevel Observation of Groups (SYMLOG) - to study interactions within an organisation and management setting.	Yes
f	Polley 1987	Group Field Dynamics - to explore conflict and polarisation within management groups.	No
g	Futoran, Kelly, and McOrath 1989	Time by Event by Member Pattern Observation (TEMPO) - to analyse group interactions in a wide range of settings.	No
h	Beggs, Brett, and Weingart 1989	Towers Market Coding Scheme - to code decision-making tasks in groups.	No
i	Jones, Gallois, Callan, and Barker 1999	Turn-and-episode-based Coding system - to classify behaviour and examine strategies from the perspective of Communication Accommodation Theory (CAT).	No
j	Olson, Olson, Carter, and Storcksten 1999	Coding Scheme to classify communication in Information Technology - to analyse and compare communication between collocated and remote work teams within information technology.	No
k	Kethanen and Pyy 2000	Speech act coding system - to analyse communication in a control room of nuclear power plants.	Yes
l	Schraagen and Rasker 2001	Speech act coding scheme - to understand how team communication can affect performance in fire-fighting simulations.	No
m	Min, Chung and Yoon 2004	Extended Speech act coding Scheme - to analyse main control room operator's verbal communication during emergency conditions.	Yes
n	Falcon, Leonardi, Pianesi, Zancanaro 2005	Coding Scheme for annotating group - A multimodal coding scheme to study behavioural sequences in small groups. behaviour	Yes
o	McCroskey 2006	Generalized Attitude Measure (GAM) and Generalised Belief Measure (GBM) - instruments designed to measure attitudes and beliefs on a variety of topics rather than on a single topic.	No
p	Kim, Park, Han, and Kim 2010	Extended Speech act coding Scheme - to elucidate communication pattern characteristics of an operator's conversation during a simulated abnormal condition in a nuclear power plant (NPP).	No
q	Kauffeld and Lehmann-Willenbrock 2012	Act-Teams - to study verbal behaviour in team meetings.	No
r	Schermaul and Schell 2012	Discussion Coding System (DCS) - to code face-to-face communication processes in real-time or in video-supported formats.	Yes
s	Ghosh and Dickerson 2015	Modified IPA: a Macroergonomic model - to analyse communications within construction work operations.	Yes

Table 2 – Description of the revised categories in our proposed model

IPA categories	New Codes	Categorisation/Classification
1 - to foster a positive environment, to raise one's status, welcoming and thanking the other party, breaking the ice and expressing sympathy	1A	Relational -> positive -> giving gesture
	1B	Relational -> positive -> asking gesture
2 - to joke around generally or to calm a tensed situation, bantering in a general manner.	2A	Relational -> positive -> giving gesture
	2B	Relational -> positive -> asking gesture
3 - to acknowledge or accept what is being said and to show signs of responsiveness in general	3A	Relational -> positive -> giving gesture
	3B	Relational -> positive -> asking gesture
4 - to give directions/suggestions, to propose solutions and to be persuasive.	4A	Content-related -> emotional -> giving gesture
	4B	Content-related -> rational -> giving gesture
5 - to express opinion and desires, ceremonial performances and other acts of worship or addressing a religious deity.	5A	Content-related -> emotional -> giving gesture
	5B	Content-related -> rational -> giving gesture
6 - to give information/orientation, to summarise and to clarify content related matters in a neutral manner.	6A	Content-related -> emotional -> giving gesture
	6B	Content-related -> rational -> giving gesture
7 - to ask questions expressing confusion and to ask questions that require a 'yes' or 'no' answer.	7A	Content-related -> emotional -> asking gesture
	7B	Content-related -> rational -> asking gesture
8 - to ask open ended questions that do not limit the other party's response and to ask questions exploring the other party's feelings and intentions.	8A	Content-related -> emotional -> asking gesture
	8B	Content-related -> rational -> asking gesture
9 - to ask for direction with a tone of dependence.	9A	Content-related -> emotional -> asking gesture
	9B	Content-related -> rational -> asking gesture
10 - to be aloof, unapproachable, to be difficult to work with or to show explicit dissatisfaction.	10A	Relational -> negative -> asking gesture
	10B	Relational -> negative -> giving gesture
11 - to show frustration, impatience, restlessness and agitation.	11A	Relational -> negative -> asking gesture
	11B	Relational -> negative -> giving gesture
12 - to show autocratic control, to be overbearing and stubborn, to give threats, to ridicule and undermine one's position.	12A	Relational -> negative -> asking gesture
	12B	Relational -> negative -> giving gesture

Table 3 – Cohen Kappa's statistical calculations for the IPA and the proposed coding scheme

Session	K (IPA)	K (new scheme)	SD (IPA)	SD (new scheme)	z	$\alpha$
1	0.80	0.96	0.024	0.011	6.063	≤0.01%
2	0.90	0.95	0.025	0.015	1.728	0.05%
3	0.95	0.96	0.017	0.010	0.506	1.14%
4	0.91	0.97	0.031	0.013	1.761	0.83%
5	0.95	0.99	0.019	0.006	2.035	1.11%
6	0.93	0.99	0.020	0.006	2.875	0.08%
7	0.97	0.99	0.012	0.006	1.534	2.14%
8	0.97	1.00	0.018	0.000	1.681	9.30%
<b>Aggregated*</b>	0.92	0.98	0.008	0.003	9.257	≤0.01%

(\*) Results for the eight aggregated sessions

Table 4 – Timing and Accuracy rates for the IPA and our proposed coding scheme (from initial 8 sessions)

Session	Duration (min. *)	Number of interactions	IPA				New Proposed Scheme			
			Disagreements between coders	Accuracy rate (%)	Coding time (min. *)	Coding time per minute of session duration (min.)	Disagreements between coders	Accuracy rate (%)	Coding time (min. *)	Coding time per minute of session duration (min.)
1	30	329	56	83.0	75	2.5	12	96.4	55	1.8
2	25	183	15	91.8	55	2.2	8	95.7	40	1.6
3	27	259	9	96.5	60	2.2	7	97.4	45	1.7
4	19	130	10	92.3	40	2.1	3	97.7	30	1.6
5	22	174	7	96.0	50	2.2	1	99.4	35	1.6
6	23	221	12	94.6	60	2.6	2	99.1	40	1.8
7	33	311	8	97.4	65	2.0	3	99.0	45	1.4
8	27	163	3	98.2	50	1.8	0	100.0	30	1.1
<b>Mean</b>	<b>26</b>	<b>221</b>	<b>15</b>	<b>93.7</b>	<b>57</b>	<b>2.2</b>	<b>5</b>	<b>98</b>	<b>40</b>	<b>1.6</b>

(\*) rounded minutes

Table 5 – Timing and Accuracy rates for the proposed coding scheme (from remaining 32 sessions)

Session	Duration (min. *)	Number of interactions	New Proposed Scheme			
			Disagreements between coders	Accuracy rate (%)	Coding time (min. *)	Coding time per minute of session duration (min.)
9	24	123	12	90.2	25	1.0
10	13	124	8	93.5	24	1.8
11	31	156	6	96.2	35	1.1
12	11	129	4	96.9	25	2.2
13	11	135	2	98.5	25	2.2
14	13	159	1	99.4	35	2.7
15	27	108	1	99.1	15	0.6
16	31	177	2	98.9	35	1.1
17	30	142	0	100.0	30	1.0
18	12	74	0	100.0	15	1.3
19	35	133	2	98.5	25	0.7
20	24	110	0	100.0	18	0.8
21	31	146	1	99.3	25	0.8
22	32	133	0	100.0	20	0.6
23	35	154	1	99.4	25	0.7
24	28	135	1	99.3	22	0.8
25	23	94	2	97.9	15	0.7
26	27	145	0	100.0	25	0.9
27	11	93	0	100.0	15	1.3
28	12	128	0	100.0	18	1.6
29	13	138	0	100.0	22	1.7
30	24	109	0	100.0	15	0.6
31	33	131	0	100.0	20	0.6
32	21	121	0	100.0	18	0.9
33	16	100	0	100.0	15	0.9
34	22	134	0	100.0	21	1.0
35	33	192	1	99.5	40	1.2
36	32	227	1	99.6	45	1.4
37	21	82	0	100.0	12	0.6
38	30	152	1	99.3	20	0.7
39	28	166	0	100.0	25	0.9
40	29	154	0	100.0	22	0.8
<i>Mean</i>	<i>23,9</i>	<i>135</i>	<i>1,4</i>	<i>98,9</i>	<i>23,3</i>	<i>1,1</i>

(\*) rounded minutes

*Track 17 Human Resource Management & Organizational Behavior for Social and Business Development*

**ID #711**

## **IMPACT OF WORKPLACE HAPPINESS UPON EMPLOYEES' PERFORMANCE**

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### **Abstract**

*Work is one of important aspects of human lives (Dulk, Groeneveld, Ollier-Malaterre, & Valcour, 2013). People perform their work in exchange for either monetary (e.g. salary and benefits) or non-monetary rewards (e.g. psychological fulfillment from work) (Stiglbauer & Batinic, 2012). The most important dynamics of workplace is reflected in the culture and the job satisfaction of employees. The work place happiness is becoming day by day is considered to be an important tool for retention of talents and a cause to business development and can contribute to increase employees' productivity (Quick & Quick, 2004). The present study focuses the impact of workplace happiness upon the individual and organizational performance. This research is a pilot study in which 140 employees of various business organizations in India, surveyed in stage one of work in progress paper, further to be developed for full research in stage two and three.*

**Keywords:** Employees; Happiness.

### **Acknowledgements**

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## **Introduction**

There are vast changes in the work environment, and the traditional rules and management methods might not be suitable for today's employees anymore. Also the meaning of work is in the wind of change due to the younger and higher educated generations, who do not value work in the same way as their ancestors (Manka 2011, 27). Economy is said to be in a transformation from money economy to satisfaction economy and this, most likely, will have its impact on the expectations of work (Seligman 2003, 165). Old customs need to be re-validated and new approaches should be taken into use. This study focuses on the links between employees' happiness at work and workplace performance.

Workplace happiness is a mindset which enables action to maximize performance and achieve potential. People who are happy at work tend to enjoy life more and have better health, stronger relationships and a greater sense of purpose. They also have a huge positive impact on the organizations they work for.

The previous studies (e.g. Quick & Quick, 2004; Rego & Cunha, 2008) state that happy employees are productive employees. Conversely, unhappiness at the workplace reduces productivity (Fereidouni, Najdi, & Amiri, 2013). Though there is the preponderance of commoditized literature, only a few scientific research or theory building exercise has been undertaken from the organizational perspective. And a robust framework for application in the work setting is still missing (Cotton et al, 2006).

The previous studies (e.g. Quick & Quick, 2004; Rego & Cunha, 2008) state that happy employees are productive employees. Conversely, unhappiness at the workplace reduces productivity (Fereidouni, Najdi, & Amiri, 2013).

Occupational stress through emotional intelligence has direct and indirect effects on individual happiness. Employees who are stressed due to: conflict between organizational & non-organizational roles, conflicting demands originating from colleagues i.e. superiors, subordinates & peers in the organization and lack of clarity about the demands of the role were found to have dormant emotional intelligence (awareness and ability to manage one's emotions in a healthy and productive manner) and the resultant individual happiness (Yogesh Pahuja, S.M. Khan and D.M. Pestonjee, 2016).

Happiness is a multilayered phenomenon which is not only confined within external motivational factors as Job engagement, job satisfaction, safety at the workplace, freedom, valued social position, stress management, work-family conciliation and so on, but it is also confined within internal motivational factors, such as positive psychology, self-esteem and a person's well-being judgment (Zerin Tasnim, 2016).

Happiness at the workplace refers to how satisfied people are with their work and lives. The idea of happiness is related to individual's subjective well-being. Happiness at the workplace is crucial for improving productivity in any organization. Happy people are productive people while those people who are unhappy may not pay full attention to any task (Phathara-on Wesarat, Mohmad Yazam Sharif & Abdul Halim Abdul Majid, 2015).

The Workplace Happiness Index (WHI) is a new measure of the worker-work relationship. Lack of communication from the top was seen as one of the biggest causes of unhappiness. Though a happy employee is not necessarily an engaged one, there is a striking correlation between what makes employees happy and what engages them. Business outcome measures are assessed including customer satisfaction, employee performance and employee happiness (Maya Salimath G. and B. Rose Kavitha, 2013)

A brief review of literature upon workplace happiness and relevant studies has been mentioned in tabular format at the end of the paper. (Table 1).

### **Research Gap:**

**Conceptual Gap:** Various studies have been conducted so far on the key words of the subject such as on workplace happiness, organizational performance and individual performance but there is a dearth of any study being conducted on the proposed research topic especially in Indian corporate context.

**Geographical Gap:** The literature review confirms that such studies have been done in Russia, South Africa, Thailand, Malaysia, Pakistan, Afghanistan, Sudan, Israel, France, Britain, Kenya, USA etc. Only few studies have been done upon proposed research in India however taking only one type of organization only.

### **Research Objectives**

1. To study the relationship between workplace happiness of individuals and teams within departments
2. To study the relationship between workplace happiness at departments and overall organizational levels.
3. To understand the impacting factors at individual happiness, department happiness and organizational happiness (self, team and culture)

### **Research Methodology**

The primary data are collected with the help of structured questionnaire consisting of a numbers of statements related to variables influencing workplace happiness. These statements are classified into three categories: Organizational level, Departmental/Team level & Individual level. Pilot testing is being done upon a group of experts to test the validity of the research instrument.

There are total 50 statements in the research instrument. Each of them is rated on 5-point rating scale from strongly disagree to strongly agree. These statements measure workplace happiness of employees at three levels. 11 statements are designed to study workplace happiness at Organizational level, whereas 20 statements for Departmental level and remaining 19 are related with individual level workplace happiness. The Cronbach's Alpha value 0.910 satisfies the validity of the research instrument for filtering out data for stage one. The tool will be further modified with inclusion of negative items for better reliability and validity.

The employees of various industries are the target population for primary data, who are contacted through snow-ball sampling method. The researchers mailed the questionnaire to the sample and 140 responses have been received.

#### **1. Demographic Profile of Respondents:**

- 24% respondents belong to 30-35 years, 22% are above 45 years, 20% from 35-40 years reveals that employees from almost all age groups are equally surveys to assess workplace happiness. (Fig 1)

- In terms of work experience, there is almost equal number of respondents in all the specified categories. 25% of respondents have more than 20 years of work experience. (Fig 2)
- 2. There is a strong relationship (Karl Pearson Coefficient  $r = 0.818$ ) between workplace happiness at individual level and workplace happiness at organizational level. (Table 2)
- 3. There is a moderately high degree of relationship (Karl Pearson Coefficient  $r = 0.774$ ) between workplace happiness at individual level and workplace happiness at departmental level. (Table 2)
- 4. There is a high degree of relationship between (Karl Pearson Coefficient  $r = 0.721$ ) between workplace happiness at organizational level and workplace happiness at departmental level. (Table 2)

## CONCLUSION

During this study, researchers have found that there is a need to modify the questionnaire to get better result. This research will become the basis for next high level of study upon the same theme.

Happiness is an umbrella concept that shades varieties of intrinsic and extrinsic factors. In the workplace, happiness is influenced by organizational, personal and departmental factors. Happiness is actually a combination of positive and negative emotions, philosophy, and psychology.

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## APPENDICES

**Table 1 : Review of Literature**

Title of Book/Journal	Author(s)	Title	Year	Outcome of the Study
Ruut Veenhoven (ed), (1989) How harmful is happiness?	Michael Argyle	DO HAPPY WORKERS WORK HARDER? The effect of job satisfaction on work performance	1989	If job are redesigned to skill variety & autonomy, this means that work performance will be intrinsically more rewarding
Journal Of Career Assessment	Julia K. Boehm Sonja Lyubomirsky	Does Happiness Promote Career Success?	2008	Happiness is not only correlated with workplace success but that happiness often precedes measures of success and that induction of positive affect leads to improved workplace outcomes.
ePublications@bond	Cynthia D. Fisher	HAPPINESS AT WORK	2010	happiness at work is likely to be the glue that retains and motivates the high quality employees of the future.
White paper at happiestmind.com	Sharon S. Andrew	S.M.I.L.E.S.: The Differentiating Quotient for Happiness at Work	2011	Individuals who find their lives (inside and outside of work) rewarding and fulfilling are generally more successful in the workplace.
Survey Report	Alex Bryson George MacKerron	Are You Happy While You Work?	2012	Work continues to be negatively associated with momentary happiness, regardless of the stress associated with working.
International Journal of Research in Management	Ms. Maya Salimath G Dr. B.Rose Kavitha	Employee engagement and its impact on workplace happiness with reference to selected retail outlets in Bengaluru – An emperical study	20	-Happiness and performance tend to move in the same direction, -High performing employees produce satisfied customers, and -Happy employees result in satisfied customers
Social Research Reports –	Natthawin SAENGHIRAN	Towards Enhancing Happiness At Work: A Case Study	2013	The workplace happiness could be at three levels, namely: individual, team & organization
Journal of indian research	Jitendra kumar singh Dr. Mini jain	A study of employees' job satisfaction and its Impact on their performance	2013	A good work environment and good work conditions can increase employee Job satisfaction and the employees will try to give their best which can increase the employee work performance.
Title of Book/Journal	Author(s)	Title	Year	Outcome of the Study
A Research Project	William N. Cooke David G. Meyer	The Effects Of Workplace	2014	Complex & multifaceted KB workplace climates

		Climates On Employee Performance Capacities: A Knowledge-based Perspective		play the central role in explaining psychological states of competence and impact.
Paidéia (Ribeirão Preto),	Juliana Moraes de Sousa Juliana Barreiros Porto	Happiness at Work: Organizational Values & Person-Organization Fit Impact	2015	the curvilinear relationship between happiness at work and Organizational Values.
International Review of Management and Business Research	Nur Zainie Abd Hamid Narehan Hassan	The Relationship Between Workplace Environment and Job Performance in Selected Government Offices in Shah Alam, Selangor	2015	This help the employers in improving the worker satisfaction especially through adjusting the workplace environments in which as a result will increase the level of their job performance.
Asian Social Science; Vol. 11, No. 2; 2015	Phathara-on Wesarat, Mohmad Yazam Sharif & Abdul Halim Abdul Majid	A Conceptual Framework of Happiness at the Workplace	2015	Happiness at the workplace is hypothesized to be moderated by cultural values.
Report of The Lincoln National Life Insurance Company	-	Happiness & the bottom line: The Happy Worker Prescription	2016	Happier employees benefit the company and ultimately drive the bottom line.
World Journal of Social Sciences	Zerin Tasnim	Happiness at Workplace: Building a Conceptual Framework	2016	In the workplace, happiness is influenced by organizational, personal and social factors.
International Journal of Asian Social Science 2016, 6(6)	Abdul Ghani Kanesan Abdullah Ying-Leh Ling Chen Siew Peng	An exploratory analysis of happiness at workplace from malaysian teachers perspective using performance-welfare model	2016	The employee contribution, their trust, work climate, employee involvement, and their confidence, to achieve individual potential with the support of the trust, recognition, and pride leads happiness at workplace.

### Demographic Profile of Respondents

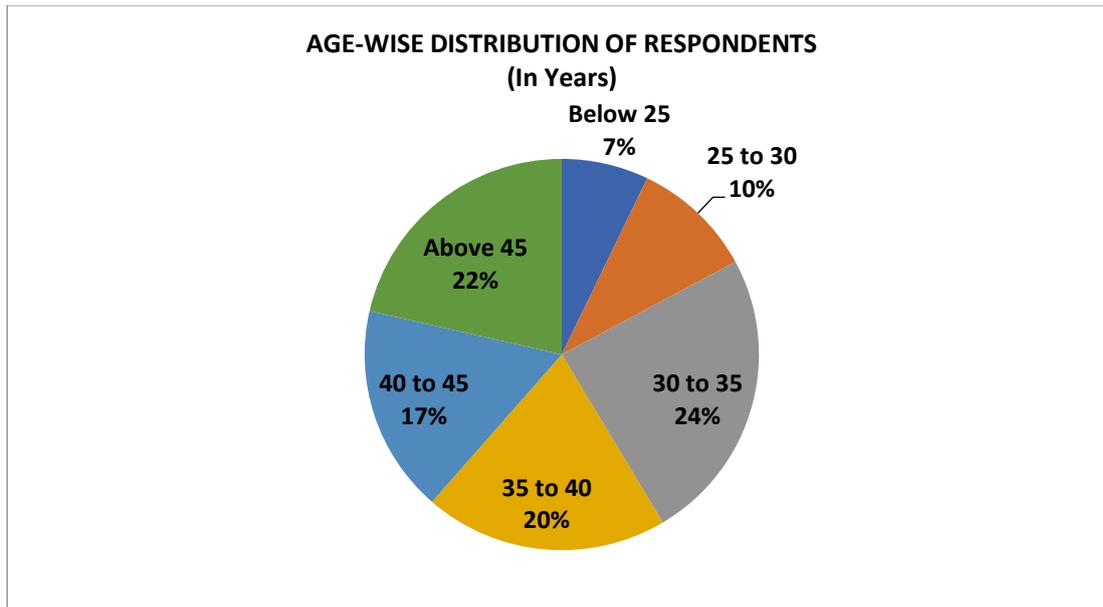


Fig.1

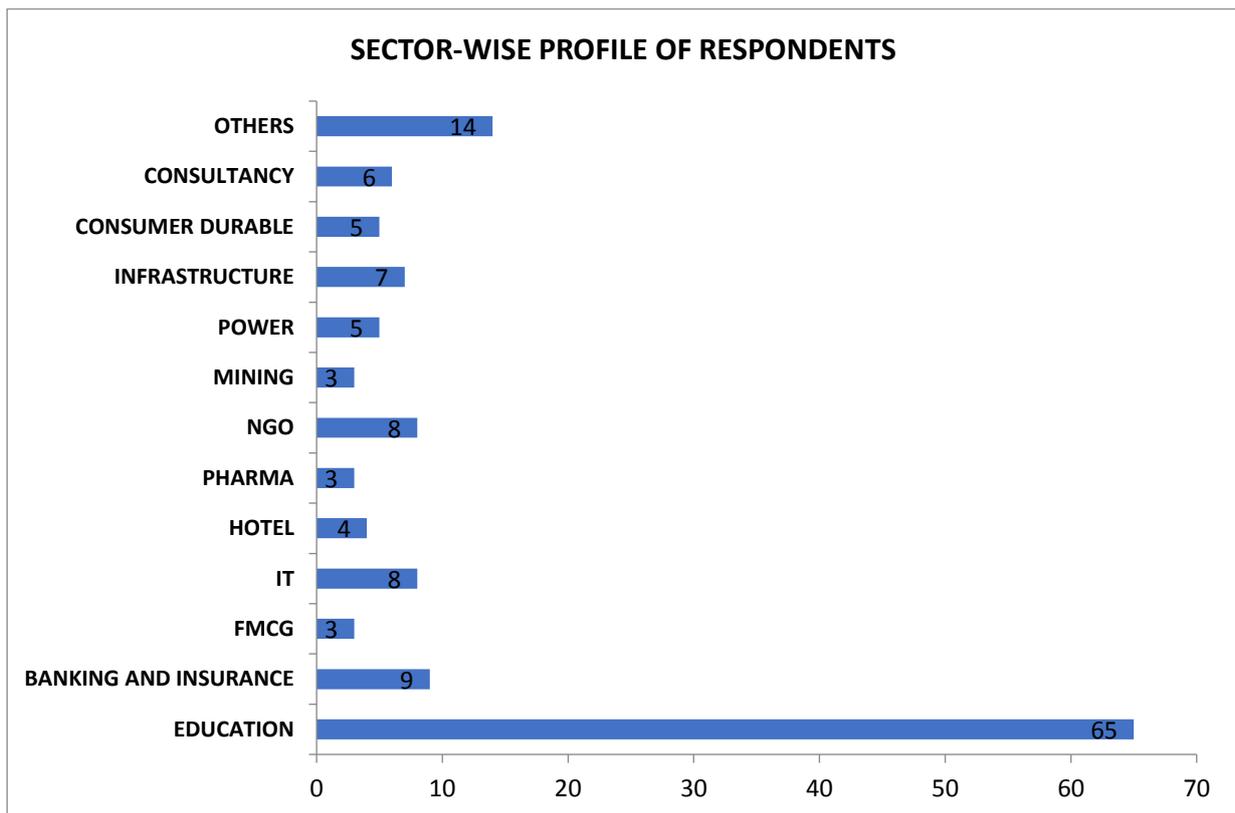


Fig.2

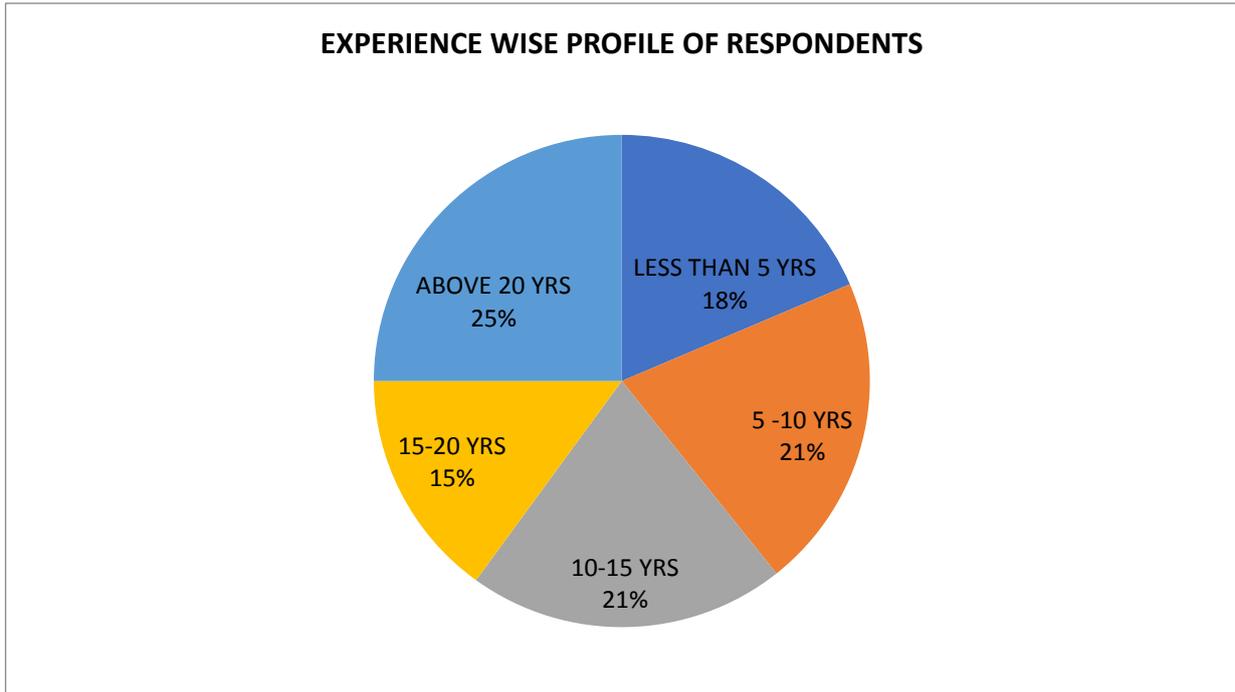


Fig.3

**Table 2**

<b>Pearson Correlation Matrix</b>			
	Work Place Happiness at Organization Level	Work Place Happiness at Department Level	Work Place Happiness at Individual Level
Work Place Happiness at Organization Level	1.000		
Work Place Happiness at Department Level	0.721	1.000	
Work Place Happiness at Individual Level	0.818	0.774	1.000

## **Track 18**

# ***Business Ethics and Sustainability Development***

*Track 18 Business Ethics and Sustainability Development*

**ID #562**

**Ready Mechanisms? Triggers on... Absorption! How to  
acquire Sustainable Knowledge**

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**Abstract**

*It is not necessary to emphasize how important Sustainability is to academy and society. The creation by the United Nations Organization of the "Sustainable Development Objectives - SDGs" demonstrates the relevance of the theme. Another important relevant subject as well as sustainability, for the area of management and business, is the construct of "Absorptive Capacity". From 2007, works like those of Hanlin (2007) and Williander (2007) began to associate the subjects Sustainability and Absorptive Capacity. However, even with the results of works such as those by Delmas et al. (2011), Murray et al. (2011), Galbreath et al. (2014) and Bowler et al. (2015), it is not definitively clear how this association occur. Some points cited by these authors indicate a path to a deeper analysis of the theme: the triggers that start the need for sustainable performance and levels of social integration. This article aims to discuss and characterize the ability to absorb green knowledge within organizations. This study is methodologically classified as a qualitative research having as strategy the analysis of content using the Atlas Ti software for the analysis of 19 articles with a JCR impact factor up's of 1,000, published between 2016/2019. As a result, it has been identified that activation triggers are internal and external, and that social integration mechanisms actively act on internal triggers as well as external sources of knowledge. But the main finding of the research is in the identification of the influence of the employee's mental models, processes, routines, and structures that directly influence aspects such as activation triggers and social integration; and consequently, the result of sustainable ACAP.*

**Keywords:** Sustainability; Absorptive Capacity; Social Integration Mechanisms; Activation Triggers; Mental Models; Knowledge Acquisition.

**Acknowledgments**

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## **INTRODUCTION**

It is not necessary to emphasize how important Sustainability is to academia and society. The creation by the United Nations Organization of the "Sustainable Development Objectives – SDG's" demonstrates the relevance of the theme. The SDG's are defined as a call to action against poverty, protection of the planet, guarantee of peace and prosperity for all. They include issues such as global climate change, economic inequality, innovation, sustainable consumption, peace and justice, and other priorities (SDGs, 2015). The subject is of such value that the main scientific congresses worldwide presented specific lines to recent studies and research on the subject, included in management and business. Or they exclusively approach the theme as the case of the Workshop for Advances in Cleaner Production.

A relevant subject, such as sustainability, very appreciated for the area of management and business, is the construct of "Absorptive Capacity". According to the seminal works, Cohen & Levinthal (1990, p. 128) Absorptive Capacity can be defined as: "The ability of a company to recognize the value of new external information, to assimilate it and to apply it for commercial purposes".

It has been some time since the themes Sustainability and Absorptive Capacity are being related. According to Barcelos, Magnago, Alberton, & Rossetto (2018), since 2007 articles have been written addressing the subjects. The authors highlight the growing interest in the influence of absorptive capacity on sustainability, indicating an increasing number of publications for the most recent years. Starting from two publications in 2007, to seventeen in 2017, totalling 83 articles in the period. It is not just publications in scientific journals that denote that interest, events are also addressing the theme as the 6th Workshop for Advances in Cleaner Production in São Paulo in 2017.

During the event, a discussion workshop was led by Dr. Donald Huisingh focused on the role of stakeholders to meet SDG's. Giannetti et al. (2018) report that the results of the workshop relate to the generation and sharing of knowledge, improving, and expanding the knowledge dissemination capacity in the network and the network of stakeholders. To a certain extent, this ability in improving acquisition, processing and application of knowledge is linked to absorptive capacity.

For the authors of this article, the growing academic interest in studies about the relation between the Absorptive Capacity and Sustainability constructs is evident, either by the growing number of publications or by the events that do so. However, even with the results presented in the literature review (Barcelos et al., 2018), which describes ACAP's relationship with Sustainability through works such as those by (Delmas et al., 2011), (Murray et al. 2011) (Galbreath et al., 2014) and (Bowler et al., 2015), it is not definitively clear how this relationship is effective (causes and operationalization) between Sustainable Knowledge and Absorptive Capacity. Some points cited by these authors indicate a path to a deeper analysis of the theme: the triggers that starts the need for sustainable performance and levels of social integration.

Finally, this article aims to discuss and characterize the ability to absorb green knowledge within organizations.

## **THEORETICAL FOUNDATION**

### ***Sustainability***

In 1987, the consolidation of sustainability as an international theme takes place through the document known as the Brundtland Report, although it was published under the name Our Common Future. The document prepared by the World Commission on Environment and Development reaffirmed a critical view of the development model adopted worldwide and emphasized the risks of overuse of natural resources without regard to resilience of ecosystems (Brundtland, 1987). Thus, sustainability is understood as the balanced development of present well-being, safeguarding the future well-being's safety, in relation to its environment, social relations and economic equity, and proposes the development of practices and tools aimed at creating, regulating and to improve socio-productive activities that support the principles described (Brundtland, 1987; Häni, Pintér, & R., 2006; Sachs, 1993).

Constant debates on the subject to delimit the concept refer to the aspects addressed by different researchers, preventing a single view, and corroborating the complexity and quantity of factors that cover the theme, as well as the dynamicity of the events that influence them (Seghezzeo, 2009; Van Bellen, 2004). In the conception of Elkington (2001), organizations or even entire productive chains will depend on their potential in the delivery of results in the economic, environmental, and social fields to be successful. And reaffirms that the abstinence of focus on these pillars, by the organizations, will imply the chance of extinction. These three fields, social, economic, and environmental, form the basis of sustainability (Elkington, 2001).

Van Bellen (2004) explains that sustainability, as a theoretical concept, can be better understood if explained through this composition of dimensions. Petrini and Pozzebon (2010) reinforce these ideas by referring to the practice of sustainability management to the necessary overlapping of social, environmental, and economic spheres. This set of spheres or dimensions known as the Triple Bottom Line (TBL) are the centre and the dominant theoretical conception that remain as the basis for business involvement with sustainability (Milne & Gray, 2013).

The graphical representation of Figure 1 summarizes the three dimensions of sustainability, as well as their overlaps, creating subdimensions that are characterized by their proposition of performance. The economic dimension has innovation, capital efficiency, risk management and growth enhancement. The social dimension addresses issues such as education, community awareness, human rights, and diversity; while addressing the principles of biodiversity, clean air - water - land, reducing emissions and minimizing waste, express the aspects addressed by the environmental dimension (Elkington, 2001).

#### **\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\***

It can also be verified in Figure 1 that the conjunction of social and economic dimensions some breeds in the sub dimension Socioeconomic, which covers issues such as Job creation, Increased skills, Local economic impact, and Social investments.

The sub-dimension created by the conjunction of economic and environmental dimensions focuses Development, Resource efficiency, Product Management, Product Life cycle management and Regional materials. And the intersection of the dimensions Social and environmental issues creates the sub-Dimension Environmental, where the search for improvement relates aspects such as Health and Environmental safety, Global climate crisis and Environmental policy. It stands out at the central intersection of Figure 1, contained in the fields of environment, society and economics, sustainability.

The ongoing research on the subject made with that theoretical conceptions would become comprehensive and what new dimensions came up in the composition of the analytical mosaic of relations that involve the expression sustainability and its meanings. Sachs (1993) indicates an unfolding of the TBL with eight dimensions for sustainability, as presented in Table 1.

**\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

It is clear that the number of dimensions varies significantly, consequently increasing by the complexity of the theme, as mentioned previously in the ideas of Van Bellen (2004) and Seghezzeo (2009).

The work of Seghezzeo (2009), besides pointing to the complexity of the definition of sustainability, also proposes a diversity for the dimensions. In his work, the author starts with certain aspects of the WCED, such as the dichotomy between economic growth and social equality, and the omission of the report in relation to the individual and the needs to propose a new set of dimensions. Dimensions can be identified in Figure 2.

**\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\***

Place, dimension that understands that the environment is defined by the place and culture with which people interact. Place can also be explained by the feeling of belonging and identity that influence the generation of culture. It has been defined as "the experience of a certain place with some measure of firmness, a sense of limits and connection with everyday life" (Escobar, 2001, p.140 apud Seghezzeo, 2009).

Locations are thus a source of facts, identities, and behaviours. They incorporate notions of culture, local ways of life and human aspects such as physical and psychological health. However, place can also be considered a group of distinct localities, but they demonstrate cohesion of social life through mobility, networks, and migrations. The place is, therefore, a social construction that helps people (X) to perceive a sense of belonging to a certain culture (Y) and environment (Z).

Also, in Figure 2, one has Permanence, which be the need to think long term. Permanence is the dimension where planning considers that the analysis of the future effects of today's actions is fundamental. The explicit inclusion of temporal aspects seems especially appropriate to deal with issues related to material legacy and personal transcendence. The feeling of belonging to a place is often related to things that occurred at different times, sometimes distant (Macnaghten; Urry, 1998 apud Seghezzeo, 2009). Thus, one concludes that the concept of place itself is not complete until a temporal variable is allocated.

And as the last dimension, Figure 2 shows Persons. This dimension may seem confusing, but it is necessary to deal with issues of identity, values, rights, happiness, and well-being. This is justified, therefore, concepts of justice and equity, although basic to building a more sustainable world, are probably not sufficient to cover a series of more personal aspects of the individual. Seghezzeo (2009) states that feelings of happiness and well-being seem to function independently of economic wealth, locality, or even social justice.

And in counterpoint, happiness and personal well-being can be linked to aspects of life such as autonomy, freedom, achievement and development of interpersonal relationships. The possibility of all being equal and having the same access to goods and services, but also being equally unhappy, justifies that the notion of sustainability must include a personal dimension (Seghezzeo, 2009).

The development of the concept of sustainability, in its complexity, is currently much better represented by the SDG's. Figure 3, taken from the United Nations website, indicates sustainability objectives.

\*\*\*\*\* **FIGURE 3 ABOUT HERE** \*\*\*\*\*

Thus, organizational actions that act within the scope of SDGs will be directly engaged with Sustainability. And for Klewitz and Hansen (2014), an increasingly important way for companies to achieve sustainable performance lies in the enhancement of their dynamic capacities, represented by their capacity for innovation, but mainly by Absorptive Capacity.

### ***Absorptive capacity***

The first authors to consistently address the concept of absorptive capacity were (Cohen & Levinthal, 1990). According to them, the absorptive capacity is defined as the ability of the organization to assess the value of new external knowledge, assimilate it, and apply it for commercial purposes. In the model developed by the authors, three dimensions are presented: recognition of information value, assimilation of knowledge by the company and the application of knowledge to generate innovation.

Cohen and Levinthal (1990) argue that the ability to absorb new information will depend on the level of prior knowledge in the organization, which is related to learning skills and experiences, and to the recognition of the value of new information. The authors also discuss the importance of internal Research and Development (R & D) activities as generators of information for the organization and suggest that, in addition to this generation of new knowledge, they enhance the firm's ability to assimilate and deploy existing information. This ability causes the company to accumulate, over time, a relevant knowledge base (Cohen & Levinthal, 1990).

In this same perspective, Lane and Lubatkin (1998) brought the view of absorptive capacity at the interorganizational level, establishing that absorption capacity refers to an organization's ability to learn from another organization, being determined by the relative characteristics of the two organizations. The following year, (Van den Bosch, Volberda, & de Boer, 1999) argued about the dependence of the absorptive capacity of the environment in which the organization is inserted, defending the idea that organizations respond to environmental situations. Thus, the ability to absorb is the skill that involves the evaluation, acquisition, integration, and commercial use of new external knowledge.

Other researchers have devoted themselves to expanding the concepts of Absorptive capacity as Zahra and George (2002, p. 186) which conceptualize absorptive capacity as "a group of routines and organizational processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capacity. " (Lane, Koka, & Pathak, 2006), which define the absorptive capacity through three processes: identifying and understanding new potentially valuable external knowledge through investigative learning; assimilate this new knowledge through transformative learning; and finally, to use this assimilated knowledge to create knowledge and commercial results. The authors, through a survey of the literature, propose a model that emphasizes the processual perspective of the absorptive capacity relating to the processes of organizational learning to processes of absorption capacity (Lane, Koka and Pathak, 2006).

The study by Todorova and Durisin (2007) reviews the work of Zahra and George (2002), adding the first dimension of the work of Cohen and Levinthal (1990). The authors conceptualize absorptive capacity as the ability to recognize the value of new external knowledge, to acquire it, to transform it, and to apply it. In this sense, Flatten, Engelen, Zahra,

and Brettel (2011), from the dimensions proposed by Zahra and George (2002), conceptualize the absorptive capacity as the organization's ability to acquire, assimilate, transform and apply external knowledge. For these researchers, the four dimensions of Zahra and George (2002) enable organizations to explore new knowledge and thereby increase performance, characterizing the absorptive capacity as a source of competitive advantage.

The model proposed by Cohen and Levinthal in 1990 characterizes the absorptive capacity as the firm's ability to identify, assimilate, and apply knowledge. As previously seen, this model has three layoffs and it will be necessary to recognize the value of a new knowledge, that the company has a knowledge base, called prior knowledge and internal R & D activities (Cohen & Levinthal, 1990). Figure 4 presents the model proposed by the authors.

**\*\*\*\*\* FIGURE 4 ABOUT HERE \*\*\*\*\***

The authors Zahra and George (2002) presented a new understanding about the absorptive capacity as a set of routines and organizational processes and divide the absorptive capacity into four dimensions. In the sequence is presented Figure 5 with the model proposed by the researchers.

**\*\*\*\*\* FIGURE 5 ABOUT HERE \*\*\*\*\***

The theoretical model of Zahra and George (2002) defines the absorptive capacity as an interactive process, in which knowledge needs to be transformed to contribute to the processes of change, thus, for authors, knowledge is dynamic, transforming and expanding. The changes made by Zahra and George (2002) modify the position of the Appropriability Scheme starting from the moderation between Previous Knowledge and Absorptive Capacity, and to moderate the relation between Absorptive Capacity and Competitive Advantages. Zahra and George (2002) model includes the moderation of activation triggers between knowledge source and absorptive capacity, as well as mechanisms of social integration, moderating the relation between potential absorptive capacity (PACAP) and the realized absorbed capacity (RACAP).

About mechanisms of social integration, the literature review shows that the concept of "social integration mechanism" developed by Zahra and George (2002), and later used by Todorova and Durisin (2007), do not present a definition. Since Zahra and George (2002) use this concept informing its applicability and Todorova and Durisin (2007) besides the applicability, try to conceptualize by means of examples.

Based on the work of Todorova and Durisin (2007), the articles "The relational vision of information searches and learning in social networks" written by Borgatti and Cross (2003) and "Promoting extensive social networks helps pharmacological industry firm identify relevant external knowledge" written by Henderson and Cockburn (1994). In these works, it is possible to identify that the mechanism of social integration can be defined by social structures (set of people), in the form of a network, within the organization, that influence the search behaviour of the knowledge coming from the external environment of the company. Tempelaar, Jansen, and Van Den Bosch (2008), indicates that external social relations increase the acquisition of knowledge, while internal social relations facilitate the diffusion of knowledge.

Another important model of absorptive capacity was developed by Lane et al. (2006), where the authors established three processes of the absorptive capacity of using external knowledge, namely: (1) Recognizing and understanding new potentially valuable external knowledge through investigative learning; (2) Assimilate new valuable knowledge through transformative learning; (3) Use the assimilated knowledge to create new knowledge and commercial results

through exploratory learning (Lane et al., 2006). Figure 6 presents the model proposed by the researchers can be observed in the sequence.

\*\*\*\*\* **FIGURE 6 ABOUT HERE** \*\*\*\*\*

The model proposed by Lane et al. (2006) includes factors that influence the results of the absorptive capacity. The authors disagree with the division proposed by Zahra and George (2002) of potential absorptive capacity (PACAP) and realized absorptive capacity (RACAP). Thus, they take up the initial view of Cohen and Levinthal (1990) with the three dimensions.

Another perspective of ACAP is presented by Todorova and Durisin (2007). The authors return to the model presented by Cohen and Levinthal (1990) with the understanding that without previous knowledge, organizations will not be ready to acquire new information and thus could not absorb it. Todorova and Durisin (2007) thus, the authors return to the recognition of value as the first step of the absorptive capacity, according to the model presented in Figure 7 below.

\*\*\*\*\* **FIGURE 7 ABOUT HERE** \*\*\*\*\*

The model proposed by Todorova and Durisin (2007) includes the regime of appropriability as a moderator between prior knowledge and absorptive capacity. However, the model maintained the relationship in the same way that Zahra and George (2002) propose, between absorptive capacity and competitive advantage.

Another similarity observed between the models Todorova and Durisin (2007) and the model proposed by Zahra and George (2002) are the activation triggers or activation triggers that moderate the relation between prior knowledge and the absorptive capacity. However, in the model of Todorova and Durisin (2007), the authors include the relations of power also in this moderation (between prior knowledge and the absorptive capacity).

But the main point of disagreement between the model Todorova and Durisin (2007) and the model of Zahra and George (2002) is given by the fact that the model of Zahra and George (2002) presents the Acquisition as the first dimension of absorptive capacity. While Todorova and Durisin (2007) defend the initial view of Cohen and Levinthal (1990) when proposing the Recognizing of value as the first component of the absorption capacity.

They argue that without prior knowledge organizations are not able to evaluate new information and thus fail to absorb them. Without a knowledge base, organizations will not be able to identify new knowledge, so that new external knowledge can be absorbed if it is necessary for the company to be able to value this new knowledge (Todorova & Durisin, 2007).

And it is in this sense, to acquire and value knowledge and technology that the absorptive capacity can contribute to the enhancement of sustainable performance. Delmas, Hoffmann, and Kuss (2011) suggest that absorptive capacity can drive change in organizational behaviour to sustainability.

### ***Absorptive capacity and Sustainability***

The analysis of articles on the subject takes first the question of the motivators of the researches. Specifically cited by Jeremy Galbreath, Charles, and Oczkowski (2014), studies including the need to know about improved competitiveness, environmental issues, stakeholders' pressure, the growing interest in green innovations has helped advance the study to understand the mechanisms of engagement of firms in sustainability. The experts' expectations about the positive role companies can play for sustainability are also recorded as motivational to research.

The question asked was whether firms with higher levels of absorptive capacity would be involved in sustainable innovations.

From this perspective, sustainability and knowledge are exceptional concepts for companies to gain competitive advantage. Companies that can integrate social and environmental issues into business strategy will expand opportunities for innovation by increasing their opportunities for rapid learning (Klewitz & Hansen, 2014). Thus, the view of dynamic disposition of absorptive capacity explains the success or failure of a company, the creation of wealth and / or competitive advantage over time.

Another point to emphasize is the indication that social performance is based on organizational initiatives stemming from environmental, normative, coercive and mimetic pressures. Such pressures eventually force the development of processes of accumulation of knowledge and experience, which allows to strategically manipulate this knowledge and experience, improving the effectiveness of engagement in corporate social responsibility. The work of Tang, Hull, and Rothenberg (2012) corroborates this idea. The authors indicate that companies that adopt CSR strategies with consistent involvement are able to accumulate and absorb knowledge in an incremental way, create complementary resources in a more systematic way and convey to their stakeholders the image of serious and persistent corporate social responsibility.

It is necessary to comment that the question of knowledge management, more specifically in the form of acquisition to CSR, in the work of Klewitz and Hansen (2014) indicates that engagement with external actors may prove significant to affect change, not only at the organizational level, but also in industry. The authors affirm that the deep relationship with the external environment to the organizations is a priority for the acquisition of knowledge and innovative development.

Thus, it is clear that the development of the absorptive capacity positively influences the sustainable performance of organizations ((Murray, Roux, Nel, Driver, & Freimund, 2011; Galbreath, & Oczkowski, 2014).

## **METHOD: A SYSTEMATIC ANALYSIS OF CONTENT**

This study is methodologically classified as a qualitative research having as strategy the content analysis. Content analysis is defined by Krippendorff (2004) as a research technique that creates valid and replicable inferences of texts for their contexts of use. For the content analysis method, the notion of inference is especially important because the researcher uses analytical constructs, or inference rules, to answer the research questions White and Marsh (2006).

According to White and Marsh (2006), this work presents some structural characteristics by its qualitative bias, described in the following table.

**\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\***

From these characteristics emerges the step by step for structuring the research process through content analysis. There is similarity in most steps between quantitative and qualitative research such as: selecting material that is relevant; unify the content by distinguishing words or propositions and using quotations or examples; contextualize what is in the light of the theory about the circumstances surrounding the text; and have the specific research questions in mind (Krippendorff, 2004).

But it is necessary to distinguish certain stages, depending on the purpose of the qualitative analysis in the following steps. For White and Marsh (2006), the research question should be

open since, in the analysis of qualitative content, the text plays a different role, since from reading data and detailed examination some patterns and concepts may arise, were foreshadowed, but which are, nevertheless, important aspects to consider. Thus, the researcher can legitimately change his interests to pursue these new standards. Regarding the sample, the qualitative researchers focus on the singularity of the text and are aware of the multiple interpretations that can arise from a careful reading of it. The need for close and repetitive analysis generally limits the sample size (White & Marsh, 2006).

In the coding question, because unlike quantitative studies using variables, the codes refer to the constant comparison approach to data analysis, in which emerging relationships and categories are continually refined and emerging theory or patterns are tested as new data are compared with the old ones (Boeije, 2002).

And so, in contrast to quantitative analysis, the emphasis is always on answering the research questions, but also considering any changes that the initial questions may have suffered during coding or any new issues or themes that arise during encoding. The result of the qualitative analysis is a composite picture of the phenomenon that can incorporate the context, population, situation, and the theoretical construct. The objective is to describe the "general picture" of a given subject, exhibiting the conceptual depth through a weighted arrangement and richness of detailed observations (White & Marsh, 2006).

Thus, the first methodological step of this study was to determine the sample. The choice of bibliographic material is shown in Fig. 8.

**\*\*\*\*\* FIGURE 8 ABOUT HERE \*\*\*\*\***

As shown in the figure, the main publishers of scientific journals worldwide were selected as the basis for the selection of texts: Sage, Wiley and Blackwell, Emerald, Springer, Elsevier and Taylor and Francis. They were selected because they contain an expressive number of high impact journals and are indexed bases that allow the export of metadata necessary for the analysis of the publications.

The terms used for the searches were "Absorptive Capacity" and "Sustainability". These terms were applied to the bases generally, that is, that they were present in any part of the publication, including titles, abstracts, keywords and texts. In the second phase of this selection was the application of a filter related to the type of document, in which selected only articles, since only they undergo peer review processes in their full version.

Following the filtering process, the period from up to 2016 was defined as the analysis period. This date restriction was based on the option of the authors to privilege the latest information on the state of the art available on the research topic. The fourth stage of the selection was the reading and analysis of abstracts, this step was intended to select articles that have strict alignment to the subject matter of the article. The search was characterized by a bibliography that included the relation of the absorptive capacity and sustainability, and mainly by works of empirical nature, thus excluding bibliographic revisions and theoretical discussions.

The last step of the sample collection (selection of texts) was the application of an impact factor filter for the journals. As a criterion it was defined that publications should be published in journals with a minimum impact factor of 1,000, according to the Journal Citation Reports (JCR) index. This analytical tool summarizes citations from periodicals, books, and annals in the Web of Science Core Collection, which is a carefully selected database of the sources that were considered most important and useful in their fields (Analytics, 2019).

The proposed analyses for these articles were as follows: qualitative descriptive and content analysis. The qualitative analysis identifies the number of publications per year and the periodicals where they were published, as well as the impact factor. The content analysis was done through the software Atlas Ti, where the software permits the search for the related terms to the research topic allowing the grouping of sentences and ideas permitting to categorize and to correlate the concepts and results of each article. This procedure consents, as previously mentioned, the construction of a conceptual framework that covers the proposed thematic space.

## **RESULTS**

### ***Descriptive analysis of the sample***

The first analysis of publications was published annually, which identify the quantitative variation and the average impact factor of the journals over the years. Figure 9 shows in the timeline the number of publications over the period selected for the survey, from 2016 to 2019 and the average JCR impact factor for the years of publication.

\*\*\*\*\* **FIGURE 9 ABOUT HERE** \*\*\*\*\*

The graph shows an average yield for the years 2016, 2017 and 2018 over five high impact publications per year, with the impact factor of journals being above three points, having a score of 2018 above 4.500 points. The average impact factor for all productions during the period is 3,800 in the JCR index. Table 1 below lists the articles used for analysis of the constructs.

\*\*\*\*\* **TABLE 3 ABOUT HERE** \*\*\*\*\*

Table 3 shows the variety of areas of the periodicals where the articles were published, starting with newspapers related to cleaner production, including journals related to innovation, production, and economics; and management and business. Attracts attention the Cleaner Production journal, which the higher impact factor of all journals, 5,651, with six publications, including one already published for 2019. And the Journal of Knowledge Management, which has an impact factor of 2,551, that has published two articles in 2018, which demonstrates the growing interest in the analysis of the relationship between the Sustainability and Absorptive Capacity constructs.

Another situation that emerges from the characteristics of the articles is the structural questions of analysis of the ACAP construct in relation to Sustainability. In a way, the analysis lenses its focused on the ACAP structures called Dimensions, Triggers, Social Integration Mechanisms and Appropriability Regime. But more specifically within the dimensions in the part connected to the exploration and application of knowledge, and in performance, represented by innovation; and in the mechanisms of social integration and activation triggers.

These findings led to the structure of analysis of content, item 4.2 below, allowing to cut more assertively the contents of texts that addressed such categories. In this way the item 4.2 Content Analysis is divided in 3 parts that logically build the framework proposed in the methodology described by (White & Marsh, 2006).

### ***Content analysis***

The finding in the content analysis of the texts that fortify and justify the accomplishment of this work is anchored in the expressions "Information Systems - Environmental Absorptive Capacity" and "Green Absorptive Capacity". These expressions appear among the texts as a

predication of a new construct and already practically delimited by the authors who use them as Cooper and Molla (2016) and Pacheco, Alves, and Liboni (2018). In other words, the original concept of Cohen and Levinthal (1990), through Zahra and George (2002), Lane et al. (2006) and Todorova and Durisin (2007), acquired, in recent years, a derivation for sustainability.

The level of specificity in the derivation of the ACAP construct is revealed in the concept given by Cooper and Molla (2016) for "Environmental Absorptive Capacity": the environmental absorption capacity of an organization to assimilate complex innovations for sustainability environmental and green practices that minimize the negative environmental impacts and that such assimilation tends to mediate value at the organizational level.

According to Pacheco, Alves, and Liboni (2018), Green Absorptive Capacity (GAC) intervene in the company's ability to identify, assimilate and exploit external information available in its environment, and absorb this with the goal of generating green innovations and improving performance from the company. Companies that develop a GAC tend to benefit from increased performance due to green innovation.

The central idea of the ACAP construct, of identifying, assimilating, transforming and exploiting external knowledge, follows as the master pillar. But as will be noted below, some particularities linked to sustainability lead ACAP to present different configurations and characteristics.

### ***Activation triggers***

Initially, it is necessary to describe what the activation triggers are and how they are treated in the classic ACAP concepts. As already mentioned in the referential, activation triggers are the causes that, in firms, cause the search for external knowledge. These causes may be internal or external to the organization and in the four revised models can be identified as follows: Activation Triggers for Todorova and Durisin (2007) and Zahra and George (2002), Recognition of Value for Cohen and Levinthal (1990) and Environmental Conditions for Lane et al. (2006)

In the context of this study, Activation Triggers play a primordial role in starting the activities of knowledge absorption in organizations. So important is this assertion that the work of Shubham, Charan, and Murty (2018) is devoted exclusively to analysing the mediation of institutional pressures, as triggers of activation, in the implementation of environmental practices. The results of the study indicate that the institutional pressure to implement corporate environmental practices is mediated by the development of organizations' ability to absorb environmental knowledge. That is, external pressure for sustainable performance drives the development of ACAP in organizations to achieve better sustainable performance.

This institutional pressure is explained by Galbreath (2017) and Segarra-Oña, Peiró-Signes, and Mondéjar-Jiménez (2016), who indicate that improving competitiveness of environmental issues (market), pressure from stakeholders (partners, suppliers), and the growing interest in green innovations pressure firms to engage in sustainability. It can be emphasized that sustainable performance is based on organizational initiatives due to environmental, normative, coercive, and mimetic pressures.

These pressures end up forcing the development of processes of accumulation of knowledge and experience, which allows to strategically manipulate this knowledge and experience, improving the effectiveness in the engagement to the sustainability (Galbreath, 2017; Cooper & Molla, 2016). And almost as a sentence Hellsmark, Mossberg, Söderholm, and Frishammar

(2016) state that policy initiatives aimed at strengthening absorption capacity and participation in R & D projects are key to sustainable performance.

On the other hand, Pacheco et al. (2018) indicates that possible triggers may exist based on internal routines, such as conducting initial environmental reviews, part of the routine of environmental management system standards, and adopting routines to meet environmental demands and legislations. The assimilation routines are represented by the presence of environmental training programs, clear definition of environmental goals and development of plans to achieve them, as well as the adoption of analytical tools such as life cycle analysis (LCA) to assess their impact environmental.

Complementarily Cooper and Molla (2016) explain that the extent to which triggers contribute to the development of absorptive capacity, it is also moderated by the context of organizational sustainability and, specifically, by organizational commitment, by sustainability performance indicators organizational structure. Dubey et al. (2017) corroborates the idea that in the internal context, compliance offers the ability to integrate, construct and reconfigure knowledge assets to drive sustainable competitive advantage. These assertions corroborate the Lane et al. (2006) model, where the authors bring the mental models of the members of the company as well as structure and processes as ACAP mediators. In this case, ACAP for sustainable performance.

As shown, activation triggers have a significant importance in the process that starts the search for external green knowledge (Sustainable ACAP) in organizations, and these triggers appear internally in organizations, as externally (Shubham et al., 2018). Theoretically, could be graphically represent an ACAP model for sustainability as in Figure 10 below.

\*\*\*\*\* **FIGURE 10 ABOUT HERE** \*\*\*\*\*

The external triggers can be summarized as the pressures exerted by the environment where the company is inserted, and that occur by the market, as consumers, customers, commercial partners, and competitors; or by institutional, as legal and political pressures. Internal triggers can be listed as processes and internal structures such as: compliance, performance indicators, research and development, corporate strategy, training, and employees' mindset. One observation should be made, which refers to the next item, mechanisms of social integration, as well as triggers, are extremely important for the implementation of sustainable ACAP.

The assertion by Jakobsen, Lauvås, and Steinmo (2019) explains that collaborative relationships demonstrate that partners with high absorptive capacity respond consistently to environmental policy objectives, leverage existing knowledge, and improve processes. Therefore, collaboration, as well as partnerships, joint ventures and other types of social relations mechanisms are also important in ACAP for sustainability, as we will see below.

### ***Social integration mechanisms***

As already pointed out in the theoretical framework, the mechanisms of social integration are social structures (set of people), in the form of networks, that influence the form and result in the search for knowledge in the external environment of the company. Ghassim and Foss (2018) corroborate that the market knowledge accumulated by the company acts as a facilitator for the acquisition of future knowledge through the existing network. But these networks come in many forms. Like the triggers, the mechanisms of social integration are manifested internally and externally as referenced in the reasoning by Tempelaar et al. (2008).

As for external mechanisms Garay, Font, and Pereira-Moliner (2017) e Jiang, Chun, and Yang (2018) indicate that engagement with external actors may prove significant to affect change,

not only at the organizational level, but also in industry. The authors converge in their opinions in the sense that the deep relationship with the external environment to the organizations is a priority for the acquisition of knowledge and innovative development. Galbreath (2017) emphasizes the importance of harnessing new knowledge acquired through interaction with markets, reinforced by Garay, Font, and Pereira-Moliner (2017), which point out the forms of relationship: communication with non-industrial organizations, use of collective and formal information and communication within the sector's sources.

Communication within industry sources has been studied by Pace (2016) which describes that through interaction with business partners, companies become aware of innovation opportunities and develop knowledge about how to exploit them in company; in other words, companies develop an increased potential absorption capacity. The same is described by Jakobsen, Lauvås, and Steinmo (2019), where R & D partners with greater relative absorptive capacity are more likely to respond coherently to sustainable policy objectives because of their relative similarities in organizational structures, bases of dominant knowledge and logic.

The relationship with non-industrial organizations is also cited as an important means of capturing knowledge. In the paper by Ghassim and Foss (2018), the authors bring a passage from one of the interviews with a company where the interviewee states that cooperation with the technical faculties to train employees helps to guarantee the need for competence and knowledge. The authors also relate clusters as social mechanisms, where people from research organizations share their knowledge about specific issues of interest to the industry.

Internal mechanisms are described by Ghassim and Foss (2018) as the dissemination of internal knowledge by sharing experiences among colleagues in a specific unit/function; and intra-company communication channels based on technical, market and social knowledge. In support of this assertion, for Cooper and Molla (2016) contextual factors at organizational and departmental level are needed to consolidate the capacity for environmental absorption. At the organizational level, the commitment to sustainability (mental model), performance indicators and processes that link environmental sustainability to economic outcomes through accountability are important. In addition, about green knowledge exposure, the exploitation of sustainable knowledge demands connectivity with other departments oriented towards sustainability in the organization.

Therefore, what is perceived is that the network composition described by Tempelaar et al. (2008) presents itself as a structure that, despite having its origin within the firm, perspires its borders to connect external sources of knowledge. But it also has a strong link to the organization's processes and routines, as well as the characteristics of collaborators' mental models. Figure 11 shows the arrangement of the mechanisms acting on the ACAP and in the relations with the sources of knowledge under the influence of the processes, routines, and mental models.

**\*\*\*\*\* FIGURE 11 ABOUT HERE \*\*\*\*\***

This model Explains better the relations proposed by the Cohen and Levinthal (1990); Zahra and George (2002); Lane et al. (2006); Todorova and Durisin (2007). In the figure it is noted that the arrow linking the mechanisms of social integration with the sources of external knowledge represent what Cohen and Levinthal (1990) called the appropriability regime and what Lane et al. (2006) called the characteristics of the learning relationship. That is, external social relations the firm that regulate the acquisition of knowledge.

On the other hand, the link between the mechanisms of social integration and the dimensions of ACAP within the firm characterize exactly what Zahra and George (2002) and Todorova and Durisin (2007) also call mechanisms of social integration. They act internally in the firm in the diffusion of the new knowledge by the organizational structures. Obviously, the authors also related these mechanisms to the connection with the external sources of knowledge, but always consider them as an internal structure to the firm, disregarding that the networks extrapolate the organizational boundaries.

It is important to emphasize that both activation triggers and mechanisms of social integration influence the firm's routines and processes, as well as the mental models of its collaborators. This relationship is discussed below.

### ***Activation triggers and social integration mechanisms in organizations***

Throughout the topics 4.2.1 and 4.2.2, the activation triggers and the mechanisms of social integration were independently analysed. In this topic we will discuss how the composition of these structures are related in the ACAP process to acquire green knowledge.

To begin the analysis, the model shown in Figure 12, which aggregates the previous two models, of topics 4.2.1 and 4.2.2, containing the external and internal activation triggers, was designed; and mechanisms of social integration.

**\*\*\*\*\* FIGURE 12 ABOUT HERE \*\*\*\*\***

The first analysis is done for external triggers. As already mentioned, these triggers are represented by pressures made by the firm's environment, more specifically market competitiveness, pressure from stakeholders (partners, suppliers, customers and competitors), policy and legislation that can translate into environmental pressures, normative, coercive and mimetic. But such pressures can only be detected by social networks. They make it possible to detect these pressures on the firm.

Therefore, it can be indicated as in the model that external triggers are directly linked to the firm's social integration mechanisms. Jakobsen, Lauvås, & Steinmo (2019) indicate that cooperative relationships (social integration mechanisms) demonstrate that partners consistently respond to environmental policy objectives (activation triggers), leveraging existing knowledge and improving processes. This dependence on integration mechanisms is so important that Hellsmark, Mossberg, Söderholm, and Frishammar (2016) indicate that external activation triggers that strengthen these networks are created in the sense of forcing the creation of networks of an industry and its participation in R & D projects.

Something very similar occurs with the internal triggers of activation. They are managed from the internal social integration networks of the firms involved in the ACAP process. As already mentioned in item 4.2.1, the triggers of internal activation are caused by the presence of training programs, development of plans, organizational context and organizational commitment (Cooper & Molla, 2016; Dubey et al., 2017). Liu, Zhang, & Ye (2019) believe that powerful teams can use vendors to discover knowledge of ideas, plans and projects on a sustainable basis, are the team (internal integration mechanism) has as triggers of activation the innovation discovery of a supplier (source of external knowledge).

But the most significant finding is clearly the influence of the firm's structures, routines, processes and mental models on activation triggers and social integration mechanisms, which are highlighted in Figure 12. This influence is reported by Tanner, McIntosh, Widdowson, and Tillotson (2018) who emphasize that the incorporation of knowledge depends on the extent to

which the organizational processes and the cultures that act to increase the absorptive capacity for the proposed innovation are already working. In the work of Gangi, Mustilli, & Varrone (2018) it is reported that the incorporation of the principles of Internal Corporate Social Responsibility in the team, processes and strategy is the starting point for the effectiveness of the external strategy of Corporate Social Responsibility.

Galbreath (2017) emphasizes that as firms increase certain types of human capital resources the implementation of green innovations is strengthened. That is, mental models that demonstrate greater sensitivity to the natural environment, and higher moral and ethical standards tend to be more amenable to implementations of green innovations. It is plausible to deduce that from appropriate mental models' processes, routines, and structures should align with this mental model and that the ACAP process be conducted actively for green knowledge. This will probably have characteristics described previously, in items 4.2.1 and 4.2.2.

## **CONCLUSIONS**

This article aimed to discuss, identify and describe how organizations recognize the need to achieve absorptive capacity and how this absorption of green knowledge is feasible within organizations. It was clear, throughout development, that issues that are raised in ACAP's theoretical model Lane et al. (2006), the contributors' mental models, structures processes and routines, directly influence issues such as activation triggers and social integration. And consequently, the result of ACAP.

These, in turn, within the detailed characteristics, present a configuration when they approach the questions of green knowledge acquisition. Mainly the importance of external knowledge networks and networks, as well as activation triggers and process triggers are identified. But always linked to principles of adoption of conduits linked to sustainable performance. In this sense, the work has its limitations, because any statement about the characteristics and profiles of the processes, routines, structures and mental models necessary for the best performance of sustainable ACAP is weak.

Thus, they remain as suggestions for new research, works that can study in detail and in depth what types of structures, processes, routine and mental models that provide a superior performance of sustainable ACAP.

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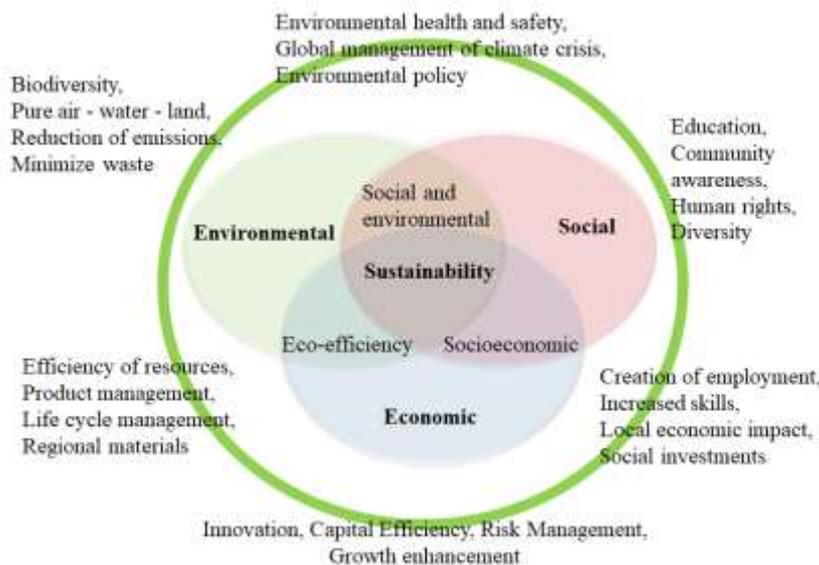
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Figure 6 - Triple Bottom Line



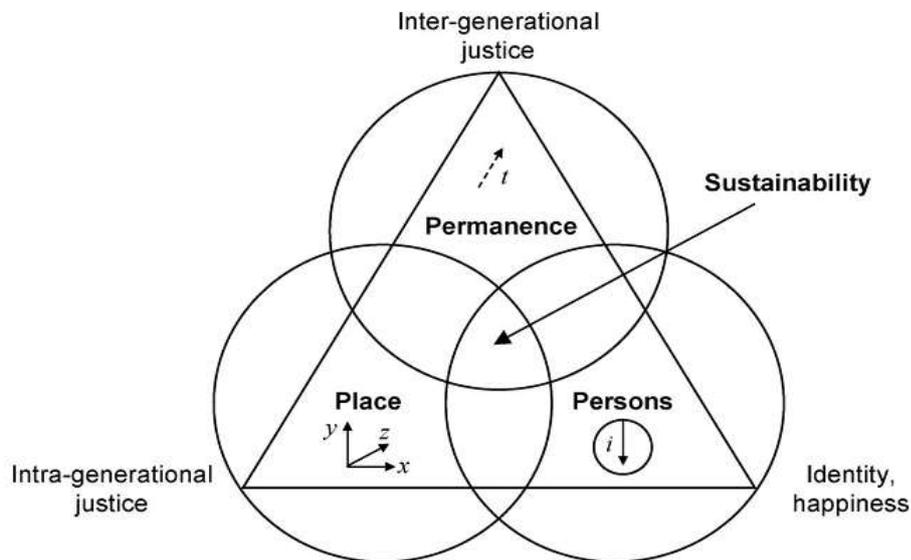
Source: Adapted from Elkington (2001).

Table 5 - The Eight Dimensions of Sachs Sustainability

DIMENSION	TECHNICAL FEATURES
Social	It is concerned with the need for social homogeneity, income equity, absence of unemployment and justice in the achievement of social resources and services.
Cultural	Refers to the balance between respect for tradition and innovation.
Ecological	It is linked to the preservation of natural resources.
Ambiental	It deals with the resilience of ecosystems.
Territorial	It notes the balanced distribution between urban and rural areas, the qualification of urban life, the reduction of interregional differences and the search for safe environmental development for ecologically endangered regions.
Economic	It envisions inter-sectoral economic development, continuous potential for modernization of production, minimum level of independence in scientific and technological research, and autonomy in international economic relations.
Nacional Policy	It refers to democracy as the total and widespread application of human rights and the capacity of the state to manage a national plan, corroborated by all entrepreneurs with a minimum of social unity.
International Policy	It points to the prevention of wars by the United Nations (UN), peacekeeping and the development of international cooperation, support for the principle of equality (rules of the game and sharing responsibility for favouring the weaker partner), institutional control of the system financial management, environment and natural resource management, prevention of global negative change, protection of biological and cultural diversity, global heritage management, international scientific and technological cooperation.

Source: Sachs (1993).

Figure 7 - The new sustainability triangle and the five dimensions.



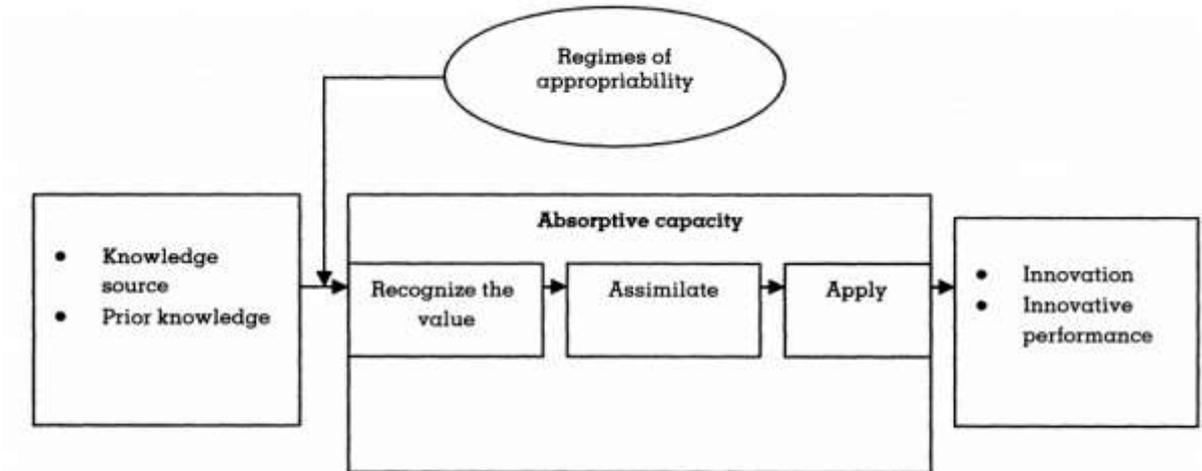
Source: (Seghezso, 2009)



Figure 8 - SDG's

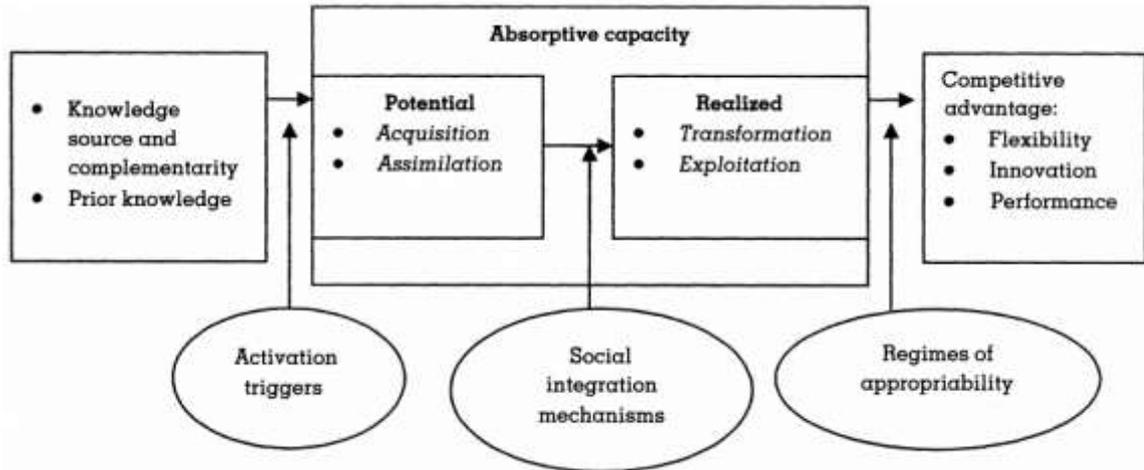
Source: SDGs (2015)

Figure 9 - Theoretical model of ACAP developed Cohen and Levinthal



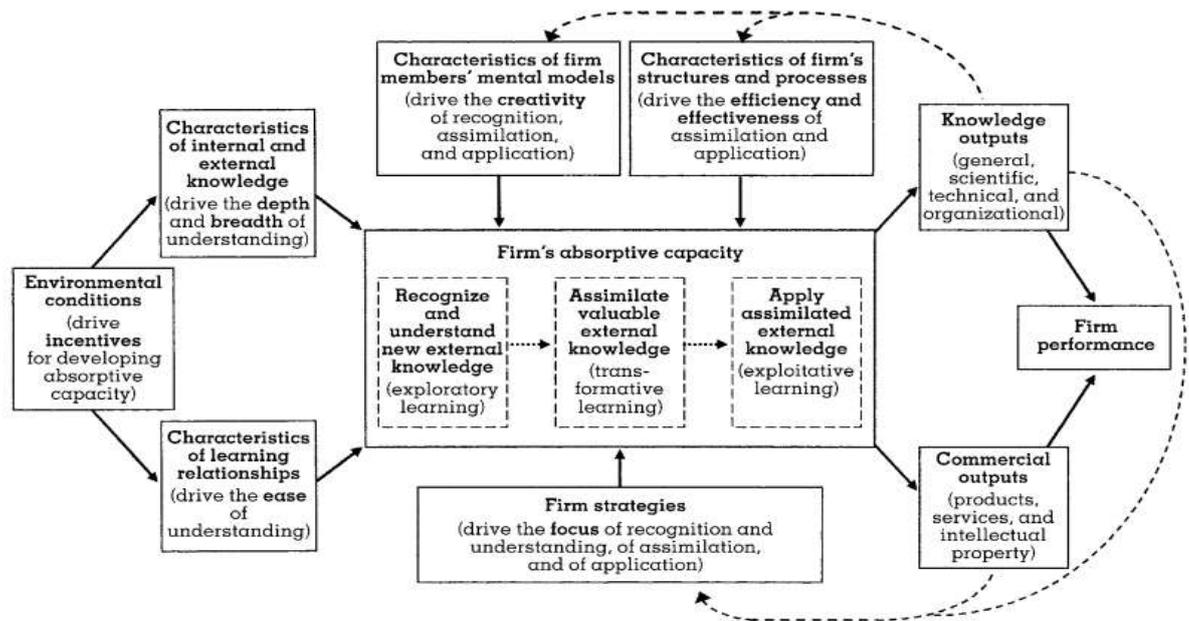
Source: Todorova e Durisin (2007)

Figure 10 - Theoretical model of ACAP developed by Zahra and George



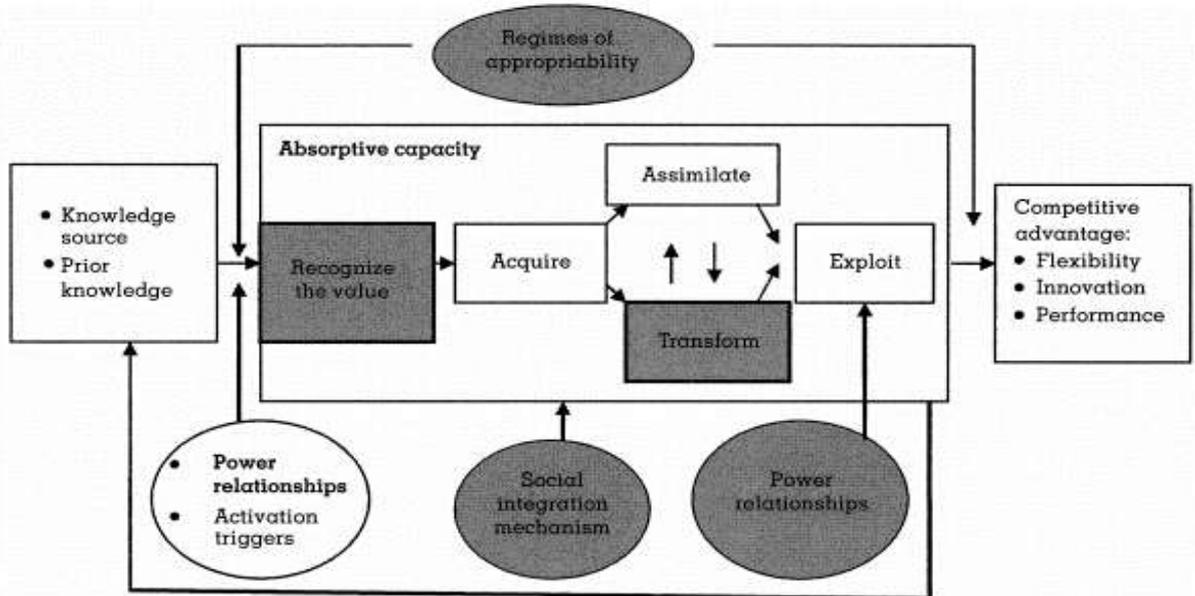
Source: Todorova e Durisin (2007).

Figure 11 - ACAP theoretical model developed by Lane; Koka; Pathak



Source: Lane, Koka & Pathak (2006).

Figure 12 - Theoretical model of ACAP developed by Todorova and Durisin



Source: Todorova & Durisin (2007).

Table 6 - Characteristics of qualitative content analysis

Research approach	Inductive research questions guide data collection and analysis, but potential themes and other issues may arise from careful reading of data
Objective	Capture the meanings, emphasis and themes of messages and understand, seeking multiple interpretations, considering several voices, perspectives, contradicted or criticisms; and various uses of the texts examined.
Nature of the data	Syntactic, semantic, or pragmatic categories; naturally occurring texts or text generated for project.
Data selection	Intentional sampling to enable the identification of complete and accurate responses to research questions and presentation of the general framework; Data selection can continue throughout the project.
Categorization scheme	Coding scheme generally developed in the iterative and close reading process to identify meaningful concepts and patterns
Encoding	Subjective In some cases, use of memoranda to document perceptions and formulations; Techniques to increase the credibility, transferability, reliability, and confirmability of the results
Base argument for proof	Deep dive in the data; if numbers are presented, they are usually presented as counts and percentages; Description of specific situation or case in a precise and complete manner; May involve triangulation based on multiple data sources for the same concept; can use techniques to develop grounded theory to relate concepts and suggest hypotheses that can be tested deductively.
Software	As annotation and search helpers; representative software: Atlas. TI or NVivo

Source: Adapted from White & Marsh (2006)

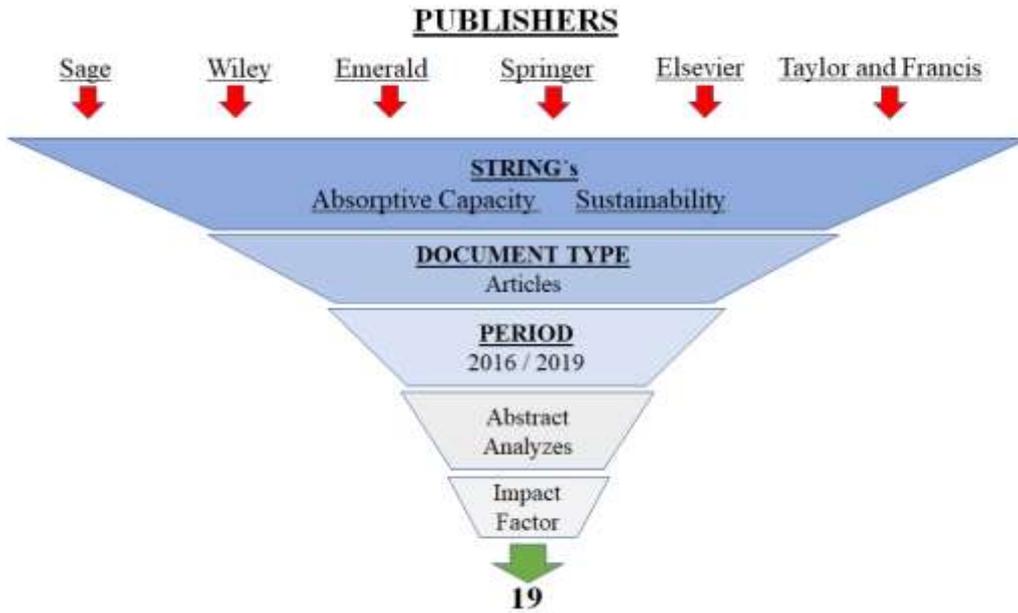
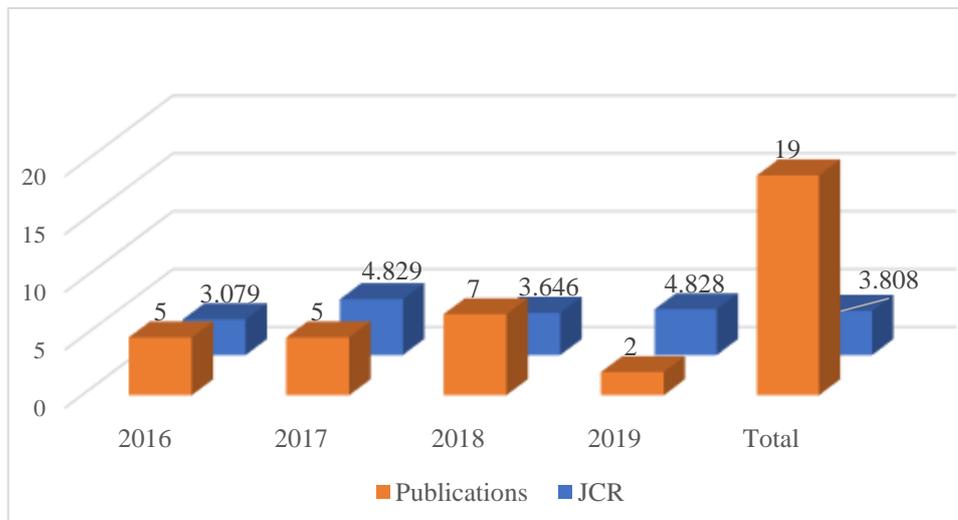


Figure 13 - Sampling Process

Source: Authors

Figure 14 - Production and Impact JCR



Source: Authors

Table 7 - Year, Title, Periodic and Impact Factor

Year	Title	Journal	JCR
2016	Current account norms in natural resource rich and capital scarce economies	Journal of Development Economics	2.205
2016	Information systems absorptive capacity for environmentally driven IS-enabled transformation	Information Systems Journal	4.267
2016	Innovation system strengths and weaknesses in progressing sustainable technology: The case of Swedish biorefinery development	Journal of Cleaner Production	5.651
2016	How do tourism firms innovate for sustainable energy consumption? A capabilities perspective on the adoption of energy efficiency in tourism accommodation establishments	Journal of Cleaner Production	5.651
2016	Twisting the twist: how manufacturing & knowledge-intensive firms excel over manufacturing & operational and all service sectors in their eco-innovative orientation	Journal of Cleaner Production	5.651
2017	Drivers of Green Innovations: The Impact of Export Intensity, Women Leaders, and Absorptive Capacity	Journal of Business Ethics	2.917
2017	Understanding sustainability behaviour: The relationship between information acquisition, proactivity and performance	Tourism Management	5.921
2017	Exploring the influence of big data on city transport operations: a Markovian approach	International Journal of Operations and Production Management	2.955
2017	Learning Sustainability? Absorptive capacities as drivers of sustainability in MNCs' purchasing	International Business Review	2.754
2017	The three governances in social innovation	Innovation	1.018
2018	The Effects of External Relations Network on Low-Carbon Technology Innovation: Based on the Study of Knowledge Absorptive Capacity	Sustainability	2.177
2018	Compliance-Innovation: A Quality-Based Route to Sustainability	Journal of Cleaner Production	5.651
2018	The impact of corporate social responsibility (CSR) knowledge on corporate financial performance: evidence from the European banking industry	Journal of Knowledge Management	2.551
2018	Understanding the micro-foundations of internal capabilities for open innovation in the minerals industry: a holistic sustainability perspective	Resources Policy	2.695
2018	Green absorptive capacity: A mediation-moderation model of knowledge for innovation	Business Strategy and the Environment	5.355
2018	Institutional pressure and the implementation of corporate environment practices: examining the mediating role of absorptive capacity	Journal of Knowledge Management	2.551
2018	The water Utility Adoption Model (wUAM): Understanding influences of organisational and procedural innovation in a UK water utility	Journal of Cleaner Production	5.651
2019	Collaborative dynamics in environmental R&D alliances	Journal of Cleaner Production	5.651
2019	The adoption of sustainable practices: A supplier's perspective	Journal of Environmental Management	4.005

Source: Authors

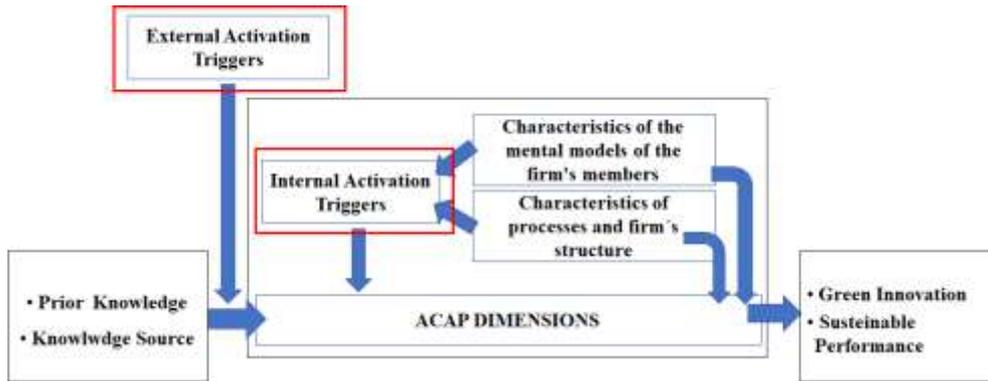
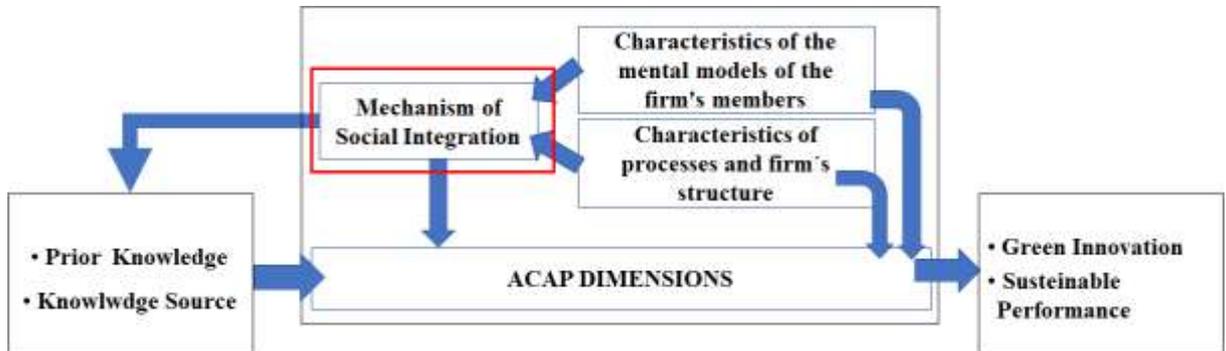


Figure 15 - Internal and External Activation Triggers

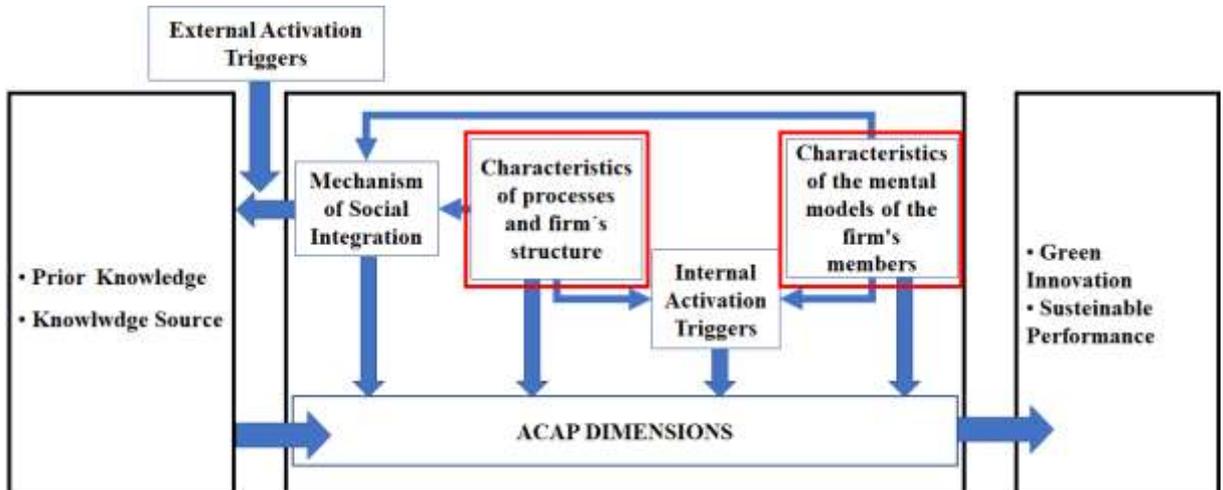
Source: Authors

Figure 16 - Mechanism of Social Integration



Source: Authors

Figure 17 - Activation Triggers and Social Integration Mechanisms in Organizations



Source: Authors

*Track 18 Business Ethics and Sustainability Development*

**ID #563**

**Fair Hair and Black Hearts the dynamic interactions of  
white and black lies**

**Long Wang** (City University of Hong Kong, Hong Kong)

**Abstract**

*Although both white lies and black lies are deceptive, white lies are typically seen as innocuous, legitimate, and even praiseworthy while black lies come across as selfish, malicious, and objectionable. These kinds of intuitive judgments become problematic, however, if people who tell white lies also tell more black lies. We conducted two behavioral experiments to investigate the boundaries and connections between white and black lies. Study 1 showed that people who first told white lies were then more likely to tell black lies, whether their white lies were altruistic (only helping recipients) or Pareto (helping both recipients and themselves). In Study 2, half of the participants played a white lie game (Pareto or altruistic) first and then a black lie game and the other half played a black lie game and then a white lie game (Pareto or altruistic). The results suggested that telling white lies increased people's likelihood of telling subsequent black lies but telling black lies did not necessarily increase their likelihood of telling subsequent white lies. We discuss the implications of these results for business ethics and organizations.*

**Keywords:** Honesty; Ethics; Black lies; White lies; Pareto vs. altruistic white lies..

**Acknowledgments**

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## **INTRODUCTION**

Honesty is a universal ethical value (Mikhail, 2007; Saarni & Lewis, 1993). Thus, it is not surprising that many organizations place great emphasis on honesty and integrity as a core value in their codes of conduct. For example, approximately 80% of the 20 largest U.S. companies explicitly emphasized honesty in their ethics-related websites. Similarly, over 90% of the local leaders in 17 countries argued that honesty and truthfulness should never be compromised at any cost (de Veries, 2002).

In every day organizational life, however, people lie all the time, often for reasons that are not particularly scurrilous (DePaulo, et al, 1996; Erat & Gneezy, 2012; Ford, 1996; Umphress & Bingham, 2011). In particular, people frequently tell seemingly innocuous white lies, which are perhaps the most common form of deception in both organizations and daily life. On the darker side, however, they also tell self-interested, harmful lies - black lies - although probably much less frequently, in a variety of organizational and professional contexts. Many instances of financial fraud suggest that scurrilous black lies are no stranger to organizations. According to the Association of Certified Fraud Examiners, for example, companies lost five percent of their annual revenues to internal fraudsters, totaling to almost \$3.7 trillion globally (Gonsalves, 2014).

Bok (1989) defined a lie as an intentional induction of a false belief in a target. White lies fit this definition even when white liars' intentions are benevolent, with a desire to help rather than injure the recipient; at the other extreme, selfish black lies are less ambiguous attempts to deceive and manipulate the target to satisfy a liar's own interests at the expense of the recipient (Erat & Gneezy, 2012). Thus, the intention behind a lie can range from benevolence to malice, with white lies (arguably) emerging more frequently in organizations and social life (DePaulo & Jordan, 1982; DePaulo & Kashy, 1998; DePaulo, et al., 2003; Erat & Gneezy, 2012).

Because white lies are ubiquitous, they can serve many purposes. In everyday interactions, for example, it is far easier to praise an ugly outfit than it is to insult it. More generally, people often tell white lies to be polite, diplomatic, or ingratiating, to smooth relationships, and to curry favor or avoid making enemies. Thus, white lies represent broader range of phenomena that satisfy a variety of social or self-serving functions. Camden, Motley & Wilson (1984) found that people commonly tell white lies to: 1) acquire and protect basic needs and resources; 2) improve, extend, or reduce affiliation; 3) control conversation; 4) maintain a sense of self-esteem and social desirability; 5) reduce dissonance; and 6) make practical jokes or exaggerate. Some of these white lies are altruistic white lies as they are intended to benefit recipients only; other white lies are Pareto white lies because they do not only help recipients, they are also used to benefit the liars (Erat & Gneezy, 2012).

Although white and black lies have different intentions, the characteristics and tactics of white lies are similar to those of black lies. Thus, there are clear similarities and distinctions between white and black lies. The relationship between white lies and black lies, however, has not been a major target of empirical investigation. White lies are ubiquitous in interpersonal and organizational relationships, in part because of their seemingly benevolent intentions. Given that many organizations place great emphasis on honesty, it is important for them to understand how to deal with different kinds of lies. In particular, is it appropriate to allow or even encourage white lies when white liars view them as innocuous and socially beneficial? Or are people who tell white lies also more likely to tell black lies because both kinds of lies require deceptive tactics, especially when their white lies are Pareto-efficient (lies that benefit both liars and recipients) rather than altruistic (lies that only benefit recipients)?

To answer these questions, the current research used two complementary studies to investigate whether telling white lies was related to a higher likelihood of subsequently telling black lies, and vice versa. Because white lies are a common but less investigated phenomenon, this research provides new insights into managing ethical behavior in social and organizational life.

## **THEORY BACKGROUND AND HYPOTHESES**

### ***Moral Principles and Ethical Theories***

“Do not lie” has played a pivotal role in philosophical debates. Not only do many moral philosophers view lying as generally wrong, but honesty and truthfulness are among the greatest human virtues (Solomon, 1993). Socrates, for instance, died because of his honesty, and Epictetus, an early Stoic, treated “not to speak falsely” as a basic moral principle (Solomon, 1993). More contemporary philosophers (e.g., Nietzsche) have also classified honesty as one of the four cardinal virtues.

However, white lies are not a major focus in moral philosophy. Generally speaking, there are two major groups of ethical theories: deontology vs. teleology. First, deontological (duty-defining) principles in ethics indicate that lies, even altruistic white lies, violate a person’s moral duty. Kant (1785/1964), for example, argued that lying is always wrong regardless of its intentions, because lying violates categorical imperatives, which he viewed as unconditional moral laws. Thus, Kantian ethics views honesty as a perfect duty that cannot be excused or overridden. Similarly, Augustine noted “every lie is a sin” because “every liar says the opposite of what he thinks in his heart, with purpose to deceive” (Solomon, 1993).

In contrast, a teleological approach suggests that the morality of a lie depends on its consequences (e.g., Bentham, 1789/1907). From this perspective, white lies can be both reasonable and legitimate when they do better than harm (Bok, 1989). For example, Solomon (1993) noted that many social relationships depend on lies to act as social lubricants to avoid conflict and uncomfortable interactions (Broomfield, Robinson & Robinson, 2002; Erat & Gneezy, 2012; McCornack & Levine, 1990). In her classic analysis of deceptive behavior, Bok (1989) also identified lying to save the feelings of another as one of the three common types of deception. Other than everyday small white lies, people also tell more serious white lies to help others avoid punishments or earn awards, especially when they think that telling the truth is doing more harm than good. As Nietzsche once noted, “Why must we have truth at any cost anyway?” Also, Martin Luther called a lie “out of necessity” a useful or a helpful lie, arguing that “such lies would not be against God; He would accept them” (Bok 1989, p. 47). Thus, a utilitarian view does not prohibit lying; instead, it sees white lies as socially acceptable because they can result in positive value.

### ***White Lies, Truths, and Black Lies***

White and black lies are clearly distinct from honesty because both of them are false statements against truth. Conceptual distinctions between white and black lies suggest that a liar’s intention is the most commonly perceived distinction between the two different kinds of lies. Whereas black lies are selfish lies to promote one’s own self-interest, white lies are other regarding as they are intended to help their recipients. Thus, black lies violate the principle of honesty in pursuit of the liar’s self-interest. In contrast, white lies are intended to benefit their recipients (at least in the eyes of liars). Other than their different intentions, white and black lies actually share several similarities. In particular, the recipients of both white and black lies are victims

who are deprived of the truth. Thus, white and black lies require similar deceptive skills and favor dishonesty over truth.

A focus on the underlying elements of white and black lies may lead to a variety of predictions about the relationship between them. Individuals who truly prize the truth (and duty) are likely to question the sincerity of all liars, black and white, because lying is lying and distinctions between white and black lies are minimal (Kant, 1785/1964). Thus, for them, white lies are similarly iniquitous as black lies. On the other hand, however, people who are concerned about the benevolent intentions of white liars are less likely to think of white lies as unacceptable or morally wrong (Levine & Schweitzer, 2014). For them, because white lies are told for good intentions, they can be judged by a different set of standards than black lies. In particular, a utilitarian approach to morality suggests that white lies that spring from positive intentions are excusable, justifiable (Alpert & Noble, 2009; Bok, 1989), even commendable, trustworthy, and moral (Levine & Schweitzer, 2014, 2015; Solomon, 1993).

Biziou-van-Pol et al. (2015) showed that telling white lies can influence people's other social motives. In this research, we focus on the relationship between white and black lies. We suggest that white lies pit two different motives against each other: the kindness to help others vs. the willingness or the comfort to violate the moral principle of truthfulness. How white and black lies are related to each other depends on which motive of white lies dominates. On the one hand, if telling white lies primarily increases people's kindness making them more likely to be benevolent, they should become less likely to tell selfish, black lies because doing so promotes their self-interest at the expense of others. In contrast, if people who tell harsh truths are primarily trying to use truth to harm their recipients, the callousness and cruelty of telling unpleasant truths may have more direct similarities to the intentions behind black lies. Thus:

***Hypothesis 1a:** White lies will be less positively associated with black lies than harsh truths will.*

On the other hand, however, if telling white lies primarily eases the discomfort of lying, it should instead increase people's likelihood of telling black lies because they will feel more comfortable about violating the principle of honesty. In contrast, people who work hard to only tell the truth, even when the outcome of the truth may be harsh to the recipient and even themselves, seem to be more reliable and principled, and should therefore be less likely to tell any lie, either white or black. This leads to a competing hypothesis:

***Hypothesis 1b:** White lies will be more positively associated with black lies than harsh truths will.*

### **Pareto vs. Altruistic White Lies**

In addition to the purely white lies that help recipients only, people also tell white lies to benefit both their recipients and themselves. Because white lies have both social and self-serving functions (Bok, 1989; Camden, Motley, & Wilson, 1984), Erat and Gneezy (2012) identified them as Pareto lies, in contrast to altruistic white lies, which only benefit recipients. Pareto white lies are driven by mixed motives. Flattery and ingratiation, for example, are common Pareto white lies that make their targets feel good to create a self-serving foundation for positive reciprocity (Ferris et al, 2007; Jones, 1964; Wayne & Ferris, 1990). Also, for Machiavellians, the helping nature of Pareto white lies is likely to be minimal and insincere: Pareto white liars are likely to care more about their own gains than they do about their targets' even when their lies benefit both of them. In contrast, however, thoughtful, benevolent altruistic liars are likely to focus more on their recipients' outcomes: they are truly caring about their recipients when

their white lies only benefit others instead of themselves. Following this logic, Biziou-van-Pol et al. (2015) found that people who told Pareto lies were more selfish and less cooperative than harsh truth-tellers but those who told altruistic lies tended to be more cooperative and generous than harsh truth-tellers. This suggests:

*Hypothesis 2: Pareto white lies will be more positively associated with black lies than both harsh truth and altruistic white lies.*

## THE CURRENT RESEARCH

We conducted two complementary behavioral experiments to test our hypotheses. Study 1, a controlled experiment in which participants had an opportunity to tell either white or black lies in independent, sequential exercises, tested the three hypotheses with behavioral measures. Study 2 sought to replicate Study 1's results by comparing a variety of lying rates for both white and black lies in a similar online behavioral experiment.

### STUDY 1

In Study 1, we conducted a controlled laboratory experiment in which participants could tell either white or black lies in independent, sequential tasks. Because it is impossible to investigate the whole spectrum of white lies in real life, we used controlled deception games (Gneezy, 2005; Gunia, et al., 2012; Zhong, 2011) in our studies to more precisely investigate the relationships between white and black lies (Murnighan, 2005; Murnighan & Wang, 2016).

#### Methods

We recruited 230<sup>1</sup> participants, 60.7% female, averaging 21.37 years of age, from a major Hong Kong university. Our sample size was determined before any data analysis. Participants were paid \$50 HK (about \$6.40 US) for their participation plus any additional payoff that resulted during the experiment. Participants played two different games: they had an opportunity to tell a white lie in the first and a black lie in the second.

**First Game (White Lies).** Everyone was told that they had been randomly chosen to be a Player 1, and that they had been randomly paired with another participant (Player 2<sup>2</sup>) whom they would never see during or after the experiment. The game was a number reporting game in which they reported a number that the experimenters had randomly generated from 1 to 6. If the number they reported was 5 or less, Player 2s would receive no extra pay; if the number they reported was 6, Player 2s would receive an additional HK\$10 (about US \$1.30).

*Pareto vs. altruistic white lies:* When the randomly generated number was between 1 and 5, telling the truth gave Player 2s no extra payoff; a lie would. In the *altruistic white lie condition*, participants' report – telling either the truth or a lie - did not change their own payoffs: they could only boost Player 2s' payoffs and they could do this only by lying when the number was not 6. In the *Pareto white lie condition*, reporting that the number was 6 when it was actually 1 to 5 (a lie) also increased the participant's own outcome by \$HK10. The participants were randomly assigned to one of these two conditions.

**Second Game (Black Lies).** After finishing the first game, participants responded to an open-ended question, "Please briefly tell us which number you reported and why." Then they participated in a second game in which they each received a randomly generated number from

1 to 100. Although the computer recorded it automatically, neither the experimenters nor anyone else could see their numbers during the experiment.

Participants were asked to report their number to the experimenters (who did not know whether they told the truth or lied). Different numbers led to different amounts of extra pay. The participants were told that they would receive no extra pay if the number was between 1 and 50; they would receive \$10 HK (about US \$1.30) if the number was between 50 and 70; \$20 HK (about US \$2.60) if it was between 71 and 90; and \$30 HK (about US \$3.90) if it was between 91 and 100. Thus, lying about the number, especially when it was small, could lead to an increasingly higher payoff. Unlike the first game, lying in this second game was only self-serving.

After reporting their number, participants answered 10 questions, all on 7-point Likert scales, about their decision (e.g., how they felt about their decision and whether other people would find it appropriate to make the same decision); they also provided demographic information. They were then paid based on their self-reported number, privately and in cash.

**Control Condition.** To compare people's natural tendency to tell black lies, we also included a control condition in which participants only played the second black lie game.

## Results

The majority of the participants (71%; 109 of 154<sup>3</sup>) told white lies in the first game, with a similar percentage of participants lying in the altruistic (70%; 50 out of 71) and the Pareto white lie (71%; 59 out of 83) conditions. Less than half (38%; 58 of 154) told black self lies in the second game. Among the black liars, 86.2% reported a number greater than 90, i.e., their lie maximized their extra payoff.

\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\*

People who told Pareto white lies in the first game were more likely to tell black lies in the second game than the truth-tellers (see Figure 1). Of the 59 participants who told Pareto white lies, 32 (54%) also told black lies in the second game. In contrast, only 2 of the 24 truth-tellers (8%) told black lies (Fisher's Exact test,  $p < .0001$ ). Although telling an altruistic lie in the first game also increased people's likelihood of telling a black lie in the second, black lie game, the difference was only close to be marginally significant: 40% of white liars (20 out of 40) told a black lie; 19% of the truth-tellers told a black lie (Fisher's Exact test,  $p = .11$ ). In addition, although Pareto white liars lied more than altruistic white liars in the black lie game (54% vs. 40%), the 14% difference was not statistically significant (Fisher's exact test,  $p = .18$ ). Thus, the results provided partial support to H1b and H2: Only Pareto white lies were more positively related to black lies than the harsh truth. Although altruistic white lies only demonstrated a similar pattern, its effects were only close to be marginally significant. In addition, Pareto white lies were not significantly different from altruistic white lies in terms of their relationships with black lies.

**Control Condition Comparisons.** Of the 29 participants in the control condition who only played the second, black lie game, 10 (35%) lied, a rate that is similar to the overall rate of black lies told by altruistic white liars in the second game (40%; Fisher's exact test,  $p = .64$ ). In contrast, Pareto white liars were more but not significantly more likely than participants in the control condition to tell black lies (54% vs. 35%, Fisher's exact test,  $p = .11$ ). Thus, these results lent some partial support to H2, suggesting that compared with a control condition, Pareto white lies were more positively related to black lies than altruistic white lies.

## ***Discussion***

Study 1 reveals a clear relationship between white and black lies: Pareto white liars were more likely to tell a subsequent black lie than truth-tellers were. For altruistic white liars, they also told more black-lies than truth-tellers did, albeit not significantly. These results did not support H1a, which predicted that harsh truths would be positively associated with black lies. Instead, they provided some partial support to H1b, which predicted that white lies would be positively associated with black lies. In addition, the data also provided mixed support for H2, which predicted that Pareto white lies would be more positively related to black lies than both altruistic white lies and harsh truth. Although Pareto white liars were more likely to tell black lies than harsh truth-tellers, they were only close to marginally different from altruistic white liars in terms of the black lies they told.

Although Study 1 revealed a relationship between telling white lies and subsequently telling black lies, it is possible that our results were driven by the people who were likely to tell both white lies and black lies instead of by the fact that having an opportunity to tell white lies increased people's subsequent black lies. If that is the case, telling black lies should also increase people's subsequent white lies. Thus, Study 2 investigated whether Study 1's major results would replicate by comparing the effects of telling white lies on subsequent black lies with those of telling black lies on subsequent white lies. If having an opportunity to tell white lies rather than people's lying propensity to tell both white and black lies increased people's subsequent black lies, having an opportunity to tell black lies should have either no or much weaker effects on the likelihood of people telling subsequent white lies.

## **STUDY 2**

Study 2's design, a 2 (black game first vs. white game first)  $\times$  2 (Pareto vs. altruistic white games) factorial, allowed us to compare a variety of lying rates for both black and white lies. In particular, it allowed us to test whether Study 1's results were caused by people who were likely to lie simply told both white and black lies or having an opportunity to tell white vs. black lies might have different effects on people's subsequent behavior.

Like Study 1, we included two games in Study 2. This time, one set of participants started with a black lie game and then played a white lie game (Pareto or altruistic). Because the control condition we used in Study 1 only asked participants to play one instead of two different games, which might have caused different cognitive efforts, we no longer included this control condition in Study 2.

### ***Methods***

We recruited 445<sup>4</sup> U.S. and Canadian participants, 43% female, 76.7% white, averaging 31.63 years of age, from Amazon's Mechanical Turk (Mturk). Like Study 1, our sample size was determined before any data analysis. Participants were paid a standard \$.50 participation fee. In addition, they also had a 10% of chance of receiving game bonuses, with the amount depending on their choices in the online games.

**White Lie Games.** Like Study 1, participants were assigned to be Player 1s who had been randomly paired with another participant (Player 2). Player 1s knew the value of a randomly generated number from 1 to 6 and they were asked to self-report the number; the outcome determined Player 2's or both Player 2's and Player 1's additional payoffs. If the number they self-reported was below 6 (e.g., 1 to 5), neither Player 2 nor Player 1 would receive any

additional payoff. If, instead, they reported that the number was 6, either Player 2 alone or both Player 2 and Player 1 would have a 10% chance of receiving an additional \$2. Thus, when the number was below 6, lying was the only way for Player 2s to get a chance for an extra payoff.

*Altruistic vs. Pareto white lies:* In the *altruistic white lie condition*, participants' report - either the truth or a lie - did not change their own payoffs: when the randomly generated number was below 6, they could only increase Player 2s' chances for the \$2 payoff by lying. In the *Pareto white lie condition*, reporting that the number was 6 when it was not led to an extra payoff of \$2 to Player 2 and the participant. People were randomly assigned to one of these two conditions.

**Black Lie Game.** We used the same black lie game as in Study 1 with slightly different instructions. All of the participants were asked to self-report a randomly generated number from 1 to 100. They received no extra pay if the number they reported was between 1 and 80; they received a 10% chance for \$3 extra if the number they reported was between 81 and 95; and they received a 10% chance for \$5 extra if it was between 95 and 100. Like Study 1, lying in this black game was only self-serving.

## RESULTS

Overall, 34% of the participants (118 out of 351<sup>5</sup>) lied in the black game; 72% (129 out of 180) lied in the Pareto white lie game and 57% (98 out of 171) lied in the altruistic white lie game.

\*\*\*\*\* FIGURES 2a, 2b, 2c ABOUT HERE \*\*\*\*\*

Like in Study 1, the results of Study 2 only provided mixed support to H1b and H2. In the Pareto white lie game first condition, the Pareto white liars told more black lies in the subsequent game than the truth-tellers did: Of the 77 Pareto white liars, 47 (61%) told subsequent black lies while only 4 of 15 truth-tellers in the Pareto white lie game (27%) did (Fisher's Exact test,  $p < .001$ ; see Figure 2a). In contrast, the 48 first-round altruistic white liars in the white lie game first condition were more but not significantly more likely to tell black lies in the subsequent game than the truth-tellers were: Of the 48 altruistic white liars, 22 (46%) told subsequent black lies compared to 10 of the 31 truth-tellers in the altruistic white lie game (32%) subsequently telling black lies (Fisher's Exact test,  $p = .25$ ; see Figure 2a). In addition, although 15% more Pareto white liars told a black lie in the second game than altruistic white liars, the difference was not statistically significant (61% vs. 46%, Fisher's exact test,  $p = .14$ ).

Comparing black lies told by Pareto and altruistic white liars with the first-round black liars in the black lie game first conditions also provided some partial support to H1b and H2. Both Pareto and altruistic white liars in the Pareto and altruistic white game first conditions told more black lies in the subsequent game than participants who played the first round black lie game (61% vs. 19% for Pareto liars; Fisher's Exact test,  $p < .0001$ ; 46% vs. 20% for altruistic white liars, Fisher's Exact Test,  $p < .0001$ , See Figure 2a). Thus, these data generally suggested that both altruistic and Pareto white liars demonstrated over and above people's initial tendency to tell black lies. Although the truth-tellers in Pareto and altruistic white game first conditions also told more black lies than participants in the black lie game first conditions, none of the differences was statistically significant (all  $ps > .22$ , See Figure 2a). Thus, these results suggested that telling both Pareto and altruistic white lies increased people's likelihood of telling subsequent black lies but telling harsh truth did not.

Finally, compared to the frequency of white lies in the white lie game first conditions, lying in the first-round black lie games did not increase the frequency of telling either Pareto or altruistic white lies in the second-round games. First round black liars were similarly likely to tell altruistic (61% vs. 61%; Fisher's Exact test,  $p=1.00$ ; See Figure 2b) or Pareto white lies (88% vs. 84%, Fisher's Exact Test,  $p=1.00$ , See Figure 2c) as participants who played the first round altruistic or Pareto white lie games. In contrast, the truth-tellers in the black lie game first conditions were significantly less likely to tell subsequent Pareto and altruistic white lies (11% vs. 61% for altruistic white lies; See Figure 2b, and 31% vs. 84% for Pareto white lies, see Figure 2c; Fisher's Exact tests,  $p<.0001$  in both cases). Thus, telling black lies did not increase subsequent Pareto or altruistic white lies, but resisting the temptation to tell a black lie was associated with truth-tellers telling relatively fewer Pareto and altruistic white lies.

### **Discussion**

Study 2 generally replicates and extends Study 1's results by suggesting that Pareto and altruistic white lies increase the likelihood of subsequently telling a black lie. Compared with the baseline black lying rate (those who played the black lie game first), Pareto and altruistic white liars in the white lie game first conditions were more likely to tell subsequent black lies. In contrast, telling black lies did not significantly increase subsequent white lies compared with the baseline white lying rate. Thus, telling white lies, Pareto or altruistic, seemed to increase the likelihood of telling black lies but no vice-versa. In addition, slightly different from Study 1, only Pareto white liars, not altruistic white liars, were more likely to tell subsequent black lies more than harsh truth-tellers.

The fact that telling white lies increased people's likelihood of telling subsequent black lies could lead us to speculate that the legitimacy of telling lies to help others increased people's flexibility about lying. In contrast, telling black lies had no significant effect on people subsequently telling white lies, either because people are generally averse to black lies (Gneezy, 2005; Gneezy, et al., 2013) or because we have hit a ceiling effect, given the high frequency of first round white liars, particularly Pareto white liars.

Study 2's results also suggest that the effects of white lies on subsequent black lies might be caused by both situational and personality factors. In particular, the spillover effects of telling lies to help others on subsequent black lies seemed particularly strong for Pareto white liars, who may be more likely to tell both white and black lies.

### **GENERAL DISCUSSION**

This research used two complementary studies to investigate the dynamic relationships between white and black lies. The results indicate that telling white lies, especially Pareto white lies, increased people's likelihood of telling black lies. Study 1's data show that people who first told Pareto white lies also told more subsequent black lies. The pattern was similar for those who told altruistic white lies first but the effect was not significant. Study 2 generally replicated Study 1's results by comparing the effects of white lies on subsequent black lies and those of black lies on subsequent white lies. The results show that telling white lies increased subsequent black lies but the converse was not true: people who told black lies were not more likely to tell subsequent white lies. This suggests that telling white lies, although seemingly innocuous, may have legitimized subsequently telling more harmful black lies. However, telling black lies did not necessarily increase their likelihood of telling subsequent white lies, possibly because telling selfish black lies may not increase people's motivation to lie for others.

This research makes several other important contributions. The first relates to our understanding of honesty, a core global ethical value that some claim is the single most important characteristic for leaders (Arsenault, 2004; Kouzes & Posner, 2007). As noted, more than 90% of the leaders in 17 countries indicated that honesty and truthfulness should never be compromised at any cost (de Vries, 2002). When it comes to white lies, however, people's stance on honesty can be inconsistent or even controversial, making it both challenging and difficult for organizations and their employees.

This paper reports some of the first empirical studies to examine fundamental empirical questions about white lies, especially their relationship with black lies. Although white lies are supposed to be non-malicious and appropriate from a utilitarian perspective (e.g., Bentham 1789/1907), some philosophers, educators, and practitioners still object to them because they can potentially compromise or corrupt social relationships. Solomon (1993) suggested, for example, that, first and foremost, lying is a breach of trust. Thus, in spite of their good intentions (e.g., to avoid hurting others' feelings), white Pareto liars can sometimes jeopardize social relationships that depend on trust, especially when recipients care about the truth. The current research supports these perspectives, suggesting that seemingly harmless untruths not only deprive recipients of necessary though unpleasant information, they may also open doors to immoral, black lies.

Second, people often do not think that white lies are wrong because they see them as innocuous and socially beneficial. Our findings, however, suggest that their ubiquity in social and organizational life may inadvertently ease or legitimize telling white lie lies. In particular, strategic approaches to many business interactions often provide opportunities for deception and lies, especially when they can be shrouded in prosocial, euphemistic cloaks. Because of the ambiguity in distinguishing white from black lies, a narrow, utilitarian approach (e.g., Bentham 1789/1907) to white lies can undermine deontological principles and create a double standard on lying. As a result, seemingly excusable white lies may lead to black lies in other guises, e.g., terminological inexactitudes (as Winston Churchill impishly put it), strategic misrepresentation, and/or gamesmanship (Useem, 1999). In addition, white lies may benefit their direct recipients but harm other, related third parties. Thus, although white lies are often harmless and benevolent to direct recipients, they can be harmful for other third parties. Some of these lies may also be related to unethical, pro-organizational behavior in which employees violate moral values to promote the interests of their organizations (Umphress & Bingham, 2011). Clearly these are all important implications for organizations.

Third, because lying is emotionally costly and violates moral principles, people are often averse to both black and white lies (Erat & Gneezy, 2012; Gneezy, 2005). Gneezy, Rockenbach, and Serra-Garcia's (2013) categorization of people found that the largest group was always averse to black lies, regardless of the context; the second largest group always lied to maximize their own monetary benefits; and the third largest lied more when incentives were high but less when incentives were low. This research suggests four possible distinct categories, i.e., people who: 1) tell neither white or black lies; 2) tell both black and white lies; 3) only tell white but not black lies; and 4) only tell black but not white lies. Our results suggest that many people will fall into the first two categories: people who refused to tell white lies in our research were also the least likely to tell black lies, and people who did tell white lies were also very likely to tell black lies. For this latter group, the boundary between white and black lies may be blurred.

### ***Limitations and future directions***

Like any research, the current studies have clear limitations, particularly because of the complexity of white and black lies. Our research used two controlled behavioral games to observe white and black lies in similar game interactions. These limited interactions, however, cannot capture all of the potentially sophisticated motives behind real life white lies. In particular, many white lies are told for social or psychological rather than economic reasons (Camden, Motley, & Wilson, 1984) and their emotional and behavioral nuances might not be easily and accurately captured by behavioral games (Murnighan, 2005; Murnighan & Wang, 2016). In addition, our research only focused on one-shot instead of repeated decisions. People's emotional changes over time are likely to influence their lying decisions. Gneezy, Ima, and Madarász (2015), for example, recently showed that a temporal increase in guilt followed by black lies increased people's charitable behavior. It remains an empirical question how emotional changes after white lies might influence people's likelihood of telling subsequent black lies, especially in a long run. Thus, future research might investigate the intricate boundaries between white and black lies and people's emotions by delving deeper into the multiple complexities of white lies, with a particular focus on the relationship between white and black lies in different social contexts and over time.

Second, our research primarily distinguishes white and black lies by liars' different intentions and motives. We do not focus on their benevolent vs. malevolent consequences, especially what and how much harm black lies can cause to their recipients. However, the magnitude of harm might have moderation effects on the relationship between white and black lies. Thus, future research might look into the salience of harm to better understand the intricate boundaries between white and black lies. Also, as noted, although white lies are often harmless and benevolent to direct recipients, they can be harmful for other third parties. Some of these lies may also be related to unethical, pro-organizational behavior in which employees violate moral values to promote the interests of their organizations (Umphress & Bingham, 2011). Thus, it might also be worthwhile to further investigate how white lies are related to black lies in a broader sense, with a particular focus on the impact of white lies that benefit the target but hurt the general public or broader social interests.

Third, our research falls short of testing different mechanisms of how and why white lies are likely to spill over to black lies but not vice versa. In particular, other than the similarities we identified, alternative mechanisms such as social learning processes, justifications, and anchoring effects might also account for the relationship between white and black lies. Thus, it might be particularly worth investigating white and black lies in different social contexts to test whether and how different mechanisms can influence their relationships. Understanding these mechanisms is likely to provide a fruitful future line of research.

Finally, our research does not clearly tease apart situational factors from personality factors (the effects of lying propensities). Future research might also investigate whether observing others' white lies would affect people's own black lies. This would help further test whether our results were caused by people who were likely to lie simply told both white and black lies or having an opportunity to tell white lies (contextual factors) increased people's subsequent black lies, or both. Wang and Murnighan (2016) found that in their moral interactions, principals were more likely to hire agents who told white lies to tell black lies on their behalf because they thought that those agents would be more willing to lie. Thus, it might also be worth investigating whether and how observing others' white lies would change people's own perceptions about honesty as well as their likelihood of telling black lies. Investigating this indirect spill-over

effect would be important because it would help clarify some underlying mechanisms and further rule out alternative explanations about the self-selection effects.

## **CONCLUSIONS**

Although honesty is highly prized in the corporate world and in society in general, it often appears to be a lost virtue when moral decisions pit honesty against profit maximization. The current research suggests that telling white lies is related to telling selfish, black lies. In spite of their seemingly innocuous intentions and beneficial effects, white lies are still a form of deception. If the spillover effects of white lies on black lies, as this research demonstrates, are also robust across different organizational contexts, organizations will need to reexamine how they respond to white lies in the workplace. In particular, this suggests that a deontological approach may be necessary to reduce all of the possible shades of dishonesty.

## **Endnotes**

1. Two participants did not show a clear understanding of the games after they finished them. Another participant did not provide an answer in the first game. Their responses were excluded from the analyses.
2. Because Player 2s were passive recipients, we recruited them separately in another experiment.
3. 29 people received number 6 in the first white lie game. All but two of them reported the number truthfully in the game. In addition, 20 people received a number between 90 and 100 in the second black lie game (5 of these people also received 6 in the first game). All of them reported the number truthfully in the game. We did not include these participants in our major analyses as we could not identify white or black liars (or both). Including them as truth-tellers did not change our results. Thus, our analyses focused on the remaining 154 participants.
4. We excluded 11 participants because of identical IP addresses and/or bogus answers to survey questions. These responses were distributed across all of the study's conditions.
5. 21 participants who received a random number between 95 and 100 in the black lie game were not included in these analyses. In addition, 73 participants received the number of 6 in the two white lie games (37 in the Pareto lie game and 36 in the altruistic lie game); we analyzed and reported their data separately. Our analyses primarily focus on the remaining 351 participants.

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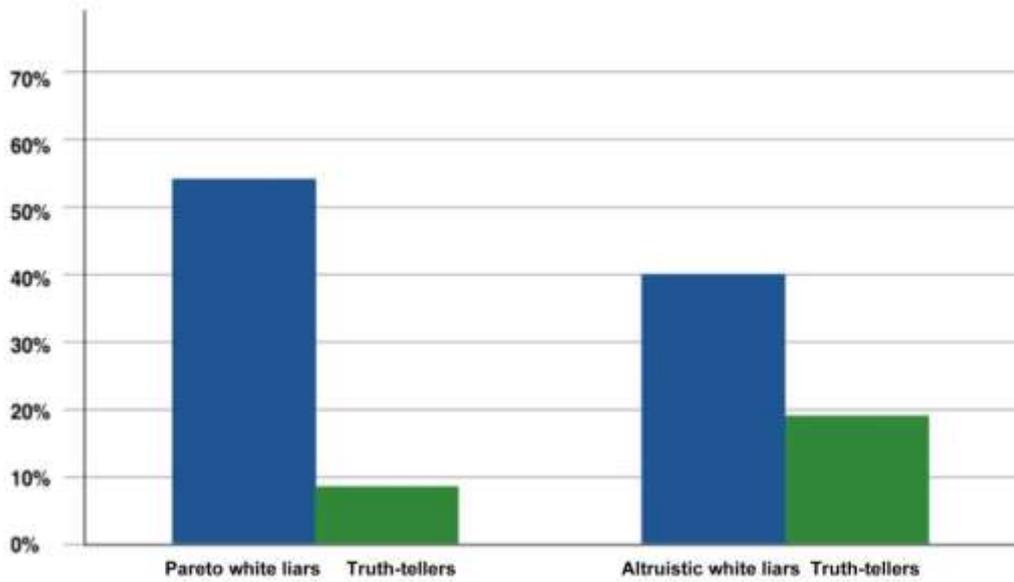


Figure 1.  
Percentages of Pareto/altruistic liars and truth-tellers who subsequently told black lies (Study 1).

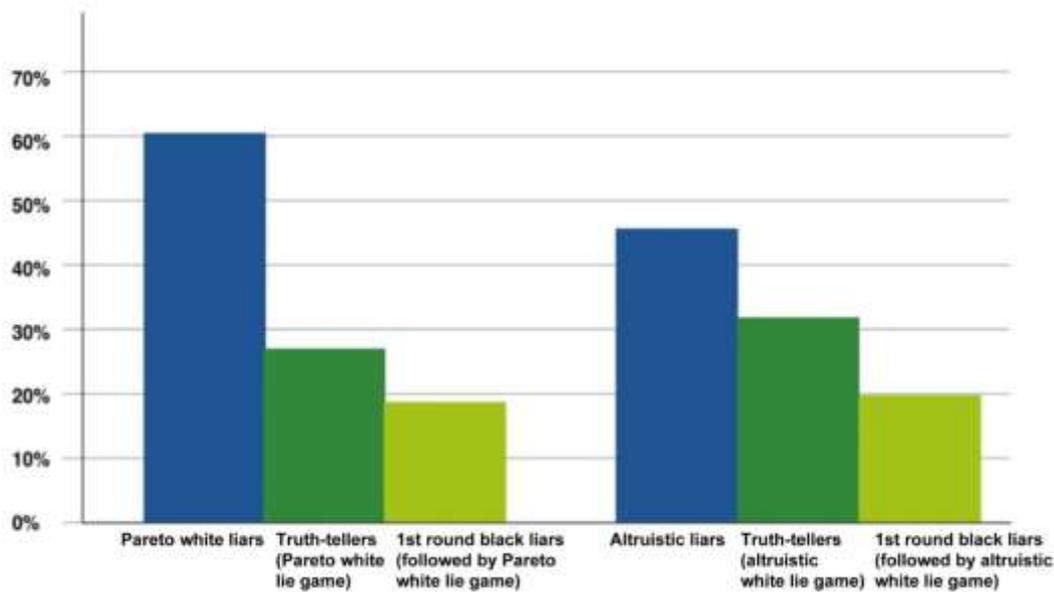


Figure 2a.  
Percentages of altruistic/Pareto white liars and truth-tellers who subsequently told black lies vs. the percentages of first round black liars (Study 2).

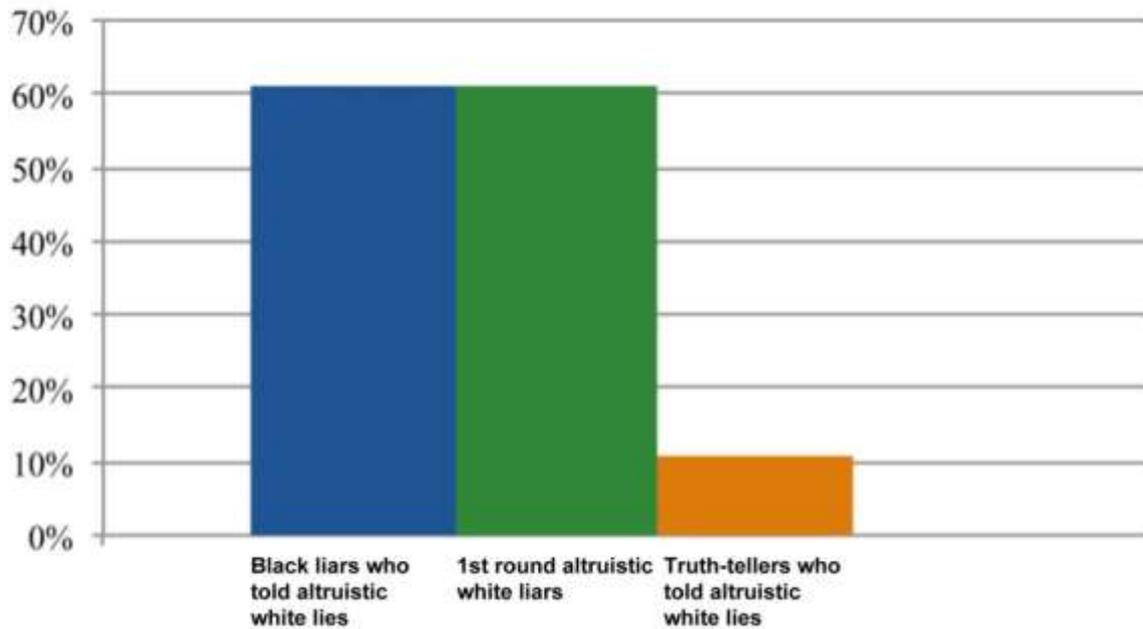


Figure 2b. Percentages of black liars and truth-tellers who subsequently told altruistic white lies vs. the percentages of first round altruistic white liars (Study 2).

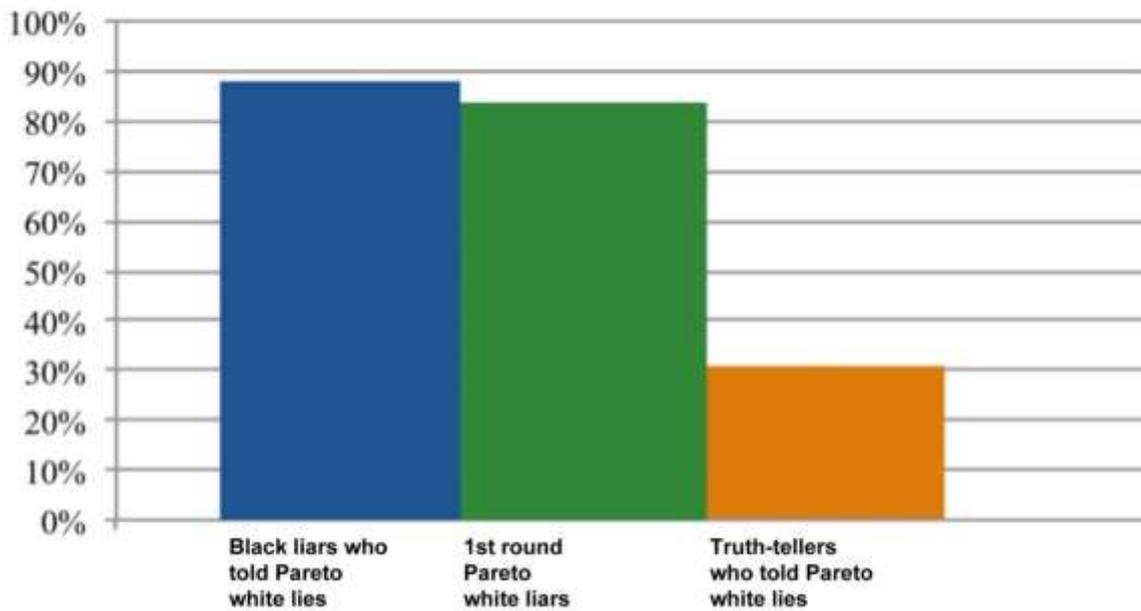


Figure 2c. Percentages of black liars and truth-tellers who subsequently told Pareto white lies vs. the percentages of first round Pareto white liars (Study 2).

*Track 18 Business Ethics and Sustainability Development*

**ID #728**

## **Land rights protection in the pulp and paper production system**

**Carolina Torres Graça** (University of São Paulo (USP), Brazil)

### **Abstract**

*This article explores how the quality of institutions influences the strategic choice of agents in the pulp and paper production system based on the forest plantation sector. In order to proceed with the study, we employ the Economic Analysis of Property Rights as foundation, and test the proposition: in federative states where the institutional environment is fragile and therefore the State has a high cost to enforce property rights, private mechanisms stand out in the protection of property rights.. The analysis of three business cases of companies with plantations in more than one federative unit revealed the broad range of private mechanisms in place to cope with insecure land rights. In addition to countrywide strategies, in the federative units where government fails to be a good property rights steward, we found geographically specific initiatives being used. Another finding was the identification of variables that are able to evaluate the quality of institutions and employed in the companies' decision-making process for the selection of land rights protection strategies. Findings altogether are empirical evidence of how the quality of institutions influences the strategic choice of land rights protection in the forest plantation sector in Brazil.*

**Keywords:** Property Rights; Business Strategy; Land Rights; Forest Sector; Institutional Environment..

### **Acknowledgments**

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## INTRODUCTION

The beginning of the years 2000 in the Extreme South of Bahia was marked by a peak of agrarian conflicts, permeated by dispute and violence. On the one hand, social movements occupying farms of forest enterprises; and on the other hand, private organizations seeking protection under the justice system. Adjudication was followed by enforcement of repossession mandates by the public security forces, which often turned into violent episodes (Araújo, 2010). The forest companies Fibria and Veracel reported in their 2011 sustainability reports the escalation of farm invasions in the State of Bahia and the beginning of a journey to settle land disputes other than through litigation (Fibria, 2012, 2013, 2014, Veracel, 2012, 2013, 2014). Such positioning on the part of companies raised a question: what are the strategies deployed by forest plantation companies to protect land rights?

To the Economic Analysis of Property Rights Theory, the enforcement of agreements is a basic feature of the state (Barzel, 2002). In order to create enabling conditions for transactions, it first defines the scope of rights to be protected through legislation. Secondly, it employs specialized structure such as justice courts and security forces to enforce regulations. However, there are circumstances where the state fails to be a good property right steward or refrains from its role. The same theory predicts the consequences of such fact.

In Brazil, the historical colonization process plus the formation of a legal framework have put in place a fragile land governance system (Reydon, 2007, 2011a, 2014; Silva, 1997; The World Bank LAC, 2014), which attenuates the state's capacity to protect land rights. The vulnerabilities create a favorable condition to numerous land conflicts (Comissão Pastoral da Terra, 2018) with social implications (Alston, Harris, & Mueller, 2009; Alston, Libecap, & Mueller, 2000), environmental implications, such as deforestation (Alston et al., 2000; Araujo, Bonjean, Combes, Combes Motel, & Reis, 2009; Reydon, 2011b; Robinson, Holland, & Naughton-Treves, 2014; Zylbersztajn, 2010) and economic implications (Nascimento, Saes, & Zylbersztajn, 2010).

This paper explores the implications within firms. It responds the question: **how does the quality of institutions influence the strategic choice for the protection of land rights by the forest plantation sector in Brazil?**

The focus on the planted forest sector is justified by its economic importance, since it represented 6.2% of Brazil's Gross Revenue in 2016 (Indústria Brasileira de Árvores, 2017). In addition, its geographic distribution makes possible a comparison across the federative units. Finally, the numerous papers about land acquisition by companies and land disputes with local communities are extra motivation to study the case under a theoretical lens.

## THEORETICAL BACKGROUND AND PROPOSITION

Why does the state fail to be a good property rights steward? To Barzel (2002), the state has comparative advantage in protecting rights over standardized goods, whose contracts can be used repeatedly within a territory. However, as size increases, at some point the magnitude of the effect of the diseconomies become the same as that of the effect of the economies. As a consequence, it becomes expensive to enforce contracts by making use of legal mechanisms. The more expensive it is to make and enforce contracts via formal institutions, the more will people use dispute-resolving mechanisms that are substitutes for the state, who can itself create such substitute operation (Barzel, 2002).

Dixit (2004) also argues that the high cost of legal mechanisms prevents their use and explores other sources of costs. The time to obtain a judicial decision, the undervaluation of losses by employing underestimated interest rates, the difficulty in taking into account all factors, the difficult-to-predict court decisions, the disclosure of confidential information and the courts' difficulty in verifying contractual conditions are all reasons for the high cost of legal protection.

The same two authors discuss the consequences of the state's limited capacity to be a good property rights steward. According to them, alternative dispute resolution mechanisms or alternative economic governance mechanisms fill the gap (Barzel, 2002; Dixit, 2004). One sort of alternative mechanism is the close-knit groups, such as religious groups, who enforce their rules by threatening expulsion. Another sort is vertically integrated organizations who are able to avoid disputes by transforming transactors into not fully residual claimants to their own organizations, therefore less likely to dispute not-well-defined attributes. A third sort is the trade organizations who promote enforcement by publicizing non-compliance and by expelling. Criminal organizations can enforce agreements that the state prohibits by making use of arms.

Some examples of alternative economic governance mechanisms explored by Dixit (2004) are: economic governance based on relationship, economic governance based on the provision of service by a third party specialized in contract enforcement and private property rights protection. The gain from repetitive transactions and the reputational capital allow contracts to be self-enforced in an economic governance based on the relationship. In parallel, an organization may become specialized in collecting and disseminating information about transactors' behavior, such as credit cooperatives. By frequently being an intermediary organization, it establishes a long-term relationship with both parties involved in a transaction, irrespective of the frequency with which the transactors meet with each other, being therefore able to enforce contracts. Finally, a private owner can take actions to prevent, detect or punish individuals who break the rules, i.e. having security patrols who prevent thieves from violating private property.

Monteiro & Zylbersztajn (2012) developed a model to explain the adoption of three strategies for the protection of property rights based on the quality of the institutional environment: strategy focused on the legal system (L), on the establishment of private mechanisms (P), and on the abandonment of valuable attributes on public domain (figure 1). L and P cost curves are functions of capture efficacy vis-à-vis protection effort ( $\sigma$ ) and a group of shifter parameters ( $w$ ). In a sound institutional environment (I1), the protection of rights via legal mechanisms is provided by the State at a low cost, therefore it is the preferred protection mechanism. In a poor institutional environment (I2), the effectiveness of protection by the State is low; for example, it is marked by dubious or slow court judgments, and consequently the cost of the legal mechanism increases more rapidly than the private mechanism, which then becomes the preferred mechanism for rights protection (the most efficient mechanism at the lowest cost). However, there is a maximum protection cost that firms can bear ( $c$ ). Beyond the tipping point, the right owner opts to leave the right unprotected.

\*\*\*\*\* FIGURE 1 ABOUT HERE \*\*\*\*\*

Based on the rationale proposed by Monteiro & Zylbersztajn (2012), the following proposition was outlined: **in federative states where the institutional environment is fragile and therefore the state has a high cost to enforce property rights, private mechanisms stand out in the protection of property rights.** The proposition was then confronted with empirical

evidence from three study cases in order to comprehend the connection between the quality of institutions and the use of private mechanisms to protect land rights.

## **METHODOLOGY**

The quality of institutions was built on the analysis of publicly available indicators and information. The identification of strategies to protect land property rights and of variables able to evaluate the quality of institutions employed by companies, were built on the content analysis of the interviews with executives from three forest plantation companies and on the analysis of internal documents. Conclusions were drawn on the confrontation between federative units with greatest evidence of vulnerable institutional environment and geographically specific initiatives.

### ***Analysis of quality of institutions***

Eleven indicators<sup>1</sup> were used to analyze the quality of institutions at a federative unit level: Number of properties registered with the land governance system called *Sistema de Gestão Fundiária* (SIGEF) in July 2018; Territorial extension in hectares of the area registered with SIGEF in July 2018; Percentage of state surface registered with SIGEF in July 2018; Number of Indigenous communities with land traditionally occupied in stages prior to the regularized condition in June 2018; Number of indigenous communities with land traditionally occupied in stages prior to the regularized condition in June 2018 per 10,000 hectares; Number of filled cases for demarcation of quilombola<sup>1</sup> land by June 2018; Number of filled cases for demarcation of quilombola land by June 2018 per 10,000 hectares; Number of land conflicts in 2017; Number of land conflicts in 2017 per 10,000 hectares; Percentage of rural population in 2010; and Human Development Index (HDI) in 2010.

Federative units' performance was compared based on indicators. The three most critical ones were highlighted. A score representing the number of times each federative unit has been highlighted was created. The higher the score, the greater the evidence of fragility of the institutional environment in the given federative unit.

### ***Selection of three business cases***

The criteria for selecting business cases were: (i) size of owned commercial plantations and natural vegetation conservation areas; and (ii) frequency with which the company is associated with land conflicts in the literature review.

According to information compiled by the consulting company Consulfor in March 2018, Fibria and Suzano were the largest planted forest companies in Brazil, holding more than 500 thousand hectares each. Jari occupied the twelfth position.

Papers for literature review were retrieved from the Web of Knowledge database in January 2018, related to publications from 2001 to 2007, using the key words: land conflict, land tenure, land rights, forest companies, forest sector, paper industry and Brazil. Nine publications were reviewed. The criteria for classification by citation frequency were: high when the company's name was mentioned in six or more papers; average, when mentioned in three to five papers; and low when mentioned in one or two papers; and absent from the literature review when the company's name was not cited in any paper.

The top two forest plantation companies were the ones with high citation frequency. Despite the fact that Jari had a low citation rate and was the twelfth largest forest cultivator in Brazil, it

has been selected for the study case because of the length of time that its land regularization process has been taking.

### ***Identification of strategies to protect land rights and variables for decision making***

Ten key-informants from the three forest companies were interviewed using semi-structured questionnaires, between January and June 2018. A content analysis has followed. Nine categories<sup>1</sup> were used to identify and classify strategies for land rights protection. The initial category list was based on alternative conflict resolution mechanisms studied by Barzel (2002) and alternative economic governance mechanisms listed by Dixit (2004). It was then complemented with categories that emerged from the interviews. Eleven categories<sup>1</sup> were proposed for the classification of variables employed in the strategic decision-making process. They were based on the review of transcribed interviews. According to the content analysis technique, the most significant themes are the ones more frequently included in the discourse (Bardin, 2016).

Initiatives not employed in all federative units where the company has operations were classified as geographically specific. The states in which such initiatives have been implemented were compared against the ones with higher institutional environment score.

## **EMPIRICAL FINDINGS**

### ***The quality of the institutions at federative unit level***

The quality of institutions in twelve federative units with forest plantations revealed that Maranhão is the one with greatest evidence of institutional fragility regarding land rights protection, since it scores 6 points. The second position is occupied by Pará with a score of 5 points. Espírito Santo, Piauí and Rio de Janeiro share the third position with 4 points each. In the fourth position are Bahia and Rio Grande do Sul with 3 points each. In the fifth place come Amapá and Mato Grosso do Sul with 2 points each.

Minas Gerais and São Paulo come in the sixth position with 1 point each. They are the top two states with the largest forest plantation area in Brazil (Serviço Florestal Brasileiro, 2017).

Tocantins is the state with the best institutional quality performance, since it scored zero within the group of indicators.

\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\*

### ***Strategies for protecting land rights***

Nine strategies are used by the three companies to protect land rights (Table 2).

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

**Stakeholder relationship** is the most relevant strategy for protecting land rights, since it was top ranked for two companies and ranked second for another one. The continuous interaction between the company and the local community allow the identification of disputes in their roots and before the conflict escalates. Most cases are solved through direct interaction between the parties for clarification or definition of land rights.

The **Use of legal mechanisms** and **Land title regularity** were among the three main strategies for two companies. Despite the effort to align land property rights by using stakeholder

relationship, this is not always achieved, and therefore, property invasion or claiming of land rights by third parties are quite frequent in the country. Hence, disputes are brought to justice courts for ownership clarification and enforcement. Besides that, in Brazil, there are many land registers and cadasters in place that are managed by various institutions: notary, land institute, environmental agency, and treasure department, among others. The more the legal documentation converges, the more effective is the enforcement of rights by the State. However, not unfrequently, records are inconsistent or incomplete, which reduces the leverage of legal protection. Therefore, companies aim to obtain Land title regularity. In case of litigation, land titles and registers can be used as evidence of tenure and ownership.

**Support to agricultural production and income generation alternatives in rural areas** comes in the third place, since it appears in the third, fourth and seventh positions in the ranks according to the organizations. Forest plantations are located near rural communities who have limited access to agriculture technology. In those groups, rural development is an opportunity and some companies support agriculture production by providing technical assistance and/or access to credit.

Both **Negotiation about property rights** and **Multi-stakeholders' agreement** are at an intermediary level of importance. One possible explanation for their restricted use is the implication (deduction) over the company's assets. One asset may have various attributes, and consequently, various rights associated to it (Barzel, 1997). This fact is particularly true for land assets. Beyond the right to cultivate the land, there are also the rights to use forest resources and water resources, to access places of special interest, such as religious places and cemeteries, among others. Also, land records and measurement were not as precise in the past as they are today. Imprecision is the root cause of conflicts between owners about boundaries location, size, overlap, title duplication, etc. Therefore, direct negotiation about use, tenure and ownership rights is quite common between the parties, including forest companies. However, the participation of third parties is sometimes a requirement to ensure formality, to ensure that minority rights be uphold, to provide credible information, and to serve as a moderator, among other reasons. The agreements with the participation of three or more organizations, with rights and obligations of signatories about land use, tenure and ownership, are called multi-stakeholders' agreements.

The **Assessment of the socio-environmental, land and legal compliance risks associated with the asset** also appears at an intermediary level of importance for two companies. It consists of gathering information by various company departments before the acquisition of the land to prevent the purchase or rental of properties whose characteristics are not suitable for the cultivation of forests or whose rights are not clearly defined.

**Asset protection and patrolling** mentioned by two companies and with a small number of citations, and **Territorial planning and improvement in asset management**, employed by only one organization, are at the bottom of strategy rankings. Asset owners are legally allowed to take action to protect their property. In the case of forest companies, they undertake efforts to protect the private farms from invasion or unauthorized use by third parties, including security patrolling (**Asset protection and patrolling**). In addition, geospatial technology is a good ally to help manage huge extensions of forest plantation. The geo information is used to plan and manage land use. Along with other information, it is possible to have a clear view of the landscape, which is useful for understanding conflicts over the use of resources (**Territorial planning and improvement in asset management**)

The number of strategy citations by companies was converted into percentage by using the total number of citations per organization. The objective was to compare the relative importance of strategy across companies. Percentages obtained were then included in pie charts (Figure 2).

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

Three facts call attention in figure 2. First and as already discussed, the relevance of Stakeholders relationship. Second, the relevance of Use of legal mechanisms and land title regularity for Jari and Suzano. Third, the similarity in the relative importance of strategies between Fibria and Jari, particularly among the top five positions.

### ***The quality of institutions at a federative unit level versus the strategies for land rights protection***

According to the proposition raised in this paper, in federative units where the institutional environment is fragile and the state faces high cost to provide enforcement, private mechanisms stand out in the protection of property rights. In order to confront the theoretical proposition with empirical data, Table 3 presents the federative units with forest plantations with greatest evidence of institutional environment fragility by business case<sup>1</sup>, number of geographically specific or intensified initiatives in those federative units, and total number of strategies for land rights protection mentioned by company.

\*\*\*\*\* **TABLE 3 ABOUT HERE** \*\*\*\*\*

The federative units with Fibria's forest plantations with greatest evidence of vulnerable institutional environment are Bahia and Espírito Santo. In three out of eight strategies for land rights protection there were geographically specific or intensified initiatives in Espírito Santo and two in Bahia. Within the Stakeholder relationship strategy, the cooperation agreement with indigenous communities signed in 2017 and the discussion forum about land rights of Afro descendent communities (*quilombola*) have been implemented only in the State of Espírito Santo. Within the strategy Support to agricultural production and income generation alternatives in the rural environment, the family farming program called Rural Territorial Development Program was first launched in Bahia in 2010, followed by subsequent expansion to other units. In December 2018, it assisted 3,685 families in Bahia, 2,302 families in Mato Grosso do Sul, 1,600 in São Paulo and 1,088 in Espírito Santo. However, the company points out that such initiative is part of its relationship strategy, regardless of the presence of land conflicts. Within the Multi-stakeholder agreement strategy, it was in Bahia that the first and largest agreement was made between social movements and the state government for the creation of rural settlements, followed by a massive social investment on the part of the company. A similar agreement was under discussion between Fibria, the state government and landless movements in Espírito Santo in 2018. Finally, within the strategy of Negotiation about property rights in the northern Espírito Santo, land was leased to *quilombola* communities while waiting for the definition of territory boundaries.

In addition to Bahia and Espírito Santo, the company has made a commitment with the Minas Gerais state government and social movements to give preference to the agrarian reform program when offering land for sale.

Pará is the Federative unit having Jari's forest plantations that has greatest evidence of institutional fragility. In four out of seven strategies for land rights protection there were geographically specific or intensified initiatives in that state. Within the strategy of Use of legal mechanisms to resolve disputes, the use of legal adjunction between 2009 and 2011 was reported to solve frequent land invasions within that period. Land regularization is under way

both in the States of Para and Amapá, but efforts are greater in Pará. In this location, there is an agreement in place with various state government bodies to promote land regularization in the Jari Valley region (Multi-stakeholder agreement strategy), followed by Land rights negotiation.

Federative units having Suzano's forest plantations with greatest evidence of institutional environment vulnerability are Maranhão, Espírito Santo and Piauí. In six out of eight strategies for land rights protection there were geographically specific or intensified initiatives in Maranhão, five in Bahia and two in Espírito Santo. However, there was no initiative in Piauí. Within the stakeholder relationship strategy, in Maranhão and Bahia the company has been engaging with rural settlement groups, with the assistance of a group of outsourced experts. In Maranhão, the company has been contributing to the improvement of the land governance system promoted by local authorities, since a good land rights definition is a requirement for Using legal mechanisms to resolve land disputes. In Maranhão and Bahia there are two internal Land Working Groups under operation. Their role is to deliberate about socio-environmental and non-compliance risks associated to properties under consideration for purchase and rental (under the strategy of Assessment of socio-environmental, land and non-compliance risk associated to the property). Nevertheless, it's important to note two caveats. First, the Working Groups are not restricted to land acquisition in these two states. Pulp mills in Bahia and Maranhão procure wood from neighboring states. The second caveat is that the company's growth strategy, which can also condition the existence of such Groups, was not in the scope of this study.

One type of multi-stakeholder agreement is found only in Maranhão and Bahia. Suzano has been signatory of the Agreement for Mitigation of Land Conflicts in the Extreme South of Bahia since 2015. According to the agreement, some private farms were to be expropriated and transformed into rural settlements by the government in 2018. The forest company was committed to provide support to settlers. A similar commitment is in place in Maranhão. Former company's farms were turned into rural settlements and technical assistance was being provided to farmers.

The number of Local Development Councils is higher in Bahia and Maranhão. Nine of them are located in Bahia and another nine in Maranhão, against three in Pará, three in Espírito Santo, two in Tocantins and one in Minas Gerais. The Council's objective is to assign to a multi-stakeholder group the responsibilities to foster local development. Among various topics, opportunities for land leasing in favor of communities are discussed within the group.

Under the strategy Support to agricultural production and income generation in rural areas, in Maranhão, the company has a cooperation agreement with Babassu Coconut Cracker Association for fruit collection within the company's farms. Besides that, in Espírito Santo, the company has implemented employment and income initiatives dedicated to the *quilombola* community.

In northern Espírito Santo, Suzano has employed an unusual procedure to ensure Land titles regularity. It contacted the local Land Institute and the Public Archive to trace back the origin of its land titles and assess their quality, given the absence of a centralized credible database.

Finally, the Asset Intelligence Department was first created in Bahia and the Procedure with Criteria and Guidelines for Land Conflicts Resolution was firstly implemented in Maranhão, and both were later extended to other states. Both initiatives belong to the Asset protection and patrolling strategy.

The absence of initiatives in Piauí calls attention to a situation where the adoption of private protection mechanisms was, apparently, different from the proposition outlined in this paper. This fact suggests that (i) other variables should be added to the model that explains the adoption of private mechanisms for the protection of property rights, besides the quality of institutions, such as asset value; (ii) the company's strategic interest in the location should be also taken into consideration. The last point (ii) reflects what Monteiro and Zylbersztajn (2012) called the maximum cost threshold for property rights protection ( $\bar{c}$ ) that economic agents are able to bear. Once this tipping point is reached, attributes are abandoned in the public domain due to the extremely adverse environmental conditions.

It is interesting to note that, in the three business cases, multi-stakeholder platforms to cope with land rights were found in the federative units with greatest evidence of fragility in the institutional environment, except for Piauí.

### ***Variables included in the decision-making process***

The multitude of mechanisms for land rights protection raises the interest in the criteria for selecting when to use each option. The empirical study revealed six variables that are used by companies to decide on land rights protection strategy (Table 4).

\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\*

The most relevant variable for a strategic decision is Claim legitimacy, since it was top ranked by the three companies. Case complexity comes in second place and Openness to dialogue in third place, as both are among the top three variables for all companies. The fourth variable is Leverage of legal property rights. At the bottom of the ranking are Number of people involved in the dispute and Size of the area under dispute.

Claim legitimacy, Case complexity and Level of legal property rights security are variables connected to the institutional environment. Land possession and claiming used to be a common practice in all regions in Brazil since the colonial time. Often, the factual land occupation was not formalized in the land titles. Due to this fact, inconsistencies among land tenure, use and ownership are common in Brazil (**Case complexity**), justifying the **legitimacy of the claims**. If there were a sound institutional environment, such situations would not be allowed (Monteiro & Zylbersztajn, 2012) and **legal property rights** would be in accordance with the field situation, and consequently, no questioning would be made on Leverage of legal property rights. Therefore, the three variables capture the quality of institutions and, consequently, the transaction cost to protect land rights through formal mechanisms.

## **CONCLUSION**

This paper revealed the wide range of mechanisms for land rights protection employed by three planted forest companies in Brazil and their order of importance according to executives' perception. The nine strategies are in line with Barzel (2002) and Dixit's (2004) predictions about the use of alternative dispute resolution mechanisms and the economic governance system to overcome the high cost associated to legal protection mechanisms.

At the top of nationwide mechanisms in the federative states where the institutional environment has greatest evidence of fragility, geographically specific or intensified initiatives are in place; among them and in all cases, multi-stakeholder platforms were being used. This finding is in accordance with the framework developed by Monteiro & Zylbersztajn (2012) and

with the proposition raised in this paper. However, it is important to notice that in one federative unit, result was different from what was expected, which raises the need for additional studies.

An additional finding was the identification of three variables that allow companies to evaluate the quality of institutional at federative unit level and to estimate the cost for right protection through formal mechanisms.

In summary, the quality of the institutions: (i) is considered in the strategic decision-making process for the protection of property rights; (ii) determines the transaction cost for the protection of property rights through formal mechanisms; and (iii) determines the importance of private mechanisms for land rights protection.

Results are important to both private and public organizations. Companies may use the strategies and variables here outlined to improve investment and conflict resolution and decision-making processes. The findings are also valuable to evidence how land conflicts are dealt with above and beyond litigation. In addition, the paper highlights the importance of a sound institutional environment to reduce transaction cost for land rights protection. Government bodies willing to attract investment and at the same time protect minorities' land rights, should pursue improvement in the definition and enforcement of legal property rights.

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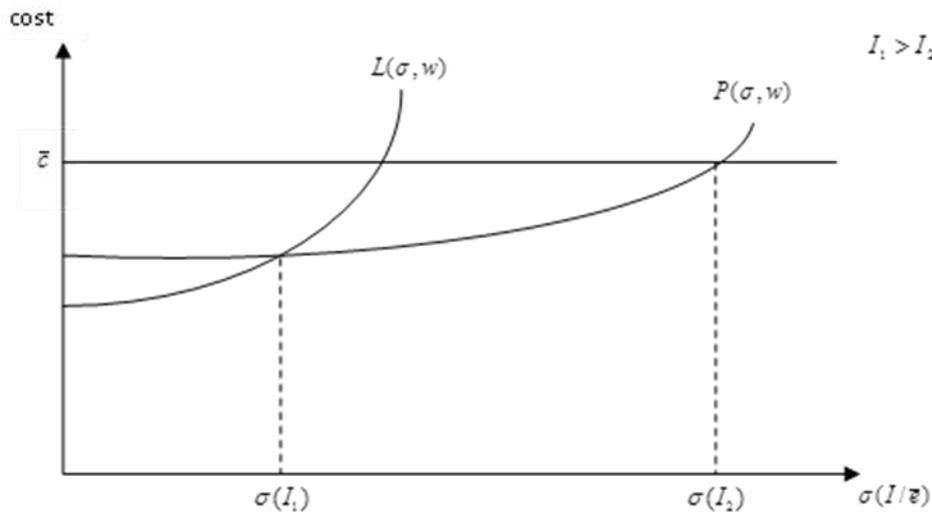


Figure 1 : Efficacy of capture effort vis-à-vis protection effort. Source: Monteiro e Zylbersztajn (2012)

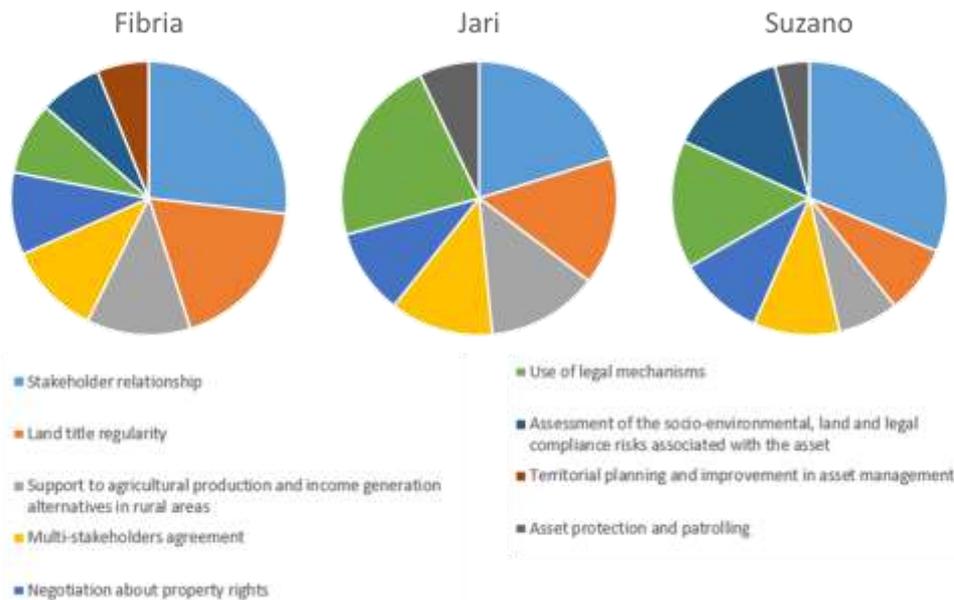


Figure 2: Comparative importance of land rights protection mechanisms by company

Table 1 - Analysis of the quality of institutions in twelve federative units

Federative unit/Indicator	AP	BA	ES	MA	MG	MS	PA	PI	RJ	RS	SP	TO
Number of properties registered with SIGEF in July 2018 (in thousands plots)	0.558	16.34	2.67	13.5	55.388	24.419	9.27	4.79	2.005	22.841	53.664	17.67
Territorial extension in hectares of the area registered with SIGEF in July 2018	4.7	8.706	0.352	7.82	11.079	11.391	16.07	3.21	0.337	3.752	4.56	10.45
Percentage of state surface registered with SIGEF in July 2018	33%	15%	8%	24%	19%	32%	13%	13%	8%	13%	18%	38%
Number of Indigenous communities with land traditionally occupied in stages prior to the regularized condition in June 2018	1	13	0	7	6	34	26	0	3	28	20	3
Number of indigenous communities with land traditionally occupied in stages prior to the regularized condition in June 2018 per 10,000 hectares	0.07	0.23	0	0.21	0.1	0.95	0.21	0	0.69	0.99	0.81	0.11
Number of filled cases for demarcation of quilombola land by June 2018	33	292	19	339	232	18	48	65	25	96	51	33
Number of filled cases for demarcation of quilombola land by June 2018 per 10,000 hectares	2.31	5.17	4.12	10.21	3.96	0.5	0.38	2.58	5.71	3.41	2.05	1.19
Number of land conflicts in 2017	45	97	9	180	38	32	67	14	7	7	34	28
Number of land conflicts in 2017 per 10,000 hectares	3.15	1.72	1.95	5.42	0.65	0.9	0.54	0.56	1.6	0.25	1.37	1.01
Percentage of rural population in 2010	10.22	27.9	16.6	36.9	14.7	14.36	31.5	34.2	3.28	14.9	4	21.2
HDI in 2010	0.708	0.66	0.74	0.639	0.731	0.729	0.646	0.646	0.761	0.746	0.783	0.699
<b>Score</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>

Table 2 - *Strategies for protecting property rights over land*

Fibria		Jari		Suzano	
Strategy	Citation	Strategy	Citation	Strategy	Citation
Stakeholders relationship	22	Use of legal mechanisms for dispute resolution	21	Stakeholders relationship	22
Land title regularity	15	Stakeholders relationship	19	Use of legal mechanisms for dispute resolution	11
Support to agricultural production and income generation alternatives in rural areas	10	Land title regularity	15	Assessment of the socio-environmental, land and legal compliance risks associated with the asset	10
Multi stakeholders agreement	9	Support to agricultural production and income generation alternatives in rural areas	13	Negotiation of property rights	7
Negotiation of property rights	8	Multi stakeholders agreement	12	Multi stakeholders agreement	7
Use of legal mechanisms for dispute resolution	7	Negotiation of property rights	10	Land title regularity	6
Assessment of the socio-environmental, land and legal compliance risks associated with the asset	6	Asset protection and patrolling	7	Support to agricultural production and income generation alternatives in rural areas	5
Territorial planning and improvement in asset management	5			Asset protection and patrolling	3

Table 3 - *Federative units with greatest evidence of institutional environment fragility in the protection of land rights and strategies for land rights protection*

	Fibria		Jari	Suzano			
	BA	ES	PA	MA	BA	ES	PI
Federative units with greatest evidence of vulnerable institutional environment							
Number of geographically specific or intensified initiatives	2	3	4	6	5	2	0
Number of strategies for land rights protection identified in the business case	8		7	8			

Table 4 - *Variables for selecting a strategy for protecting land rights*

Fibria		Jari		Suzano	
Variável	Citações	Variável	Citações	Variável	Citações
Claim legitimacy	10	Claim legitimacy	10	Claim legitimacy	15
Case complexity	7	Case complexity	10	Openness to dialogue	13
Openness to dialogue	6	Size of the area under dispute	4	Case complexity	9
Leverage of legal property right	6			Leverage of legal property right	7
Number of people involved in the dispute	6			Number of people involved in the dispute	3
Size of the area under dispute	3			Size of the area under dispute	3

## **Track 19**

# ***Business cases***

*Track 19 Business cases*

**ID #571**

**The Royalties of the Wind - An obstacle for the Brazilian  
Wind Industry**

Matheus Eurico Soares de Noronha (ESPM, Brazil)

**Abstract**

*The business case refers to the year 2015, intending to change the fundraising process, starting in 2015 (PEC 97/15). Based on the current power energy in Brazil and the possible unfolding of final approval of the proposal. According to data from ABEEólica - Brazilian Wind Energy Association, the wind power source accounted for 8.4% of the Brazilian electricity matrix, from 2010 to 2017, investment in the sector was more than US\$ 32 billion, avoiding about 21 million tons of CO<sub>2</sub>, demonstrating a trajectory of source ascension in Brazil. Therefore, the purpose of the case is to present the positive advances in choosing the adequacy and admissibility of PEC 97/2015*

**Keywords:** Wind Energy; Renewable Sources; PEC 97/15; Royalties of the Wind.

*Track 19 Business case(s)*

**ID #655**

## **Joaquina: Sustainable fashion or marketing strategy?**

Mariana Memrava Romanini (ESPM, Brazil)

### **Abstract**

*After fifteen years managing people in a large multinational, Roberta decided to abandon her career to invest in her own company. As a real fashion lover, she founded Joaquina, a women clothing brand. In the middle of the process, she found a standoff between investing in quality fabrics and high-priced products or keeping a fair price to its audience by reducing some costs. The appeal of being a sustainable fashion company has become the solution to the problem - upcycling would make it possible to reduce production costs and add the value of sustainability to the brand as it is an increasingly valued feature in the fashion market. However, in order to be, in fact, a sustainable company, it is necessary to commit to four pillars: environmental, social, cultural and economic.*

**Keywords:** fashion; sustainability; marketing strategy.

*Track 19 Business case(s)*

**ID #688**

## **Internationalization process of Argentinean wine companies under the capability matrix**

**Luis Eduardo Maturano Cipolla** (ESPM, Brazil)

**Ilan Avrichir** (ESPM, Brazil)

### **Abstract**

*The process of internationalization in emerging economies' companies, from the point of view of insertion in the Global Value Chain, is the object of study of several researchers. The companies seek insertion in Global Value Chain through capability for the international market, by using an array of Upgrade mechanisms, among them, improvements in product, process, or in the expansion of the technological functions in the company's activities or inter-sectorial. The objective of this paper is to analyze the upgrade mechanism, using as a case study the Argentinean winemakers. Through knowledge accumulation, the value companies add to their products as well as the interpretation of the results are presented on the Capability Matrix, developed by Sato and Fujita (2009). The empirical study has been conducted through multilevel, exploratory case study (YIN, 2005), in wine companies located in Mendoza, Argentina. The main contribution of this study is the interpretation of the results using the Capability Matrix from Sato and Fujita (2009), considering the deep knowledge acquired over the decades from 1996 to 2016 describing the evolution of companies in relation to the knowledge accumulation process. Findings were these processes are related to the performance of companies in the international market, which gradually seek to be included in the Global Value Chain in the wine sector.*

**Keywords:** Technological Competence; Global Value Chain; Bodega Catena Zapata..

### **Acknowledgments:**

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## **PURPOSE**

The purpose of this business case is to work with two concepts in literature: the upgrade in Global Value Chain (GVC) by Gereffi, Humphrey and Sturgeon (2005) and Technological Capability (TC) approach of firm-level learning and technological development to understand the acquiring of competence in the wine industry, when they seek the international marketing.

## **DESIGN / METHODOLOGY / APPROACH**

The paper reviews the GVC and TC literature focusing in two conceptual elements: the upgrading in GVC and the acquiring competence in TC, analyzing the combinations of these elements in the Capability matrix. The research was done in Mendoza-Argentine contacting the emerging multinationals winemaker's industry. The empiric work was collecting documents, visiting the main winemakers, interview enologists, managers.

## **FINDINGS**

the empirical work acknowledges the local factors that led Emerging-MNE to compete in the international market using the frame of GVC, by mean of upgrade in their production. Also, seeking for innovation to gain international recognition for their products, using the cycle mechanism from operative, then assimilation, after adaptation and finally to innovation, in all steps of the firm activities. Wine companies alongside the decades 1980 to 2016 work from operative process, to assimilation of foreign technologies and knowledges from foreign oenologists and then to adaptation to foreign market conditions up to innovation testing and launching varietals wines with local personality to fit international tastes.

Also, the paper acknowledges this mechanism and the changing in the companies in the main stages of wine production, from raw materials to field experiments to wine production and finally to the marketing / export / and recognition from specialized experts, magazines, contexts.

## **ORIGINALITY / VALUES**

The paper shed light how GVC and TC approaches together can explain the upgrading and success of agroindustry from emerging economy, can produce high quality goods, and to get international recognition. The main contribution of this work is the synthetization in the Capability Matrix, developed by Sato and Fujita (2009), joint these two literature approaches to interpretation the innovation path of the winemaker industry in two different decades to evaluate the development in the appropriation of the knowledge and techniques.

As a business case, we borrow the conclusions an implications for future research from Bell and Figueiredo (2012) whose recommended study the role of learning mechanisms in explain differences and similarities across latecomers firms in terms of the accumulation of non-technological capabilities, such as those for marketing, administrative, logistic and financial activities, in association with the accumulation of technological capabilities for production and innovation activities.

The Capability Matrix, as shown in the FRAME 1, is an empirical result, indicated the mechanism to engage in global chains and entering export market with upgrading of capabilities adapted for Emerging MNE in a winery industry.

To achieve a competitive position, the firm must to compromise resources in personal, financial, materials, time in a costly process in technological learning.

The challenge, in this business case, is to recognize the utility of the Capability Matrix for companies that use only partially their degrees in a specialized, but not dispensious manner. Some examples, but not limited to, are suggested in the following questions to debate:

To be an expert in the line of operational plan / pre-production / production for third part in a trajectory involving levels as assembly, OEM / ODM and OBM?

To become a specialized firm in the “column” Production, i.e. efficiency, cost wise effective, developing from operative to innovative in a single product?

Conversely, the organization can center their efforts in planning/ R&D / design of products, production, and marketing and leave the production for third parts, i.e. centered in non-technological activities but equally important to achieve competitive position in international market?

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*Track 19 Business case(s)*

**ID #717**

**The wine is Fake!**

**Gustavo Niero** (ESPM, Brazil)

**Roberta Colleta** (ESPM, Brazil)

**Suzane Strehlau** (ESPM, Brazil)

**Abstract**

*The case study "Wine is Fake!" narrates the discovery of the greatest case of falsification of rare wines that are known. The trajectory of an illegal Indonesian immigrant, who has become the biggest counterfeiter of precious old wine bottles, shows how this crime hit the US courts and impacted the specialty wine collectors segment. Although unrepresentative within the total wine market, these rare and old products still sway hundreds of millions of dollars every year in auction houses around the world. The entrance of this large and sophisticated forger has caused huge losses to the collectors and has caused the loss of credibility of some traditional auction houses. On the other hand, the case also brought light to the sector, since it involved legal and traditional authorities producing high value wines. The punishment of the forger should have contributed to minimize other similar initiatives. The fact also supported to the fact that the collectors increased their concern with the safety and the origin of the bottles considered rare. A site that helps in the identification of forgeries was created after the forger's discovery and conviction, and other security measures have also been observed by industry players. The case is innovative because it warns of the sophistication achieved by counterfeit drinkers, exposes the significant losses resulting from these illicit acts and also because it reports the first criminal trial in history involving counterfeit rare wines in the United States.*

**Keywords:** Marketing; Luxury Marketing; Deviant Behavior; Rare Wines; Falsification.

**Acknowledgments**

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## **Track 20**

# ***PDW (PAPER DEVELOPMENT WORKSHOP)***

Track 20 PDW Papers

**ID #570**

**When your well-being is in your hands: The role of coping  
in the well-being of the visually impaired in situations of  
consumer vulnerability**

**Claudia Falchetti** (ESPM, Brazil)

**Mateus Canniatti Ponchio** (ESPM, Brazil)

**Abstract**

*This study aims to evaluate the relationship between coping, vulnerability and consumer well-being, understanding that the higher the coping repertoire, the lower the negative effects of vulnerability on well-being. In the literature on consumer vulnerability and well-being only one study was identified that uses quantitative research methodology. This is a study by Balabanis, Mitchell, Bruce and Riefler (2012). In the present study, we chose to continue the research initiated by Balabanis and colleagues, exploring the role of coping strategies used by individuals when faced with stressful consumption situations, and comparing the responses of visually impaired individuals to the responses of non-disabled individuals. Conceptual models of mediation are elaborated from a literature review on vulnerability, well-being and coping, as well as on the two dimensions of coping: problem-focused and emotion-focused. The evaluation of the model is carried out by means of hypothesis test in field research involving the application of a structured survey questionnaire. The results revealed evidence of a mediating effect of vulnerability on the relationship between coping focused on emotion and well-being. However, there was no evidence of this effect for the problem-focused coping model. Thus, it could be concluded that individuals with a greater repertoire of coping focused on the problem, would also have fewer emotional difficulties to deal with consumer vulnerability situations. The results point to the importance of elaborating public policies that reinforce the offer of psychosocial support to the population. The research contributes to the academic community by providing adapted and validated measurement instruments for use in Brazil, and for future studies it is proposed to expand the application of the research, including in its scope other consumer segments or cultural factors that may influence the consumer well-being in vulnerability situations. The main limitation of the study is that because it is work in development, a low number of participants have been involved so far (n = 113 participants), and it is still necessary to increase this sample.*

**Keywords:** Coping; Consumer Vulnerability; Consumer Well-Being; Visually Impaired Consumer;

**Acknowledgments**

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## **INTRODUCTION**

It is estimated that more than 250 million people across the world are visually impaired (World Health Organization [WHO], 2018). The United Nations (UN - Department of Economic and Social Affairs, 2018) estimates the existence of more than 1 billion people with disabilities worldwide and emphasizes that 80% of them reside in developing countries (UN Brazil, 2017). For these people, consumer activities, such as preparing food or shopping, become difficult, because the marketplace environment is apparently unprepared to meet their needs and reduce their stress (Crews & Campbell, 2004). This limited access to market opportunities (Baker, Stephens, & Hill, 2001) and lack of social support for consumption (Bruce, Harrow, & Obolenskaya, 2007) may cause these individuals to experience both vulnerability and social exclusion.

Consumers with disabilities face limitations in their consumption routines, which are largely due to the general lack of accessibility of both the environment and the relative lack of understanding, preparation and training of professionals in the consumer market (Falchetti, Ponchio, & Botelho, 2016).

Although one in seven people in the world has some kind of disability, there are not many academic studies on their vulnerability in the marketplace; moreover, impaired people's situation and difficulties in the consumer environment are scarcely reported in the media. "The marketing literature on vulnerability often overlooks people with significant chronic or progressive disability although many people live with these challenges" (Pavia & Mason, 2004, p. 1). These consumers also seem invisible both to market and to product and service developers (Mason & Pavia, 2006), and in certain situations, erroneous or false media representations may mask the real causes of social exclusion experienced by these people (Kearney, Brittain, & Kipnis, 2019).

There is thus a need to discuss visually impaired people's issues in the marketing context to increase awareness among researchers, marketers, governments and representatives of consumer rights. Compared to others who have fewer disabilities, marketplace issues, such as a lack of preparedness for receiving blind people, represent more difficult barriers for these individuals to overcome (Falchetti et al., 2016).

It has been confirmed, therefore, that although some academic researchers have studied consumer vulnerability and provided definitions, possible causes and resolution factors, much still needs to be done to improve the conditions and well-being of people experiencing such problematic situations in the consumer marketplace. It is important for researchers from transformative consumer research (TCR), an initiative to which this study belongs, to participate in the development of programmes that transform research results into actual and positive differences in consumers' lives (Özçağlar-Toulouse & Burroughs, 2014). In a consumption society, developing environments that offer inclusion and that allow individuals to exercise their social role is a way to promote social well-being. Thus, this study is aligned with TCR and seeks to contribute to the understanding of a specific group of consumers: the visually impaired.

The cases of visual impairment studied in this research represent non-remediable and static conditions (Pavia & Mason, 2014), and we believe that the consumer marketplace should provide resources or systems to assist these consumers, since they are faced with consumption situations in which they greatly depend on other people. The results of this study are expected to complement and deepen those already existing in the literature, contributing to the development of research projects aimed at understanding consumer vulnerability, and also

programmes aimed at improving the quality of life and well-being for individuals in situations of consumption vulnerability. This study is also expected to provide future directions to expand research, debates and actions that benefit these consumers.

In the literature on visually impaired consumers' vulnerability and well-being, only one study was identified as using a quantitative research method. This is the study of Balabanis et al. (2012), which verifies that, for visually impaired consumers, increases in individual well-being are associated with increased market engagement (ME) in the process of stress response in the consumer environment. Balabanis et al. (2012) point out that the stress level perceived by these individuals in the consumer environment depends on their coping styles.

In the present study, we chose to continue the research initiated by Balabanis and colleagues, exploring the relationship between vulnerability, consumer well-being and coping strategies used by individuals when faced with stressful consumption situations in the Brazilian context, and comparing the responses of visually impaired individuals to the responses of non-disabled individuals. The present research is committed to the following objectives: i) to identify, adapt and validate for the Brazilian context scales that are used internationally to measure the vulnerability, well-being and coping constructs; ii) to statistically verify the existence of a relationship between the coping strategies used by the visually impaired in stressful consumer situations and their well-being; and iii) to verify statistically whether consumer vulnerability has a mediating effect in this relation.

In striving to fulfil these objectives, this material first presents a literature review about the constructs involved (consumer vulnerability, well-being and coping) with the aim of providing the reader with an understanding of the same, as well as the research hypotheses explored later in the field study. The following section will deal with the research method used, including a description of the measurement instruments chosen for the operation of each of the variables tested, as well as information on data collection and treatment. The following instruments were selected, adapted and validated: Sinclair and Wallston's (1999) Psychological Vulnerability Scale (PVS), Brief Inventory of Thriving by Su, Tay and Diener (2014) for subjective well-being measurement, and the Coping Scale of Duhachek and Oakley (2007) adapted by Han, Duhachek and Rucker (2015).

At the end, analyses, results and conclusions are reported, and the limitations of the research and suggestions for future studies are indicated. Some propositions for future research are drawn from the results found.

## **VULNERABILITY**

Limiting social situations, such as that often experienced by visually impaired consumers, can affect an individual's psychological and physical well-being. The sense of vulnerability experienced by them is increased by difficulties in achieving consumption goals, which generates exclusion, isolation and stigma, affecting self-image and the perception of belonging (Elms & Tinson, 2012). Successful pursuit of personal goals contributes to the development and maintenance of individual well-being, and vulnerability situations, which prevent or hinder the individual from achieving consumption goals, and can lead to a feeling of reduced well-being for him or her. Consumer vulnerability is therefore a market condition that exposes individuals to the risk of having limited utility from market transactions, which may have implications for their well-being.

Baker, Gentry and Rittenburg (2005) argue that consumer vulnerability is a condition, not a status. According to these authors, consumer vulnerability can be experienced by anyone because of events that can occur at any stage of their lives, including illness, limited income, job loss and natural disasters. They explain that although some groups of people are more prone to vulnerability, they are not always vulnerable, and they suggest that vulnerability is closely linked to identity and transformation, and consumers' self-concept is in jeopardy when they experience it. The contexts of consumption that make individuals feel vulnerable affect not only their perception of competence and social acceptance, but also their safety and future prospects.

The authors define consumer vulnerability as:

*[...] a state of powerlessness that arises from an imbalance in marketplace interactions or from the consumption of marketing messages and products. It occurs when control is not in an individual's hands, creating a dependence on external factors (e.g., marketers) to create fairness in the marketplace. The actual vulnerability arises from the interaction of individual states, individual characteristics, and external conditions within a context where consumption goals may be hindered and the experience affects personal and social perceptions of self.*  
(Baker et al., 2005, p. 134)

Some studies explore vulnerability as influenced by market factors. For example, Anastasiou and Kauffman (2013) argue that individuals with disabilities experience limitations because of the isolation or exclusion they suffer in the social context in which they live. The sense of vulnerability that can be experienced by these people, according to Elms and Tinson (2012), is reinforced by the difficulties of consuming, which significantly affect the subject's ability to make purchases properly, which increases the exclusion, isolation and stigma, even if only for a temporary period, impacting on their self-image and perception of belonging. Varman and Varman and Vijay (2018) expose the violence unleashed against consumers in situations of vulnerability, from a case report in Bangalore (India).

Pavia and Mason (2014) also address situations that lead people to vulnerability and study the group of vulnerable consumers for some conditions they define as unlikely to disappear, including people with mental or physical disabilities. These authors also seek to understand what they call the invisibility of the consumer in the marketplace, pointing out that one of the possible causes of this invisibility is that some disabled people tend to consume privately, outside peak hours, thereby reducing the understanding that the issue of disability is indeed a social problem. In an oppressive society, in which culture dictates the way we think and behave, the response to disability is characterized by prejudice; and the position adopted by the handicapped before others, with fear of exclusion, repulsion and stigma, tends to maintain this prejudice.

People with disabilities often face difficulties caused by the lack of accessibility of marketing. Walsh, Mitchell, Kilian and Miller (2010) studied the cognitive vulnerability of consumers when assessing similarities between products. In a study by Falchetti et al. (2016), and also in Kaufman-Scarborough and Childers (2009), participants reported that the interface between the various types of accessibility features and the specific technologies of the Internet can make parts of a site unusable, ineffective or hostile during the consumption process online. According to Kaufman-Scarborough (2001), these people are generally not included in the audience listings in research projects that test the marketing mix. In this type of research, the respondent sample tends to be recruited on the basis of demographic and lifestyle variables, and little attention is given to the recruitment of disabled participants.

The attributes of care in services for people in situations of vulnerability have received outstanding attention from researchers. Hunter-Jones (2010) explored the construct by studying the consumption of tourism by carers of the elderly and cancer patients. Piacentini, Hibbert and Hogg (2014) studied the vulnerability of consumption experienced by people in transition between life with the help of carers and life with independence. For patients in specialized institutions, the technical support provided by the institution's professionals to the users contributes to their quality of life (Gentry & Goodwin, 1995; Rosenbaum & Smallwood, 2013). The study by Rimmer, Riley, Wang and Rauworth (2005) found that some attendants were uncomfortable or impatient in assisting people with impaired mobility or visual impairment. Dos Santos and De Carvalho (2012) also reported that employees are sometimes unprepared to provide adequate services for visually impaired people.

Individual characteristics as antecedents to vulnerability are also thematic in subject studies. Sinclair and Wallston (1999) propose that some individuals may be more prone to so-called psychological vulnerability because they have some cognitive patterns that make them more susceptible to stress, and Rosenbaum, Seger-Guttmann and Giraldo (2017) relate vulnerability to conditions such as disabilities, advanced age, sexual orientation, immigration status and acculturation, participation in sexual exploitation, geographical distance, mental health challenges, obesity, natural disasters and language barriers. In fact, there are groups of individuals, grouped according to their socio-demographic characteristics, who may be more or less likely to experience a similar set of conditions (Commuri & Ekici, 2008), including those that lead to feelings of vulnerability. However, subjective factors, such as emotional stability, mood, motivation and autonomy, are also of great relevance in the context of consumer vulnerability (Falchetti et al., 2016).

Other studies focus on the effects of vulnerability on individuals. For example, Sinclair and Wallston (1999) argue that limiting social situations produce cognitive reactions that can affect the psychological and physical well-being of the individual and may interfere with their ability to achieve goals. Cordeiro, Wong and Ponchio (2018) explore the issue of financial vulnerability and show how Brazilian practices of taking and receiving loans between family and friends are used by individuals to maintain a moral credit economy, which can result in both a feeling of vulnerability and in an increase in financial constraints.

Meekosha (2004) proposes that individuals with functional limitations only have social limitations because the environment and the society in which they live discriminate against them. Depending on the context, situation or region in which the person lives, a number of social factors may both increase the sense of vulnerability and, in contrast, facilitate the adaptation of the subject facing the adverse situation or stress. In the consumer environment, for example, accessibility is a global problem (Baker, Stephens, & Hill, 2002) and logistical elements of the market are not necessarily developed for the disabled (Baker & Kaufman-Scarborough, 2001). Environments tend to limit, restrict, segregate and even oppress individuals with skills considered to be different (Mazurik, Desjardins, de Grosbois, Poldma, & Gelech, 2014) and pose risks to their safety (Dos Santos & De Carvalho, 2012).

According to Baker et al. (2001), the response of visually impaired consumers to the market in terms of independence and dependence is determined by a number of environmental factors, namely physical, logistic and interpersonal factors. Baker et al. (2005) explain that participation in the context of consumption for the disabled and their families is different from participation in consumption for people considered non-disabled. This difference may generate a feeling of isolation or abnormality for these individuals or groups. Crews and Campbell (2004) associated loss of vision with increased depression and family stress and indicated that blind people are

twice as likely to suffer from depression or anxiety as individuals without sensory problems. A study by Horowitz and Reinhardt (2000) also found that approximately one-third of older adults with visual impairment have symptoms of depression, which is partly because, unlike other age-related physical disabilities, vision loss may be associated with a state of complete dependence and helplessness.

## **CONSUMER WELL-BEING**

Consumption in modern society is accepted as a means to pursue success, happiness and well-being (Burroughs & Rindfleisch, 2002; Ponchio, Aranha, & Todd, 2006) and the successful pursuit of significant personal goals contributes to the development and maintenance of individual well-being (Tang, Guo, & Gopinath, 2016; Visconti, 2016). Increases in individual well-being are associated with greater market engagement (Balabanis et al., 2012) and greater adherence to brands (Aureliano-Silva, Strehlau, & Strehlau, 2018), and situations of vulnerability that impede or hinder individuals from achieving their consumption goals can lead to a feeling of reduced well-being for them. Consumer vulnerability is a market condition that exposes individuals to the risk of gaining limited utility from market transactions, which may have implications for their well-being (Visconti, 2016). Vulnerability can be understood as susceptibility to injury or to someone being taken advantage of, and vulnerable consumers are those who are most susceptible to economic, physical or psychological damages in, or as a result of, economic transactions because of characteristics that limit their ability to maximize their usefulness and well-being (Smith & Cooper-Martin, 1997, p. 4).

Lee and Ahn (2016) explain that well-being is a general term for the condition of an individual or a group in various contexts, for example their psychological, physical, social or economic state. Consumer well-being (CWB) can be measured from objective criteria such as economic criteria (e.g., income or aggregate wealth), or by considering human development facets such as happiness, pleasure, positive affect and life satisfaction (Pancer & Handelman, 2012). Zhong, Mitchell, Yang Zhong and Mitchell (2013), for example, point to evidence that objective life circumstances, such as financial circumstances, affect consumer well-being. Contrary to the objective view, the subjective view takes into account feelings of satisfaction or dissatisfaction that the consumer experiences and that contribute to their quality of life – in other words, satisfaction, the sense of well-being or other perceptions of the consumer themselves (M. J. Sirgy, Lee, & Rahtz, 2007). For example, the results of Dagger and Sweeney (2006, p. 5) indicate that perceptions of service quality and service satisfaction may have the potential to contribute to the quality of life experienced by individuals.

According to Veenhoven (1984), subjective well-being is about the degree to which an individual judges the general quality of their life as a whole in a favourable way. Most subjective well-being surveys in the context of consumption examine the satisfaction of individuals with various aspects of consumption, such as the acquisition and possession of material goods or the experience of retail and services (M. S. W. Lee & Ahn, 2016). For example, research by Iyer and Muncy (2016) studies individuals' attitudes toward consumption at both the personal (micro) and social (macro) levels, and subjective well-being in terms of cognitive well-being and affective well-being. Lee, Sirgy, Larsen and Wright (2002) argued that consumer life dimensions are more appropriately conceptualized in terms of five types of consumer experiences (acquisition, possession, consumption, maintenance and disposal) and develop a subjective measure of CWB as a composite of consumer satisfaction experience.

Malhotra (2006) suggests that a possible approach to the construct would be to integrate relevant theories from various disciplines such as economics, consumer behaviour and marketing, social psychology, cross-cultural psychology, anthropology and sociology. Some research considers more than a view on well-being. For example, Sirgy and Lee (2008) describe consumer well-being as “an objective and subjective well-being state involved in the various stages of the consumer or product life cycle in relation to a particular consumer good” (p. 381).

*H1: Consumers with greater psychological vulnerability present lower levels of consumption well-being.*

Cultural issues have also been explored in consumer well-being studies from the subjective point of view. An example of this is the study of Hedhli, Zourrig and Chebat (2016), who address key antecedents and moderating conditions that explain how shopping experiences impact on the well-being of shoppers, and investigate the link between hedonic and utilitarian values, and consumers’ well-being in the consumer environment. The work of Zheng, Yao and Fan (2016) indicates that receiving and giving social support online, that is, reciprocal altruistic behaviours, increases the well-being of patients at different levels of social exclusion. Steel, Taras, Uggerslev and Bosco (2018) relate individual well-being to cultural values linked to relationships and social capital, and explain that the variation in satisfaction with life is more influenced by such values than by individuals’ salaries or the economic and political scenario in general.

Balabanis et al. (2012) understand subjective well-being (SWB) as a state, and as a set of internal resources (of an individual), i.e., the energy or physical strength of a person, and also the set of characteristics that make up their personality, for example intelligence, traits of anxiety and depression, autonomy and optimism, among others. SWB, according to the authors, describes the average mood of a person, or the frequency of positive and negative affective experiences over a given period of time (Balabanis et al., 2012, p. 490). Their study addresses the case of the visually impaired, and proposes and tests a conceptual model of response to predictive stress in MS, as shown in Figure 1, in which MS is influenced by external resources (number of relatives and friends, and perceived quality (subjective well-being) and characteristics of the disability duration and severity of the visual impairment)).

## **COPING**

Many consumer situations can be particularly stressful for people who are more likely to experience social vulnerability, but although some disadvantaged groups are more likely to be vulnerable, not all people who share certain characteristics are actually vulnerable (Berg, 2015). People experiencing vulnerability are not passive individuals; on the contrary, they use cognitive, emotional and behavioural strategies to manage their situations (Heckhausen & Schulz, 1995) – the so-called coping strategies. Individuals may become either more vulnerable or more resistant to their situations depending on the quality and availability of their strategies (Antoniazzi, Dell’Aglia, & Bandeira, 1998). Duhachek and Oakley (2007) explain that understanding coping is vital for consumer researchers, since consumers regularly face problems that require the use of such coping mechanisms. Research on coping argues that how people deal with stress can reduce or amplify the effects of adverse life events and conditions, not only on emotional distress and short-term functioning, but also on long-term physical or mental health development (Skinner, Edge, Altman, & Sherwood, 2003).

Individual coping strategies are crucial to the well-being of consumers with chronic diseases. According to Pavia and Mason (2004), consumption plays a beneficial role for self-image, and facilitates the coping processes of individuals in transition. In other words, consumption increases self-power. The way people manage the marketplace challenges and their success in coping affect self-image and the perception of how others see them. Duhachek and Kelting (2009) emphasize the essential role of coping as an influencer of individual self-assessment and establish the importance of the coping repertoire as a moderator in the relationship between the individual and their environment. Thus, we propose that individuals who experience situations of consumption vulnerability, and who possess a greater repertoire of coping strategies, can deal with stressful situations in a way that the perceived vulnerability influences their well-being less.

***H2a:** Consumers with greater coping repertoires have higher levels of consumption well-being.*

***H3a:** Psychological vulnerability has a mediating effect on the relationship between coping and consumer well-being.*

Many of the researches on the topic examine coping in relation to emotions felt by individuals (e.g., Aaker & Williams, 1998; Duhachek, 2005). Others seek to understand coping as a tool for reducing stress (e.g., Castilhos, Fonseca, & Bavaresco, 2017; Yi & Baumgartner, 2004). Stress situations under this subjective perspective are contextual, change over time and involve the interaction between the individual and the environment. In Lazarus's theory (1966), coping is defined as an effort by the individual to manage specific demands. Duhachek and Iacobucci (2005) classify as the most influential definition for the coping construct, the concept of the present work, that of Lazarus and Folkman (1984, p. 233): cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. An individual's response to a perceived stressor is the result of a number of personal and environmental aspects. Individuals are considered to have natural predilections for coping, and their response in any stress situation is an interactive function of these personal and situational factors. For example, assertiveness can impact on the strategies that a consumer chooses to cope with stress and also affects consumer perception of the effort required to do so (Lazarus & Folkman, 1984).

Duhachek (2005, p. 42) defines the coping construct in the consumption context as “the set of cognitive and behavioral processes initiated by consumers in response to emotionally arousing, stress inducing interactions with the environment aimed at bringing forth more desirable emotional states and reduced levels of stress”. This definition reveals some properties of the construct: it emerges as a consequence of emotion, and presents a dynamic process that encompasses the cognitive, behavioural and emotional domains of consumer response. The author believes that people deal with stress in different ways from one another: for example, some consumers may be more inclined to express their feelings externally, while others can rebuild the stress-inducing event in a positive way, so that it seems less stressful, and so on.

Folkman (2010) explains that coping strategies refer to personal thoughts or behaviours in managing the internal or external demands caused by stressful events. Coping efforts are made up of actions, which must be understood not in terms of their effects, but rather in terms of the process of coping, which would be the process of behavioural and cognitive reaction of the individual. Such actions can be classified by the focus given to different elements of the stressor event. They may be of the problem-focused type or of the emotion-focused type (Lazarus & Folkman, 1984a).

Problem-focused coping occurs when an individual seeks to change the stress-generating situation; its actions are aimed at provoking a change in the person-environment relationship in which negative emotion or stress originates. They are actions characterized by attempts to change the perceived sources of stress. For example, to manage the stress that stems from a major purchase being made, a consumer may seek information that alleviates concerns that a wrong purchase decision has been made. Emotion-centred coping is defined as an effort to regulate the emotional state associated with a stressful event and has the goal of reducing the negative emotional state, or changing the appraisal of the demanding situation. It involves attempts to reconstruct the meaning of an external stressor by reinterpreting the event in a different and less psychologically distressing way. Rather than directing efforts toward changing stressful conditions, emotion-centred coping involves a shift in the subjective meaning of stressful experience. For example, shoppers can cope with the stress of major purchases by discussing their feelings with a close friend (Duhachek & Iacobucci, 2005). Duhachek and Kelting (2009) explain that people differ in their propensity to use coping strategies and rely on different amounts of strategies when faced with stressful consumption episodes. Some individuals, for example, use a broad set of strategies, while others have a narrower set.

Beudaert, Gorge and Herbert (2017) study the case of people with so-called “hidden” disabilities, such as people with monocular vision or people with low vision who do not need to use cane. As these types of disabilities cannot easily be discerned, such individuals are inadequately received by employees or company clerks. According to the study, the degree of exclusion and the coping strategies vary according to the degree of disability for these vulnerable people, and the greater the disability, the more individuals distance themselves from the marketplace and are on the verge of exclusion, if not excluded immediately. However, even if these coping strategies tend to resolve the physical exclusion they suffer, they fail to assist with emotional exclusion.

When visually impaired consumers perceive inequality in marketplace experiences they may view such experiences as an opportunity to educate others about their real capabilities (Baker, 2006). Dubost (2018) assesses how the available studies portray consumers with disabilities and note two profiles: passive consumers who are offered bids tailored to their needs, and the most active consumers who wish to play an active role in the marketplace. Shi, Jing, Yang and Nguyen (2017) understand consumer vulnerability as an individual characteristic marked by a person’s tendency to be influenced by an external stimulus that leads to decisions detrimental to their own well-being. The authors explain that each consumer reacts differently to outside influences, but the more vulnerable ones can behave less rationally, facing loss consequences more often than other consumers. We can thus propose that:

***H2b:** Consumers with greater repertoires of coping focused on the problem present higher levels of well-being in consumption.*

***H2c:** Consumers with greater repertoires of coping focused on emotion present higher levels of well-being in consumption.*

***H3b:** Consumer vulnerability has a mediating effect on the relationship between the coping repertoire focused on the problem and the individual’s well-being.*

***H3c:** Consumer vulnerability has a mediating effect on the relationship between the coping repertoire focused on emotion and the individual’s well-being.*

Figure 2 proposes a conceptual model explaining the relationship between coping, consumer vulnerability and well-being. Figures 3 and 4 present the mediation models for problem-focused coping and emotion-focused coping, respectively.

## **METHODOLOGICAL PROCEDURES**

This study seeks to develop an understanding of the visually impaired according to their own perception of disability and well-being in the consumer marketplace, and the data collection instrument comprises self-fulfilment questions. In order to obtain information about the perceptions of these people in their role of consumers, and focusing on the constructs explored here, a survey research was conducted with a sample of visually impaired and a sample of non-disabled persons. Consumers without visual impairment were included in the study in order to have as a control variable in our study the occurrence of visual impairment. The survey had a sample of 113 participants with a mean age of 37 years and standard deviation of 11.49 years. Out of the total number of respondents, 73 were visually impaired (65%) and 58 were men (51%).

This process of gathering information was chosen in order to test theories, hypotheses, specific variables and relationships between variables (Creswell, 2007). The sampling strategy used in this study was that of judgment, since individuals who have had specific experiences (Marshall, 1996) of consumption in situations of visual impairment were investigated. Another characteristic required of the respondents was to be aged 18 or over.

The recruitment of participants was supported by the Dorina Nowill Foundation, an institution for the blind that was chosen as a partner in this study because of its recognition in Brazil and its history, tradition and service quality. This foundation offers free treatment to people with visual impairment according to their needs and provides conditions for their development and social inclusion. It also publishes accessible Braille, audio and digital books and distributes them without charge both to visually impaired people and to approximately 2500 schools, associations, libraries and organizations that serve them throughout Brazil (<http://www.fundacaodorina.org.br/>). Since its inception in 1946, the institution has provided assistance for more than 17,000 people, published more than 1600 audio books and made available approximately 900 digital titles in an accessible format. Currently, the monthly flow of visually impaired people through the Foundation is approximately 1000.

The structured research questionnaire was organized as follows: first, an introduction was presented in which the rules for responding to the research were explained; then two filter questions were asked to ensure that the respondents fit the desired profile; then the questions of the selected scales were presented; and finally there was a series of socio-demographic questions (gender, age, place of residence, family income, marital status, family composition of residence), followed by the measures questions. The questions pertaining to each construct block were randomized to each respondent who accessed the questionnaire.

After reviewing literature to identify scales already developed and validated, the following were selected to operationalize the constructs of the measures: the Psychological Vulnerability Scale (PVS) of Sinclair and Wallston (1999); Brief Thriving Inventory by Su et al. (2014) for subjective well-being; and Duhachek and Oakley's (2007) Coping Scale adapted by Han et al. (2015). None of the scales used were translated into Brazilian Portuguese, so a pretest was taken to validate the model containing translated versions in our language.

According to Costa (2011), the first step in the elaboration of the data collection instrument is the face or translational validity test, a non-statistical, qualitative and writing instrument form of measurement, with the participation of two experts and two potential respondents. The reverse translation technique was used in this step. Having the research questionnaire ready, we chose to use the free survey tool offered by Google Forms at the suggestion of the two potential visually impaired respondents – both participated in the verification of the items' comprehension and usability of the online search tool.

### ***Vulnerability measurement***

Although vulnerability has received attention from consumer researchers in recent decades, studies on consumer vulnerability involving quantitative data are scarce. Only in the area of clinical psychology was it possible to identify a measurement instrument for psychological vulnerability: the Sinclair and Wallston (1999) instrument. The Psychological Vulnerability Scale (PVS) measures cognitive vulnerability related to perceptions of dependence, perfectionism, negative attributions and the need for external sources of approval. The PVS is a six-item measure of a set of cognitive factors that promote stress-damaging reactions. Nogueira, Barros and Sequeira (2017, p. 2016) observed and demonstrated the potential of the PVS, despite its original purpose of identifying people susceptible to stress as a result of chronic diseases – in the case of Sinclair and Wallston (1999), people who suffered from rheumatoid arthritis – to measure the psychological vulnerability of adults without such a clinical profile. In our study, we tested the use of this instrument to measure consumer vulnerability in the context of visual impairment.

After conducting exploratory factorial analysis, two items of the Sinclair and Wallston instrument (1999) were excluded because they presented low factorial loads (0.236 and 0.550). The correlation coefficients between the remaining items ranged from 0.661 to 0.798. The Cronbach's alpha was then calculated as the internal consistency index for the scale, and a value of 0.718 was obtained.

The convergent validity of the measure of vulnerability was tested with the use of four items elaborated by us from the reports of Falchetti et al. (2016) and Baker et al. (2001). According to these authors, the greater vulnerability of the visually impaired consumer implies a greater dependence on other people in the consumer market. Independence can be characterized by the ability to take care of yourself and your home alone and make decisions with autonomy. According to Cronbach and Meehl (1955), some constructs can be measured from their antecedents and consequences, and while Sinclair and Wallston (1999) propose the measurement of vulnerability from aspects internal to the individual, in this work we have chosen to aggregate items that characterize the consequences of the construct. It is understood that the score of the suggested items reflects a sense of independence and is negatively related to the results obtained with the use of the Sinclair and Wallston vulnerability scale (1999). The items elaborated by us are:

1. I feel that I can take care of myself without help from other people.
2. I feel that I can take care of my house without help from other people.
3. I can make decisions without the support of others.
4. I achieve my personal goals with autonomy.

The items were written in reverse order and, after having their scores adjusted for the direct order, the Pearson correlation was calculated between the two vulnerability measures, with a

positive and significant result of 0.249, indicating convergent validity for the vulnerability measure.

### ***Consumer well-being measurement***

Su et al. (2014) developed the Brief Inventory of Thriving (BIT), which verifies well-being under subjective or psychological optics. The term “thriving” is explained by the authors as a positive working state in its fullness – mentally, physically and socially. The term is used in the original material in order to emphasize the results associated with psychological well-being. The scale has 10 items and can serve as an indicator of psychological well-being and a brief tool for mental health screening. The instrument was tested in five samples with a total of 3,191 American participants with diverse demographic characteristics, and presented excellent psychometric properties and convergent validity with existing measures of psychological well-being and discriminant validity with measures of ill-being.

The Su et al. (2014) model integrates several theories and is represented by seven main theoretical dimensions: 1. Subjective well-being (SWB) in the form of high satisfaction with life and positive feelings – it is a key ingredient of psychological well-being, according to the authors, and can be conceived as an indicator of how life is going, or the extent to which other aspects of well-being or psychological needs are being met; 2. Enriching supporting relationships; 3. Interest and engagement in daily activities; 4. Meaning and purpose in life; 5. Sense of sovereignty and achievement; 6. Feeling of control and autonomy; and 7. Optimism.

In factor analysis, four items of the instrument by Su et al. (2014) were excluded because they presented low factor loads (values between 0.495 and 0.649). The correlation coefficients between items after the reduction ranged from 0.735 to 0.864. The Cronbach’s alpha was then calculated as the internal consistency index for the scale, and a value of 0.891 was obtained.

It was decided to test the convergent validity of the measure of well-being adopted in this study by adding to the research questionnaire a set of items composed of the Diener, Emmons, Larsen and Griffin (1985) Life Satisfaction Scale and the indicator of perceived ill-being also used in Su et al. (2014). The items of the ill-being indicator were written in reverse order and their scores adjusted to the direct order for analysis. The Brief Inventory of Thriving by Su et al. (2014) presented a correlation of 0.656 with the ill-being measure and 0.779 with the measure of satisfaction with life, indicating convergent validity for the well-being instrument.

### ***Coping measurement***

Duhachek and Oakley (2007) empirically evaluated several of the major structural theories of coping using a hierarchical modelling approach to understand the basic dimensional properties of the construct. The results reinforce the existence of a heterogeneity in coping dimensionality, suggesting that researchers clearly specify the appropriate level of analysis for their research question, being attentive to the inherently hierarchical structure of the construct (Duhachek & Oakley, 2007).

The use of this recommendation is exemplified by Han et al. (2015), who adapted the scale of Duhachek and Oakley (2007) inspired by the model of Skinner et al. (2003) for a two-dimensional model of problem-focused and emotion-focused coping. Han et al. (2015) have demonstrated that different threatening situations can increase the use of problem-focused coping strategies or the use of emotion-focused coping depending on the motivation stimulated by the threat. They obtained in three experiments high significances for both dimensions of coping.

In our study we chose to use the Duhachek and Oakley scale (2007) adapted by Han et al. (2015), since we wish to investigate the coping construct from the possible responses focused on the problem or focused on the emotion. Thus, we follow the recommendations of Duhachek and Oakley (2007) about keeping the purpose of the research in mind, and we heed the request of Skinner et al. (2003) by using scales and concepts in order to enable the summing of results, the accumulation of evidence validating the measure and the consequent increase of its relevance in the field.

In the factor analysis, four items of the instrument were maintained for the dimension emotion-focused and five for the dimension problem-focused coping. The correlation coefficients between items after the reduction ranged from 0.750 to 0.811 for emotion-focused coping and from 0.771 to 0.841 for problem-focused coping. The Cronbach's alpha was then calculated as the internal consistency index for the emotion and problem dimensions, and values were respectively 0.781 and 0.859.

The convergent validity of the coping scale was tested from the use of our adaptation of the reduced measure of the Rotter's (1966) Locus of Control. The measurement had a positive and significant correlation of 0.227 with coping, and it can thus be said that there was convergent validity for the coping measure.

## **DATA ANALYSIS AND RESULTS**

Since it was expected that vulnerability has an influence on the intensity of the relationship between the predictive variable coping and the dependent variable well-being, to evaluate the data of our model involving simple mediation we followed the recommendations of Hayes (2017), and we used the bootstrapping technique generated from 10,000 replicas, involving the use of the PROCESS v. 3.2 application for SPSS. Hypotheses H3a, H3b and H3c were tested by means of analysis of the significance of the indirect effect  $ab$  for the three models, with a 95% confidence interval generated by the bootstrapping procedure.

The survey had a sample of 113 participants with a mean age of 37 years and standard deviation of 11.49 years. Out of the total number of respondents, 73 were visually impaired (65%) and 58 were men (51%). The dummy variable visual impairment was used as a control. Among the other socio-demographic variables, only age had a significant effect, and it was then included as a control variable in the models evaluated. For this variable, the results revealed that older people have greater well-being than younger ones in consumption, keeping constant the emotion-focused coping, vulnerability and occurrence of disability (coefficient equal to 0.021 and a p-value of 0.003). For coping and problem-focused coping there was no significant effect of age on consumer well-being.

According to Folkman (2010), emotion-focused coping is defined as an effort to regulate the emotional state associated with a stressful event and has the goal of reducing the negative emotional state. It involves attempts to reconstruct the meaning of an external stressor by reinterpreting the event in a different and less psychologically distressing way. Rather than directing efforts toward changing stressful conditions, emotion-focused coping involves a shift in the subjective meaning of stressful experience. The choice of consumers between the two types of coping strategies can be influenced by factors such as the assessment of the stressful situation and the personal capacity to manage stress (Han et al., 2015). The dimension of emotion-focused coping therefore denotes characteristics such as resilience, self-knowledge, self-esteem, cognitive ability and ability to manage stress, and the results of the effect of age as

the controlling variable in the model may have been due to the greater maturity of respondents with higher scores.

The same effect was observed for the control variable occurrence of visual impairment: also for the emotion-focused coping model, the results showed that people with visual impairment, compared to non-disabled, have greater well-being in consumption (positive and significant coefficient of 0.370 and a p-value of 0.035). For the coping and problem-focused coping models there was also no significant effect of the occurrence of disability on consumer well-being. Although some studies point out that consumption situations tend to be stressful, particularly for people more prone to experiencing social vulnerability, it is possible that this result reflected the benefits of the psychotherapy and social work service offered by the Dorina Nowill Foundation for the development of emotional characteristics and cognitive aspects of respondents with visual impairment, since most of them received the support offered by the institution. This is, however, only one proposition that should be further explored in the future, since the exact number of respondents who received such support from the psychotherapy service could not be accurately estimated in the current research.

As for the hypothesis test, the relationship between vulnerability and consumer well-being was negative and significant (coefficient of -0.439, with a confidence interval not including zero), and there is therefore evidence supporting Hypothesis H1.

In the mediation model of Figures 2, 3 and 4, the total effect of the independent variable coping and of the mediator variable psychological vulnerability on the dependent variable consumer well-being is equal to the sum of the direct effect (represented by path  $c'$ ) with the indirect effect (represented by path  $ab$ ). The indirect effect provides a number that synthesizes the amount of mediation (Hayes, 2017). Figure 2 shows that the analysis of the total effect of the mediation model revealed that the higher the coping repertoire, the greater the well-being (coefficient equal to 0.754, positive and significant, with a p-value equal to zero). The direct effect of the model, represented by path  $c'$ , presented a coefficient of 0.545 (p-value equal to zero), and the indirect effect, path  $ab$ , a coefficient of 0.209 (bootstrap interval between 0.079 and 0.389), both positive and significant; therefore, there is evidence that supports Hypotheses H2a and H3a.

Figure 3 shows that the analysis of total effect revealed that the higher the coping repertoire focused on the problem, the greater the well-being (coefficient equal to 0.373, positive and significant, with a p-value of 0.001) and the direct effect of the model presented a positive and significant coefficient of 0.324 (p-value equal to 0.006); therefore, there is evidence supporting Hypothesis H2b. However, the indirect effect was not significant (coefficient of 0.049 with a confidence interval calculated by the bootstrap method between -0.035 and 0.163), and it cannot be affirmed that there is evidence that supports H3b at a 95% confidence level. Figure 4 shows the analysis of the total effect indicated that the higher the coping repertoire focused on the emotion, the greater the well-being (coefficient of 0.381, positive and significant, with a p-value equal to zero). The direct effect of the model had a coefficient of 0.221 (p-value of 0.023) and the indirect effect one of 0.160 (bootstrap interval between 0.053 and 0.288), both positive and significant. There was thus evidence supporting H2c and H3c.

The problem-focused type of coping is what seeks to change the situation generating stress; its actions are aimed at provoking a change in a person – an environment relationship in which negative emotion or stress originates (Folkman, 2010). In a qualitative study involving visually impaired consumers, Falchetti et al. (2016) raised evidence that individuals prepared to respond to stress in order to eliminate the source of the problem also have fewer emotional difficulties

in dealing with situations of consumer vulnerability. Such individuals could be qualified, according to Folkman's (2010) classification, as being able to respond with a more problem-focused type of coping strategies. These results from Falchetti et al. (2016) corroborate the indicators of the tests performed for the problem-focused coping model, in which there was no mediating effect of vulnerability in the relationship between coping focused on the problem and consumer well-being.

## **CONCLUSIONS**

When exploring the relationship between vulnerability, consumer well-being and coping strategies used by individuals when faced with stressful consumer situations, this study verified, in accordance with the literature on the subject, that vulnerability has a negative influence on the well-being of individuals.

In the mediation models we tested the total effect of the independent variables coping, problem-focused coping and emotion-focused coping, and the mediator variable psychological vulnerability on the dependent variable consumer well-being. The results showed that the higher the coping repertoire of the consumer (and the same is valid for each of their dimensions when analysed separately), the greater their well-being in consumer situations. And the mediation model pointed out that consumer vulnerability has a mediating effect on the relationship between the coping repertoire and an individual's well-being and also between the coping dimension focused on emotion and well-being. However, there was no mediating effect of vulnerability in the relationship between coping focused on the problem and consumer well-being. These results corroborate research by Balabanis et al. (2012), who propose that, for visually impaired consumers, the level of perceived stress depends on their coping styles, and Falchetti et al. (2016), who concluded in a qualitative research that individuals with a greater repertoire of coping focused on the problem would also have less emotional difficulty in dealing with situations of consumer vulnerability.

The results also showed that older people have greater well-being than younger ones in consumption as regards controlled levels of coping focused on emotion. The dimension of emotion-focused coping denotes characteristics such as resilience, self-knowledge, self-esteem, cognitive ability and ability to manage stress, and the results of the effect of age as the controlling variable in the model may have been due to the greater maturity of respondents with higher scores.

The same effect was observed for the occurrence of visual impairment: people with visual impairment, in comparison to the non-disabled, presented greater well-being in consumption, even keeping constant the coping focused on emotion. Although some studies point out that consumption situations tend to be stressful, particularly for people who are more likely to experience social vulnerability (Baker & Labarge, 2015; Echeverri & Salomonson, 2019), it is possible that this outcome reflected the benefits of the psychotherapy service received by the disabled respondents. These results point to the importance of elaborating public policies that reinforce the offer of psychosocial support, since among our participants, even the individuals with greater susceptibility to consumption vulnerability, when receiving psychological support, presented higher levels of well-being than non-disabled respondents. This is, however, only one proposition that should be further explored in the future, since the exact number of respondents who received such support from the psychotherapy service could not be accurately estimated in the current research.

Another contribution of this research is the availability of adapted and validated measurement instruments for use in Brazil, since, for the operationalization of the variables, an extensive literature review, and adaptation of vulnerability, well-being and coping scales to the language and the context of Brazil were done, as well as their validations. The instruments involved in this research were: the Psychological Vulnerability Scale (PVS) of Sinclair and Wallston (1999); Brief Inventory of Thriving by Su et al. (2014); the Coping Scale of Duhachek and Oakley (2007) adapted by Han et al. (2015); the Life Satisfaction Scale of Diener et al. (1985); indicators of perceived ill-being used in Su et al. (2014); and Locus of Control by Rotter (1966).

For future studies it is proposed to expand the application of quantitative research involving vulnerability and coping, including in its scope other segments of consumers that may be more susceptible to situations of consumer vulnerability. Another possibility for future research is the collection of information cross-culturally, making it possible to verify the influence of cultural factors in coping with vulnerability in consumption. It is also necessary to confirm the proposition constructed from our results on the effect of psychological support on the relationship between coping and well-being. Its main limitation is that because it is a work in development, a low number of participants have been involved in the study so far (n = 113 participants), and for future studies it is proposed to increase this sample.

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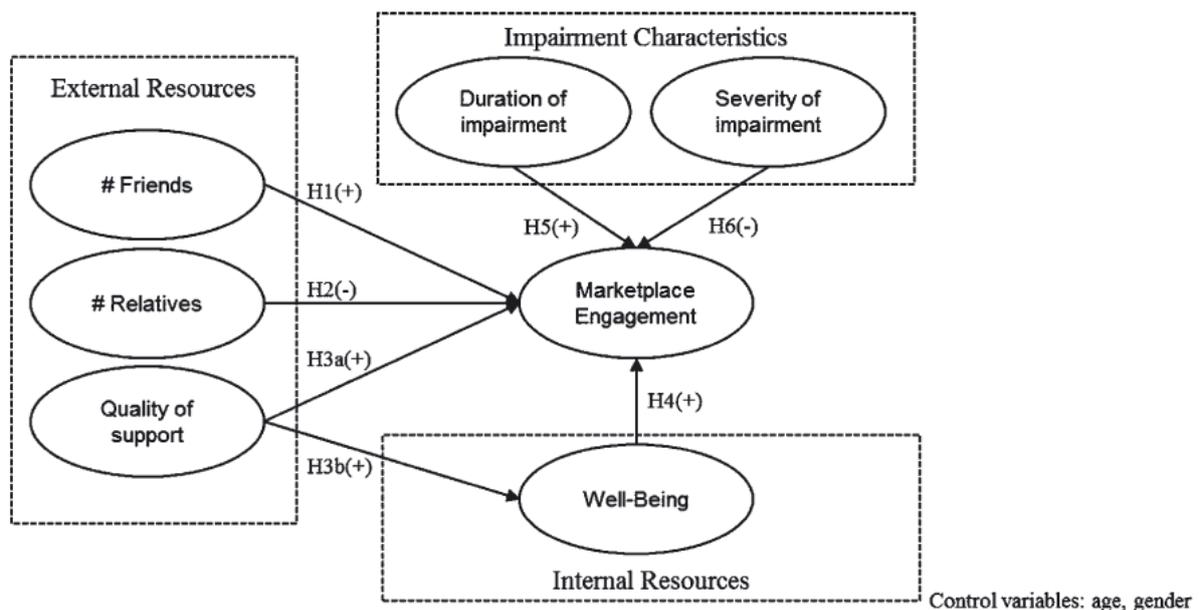
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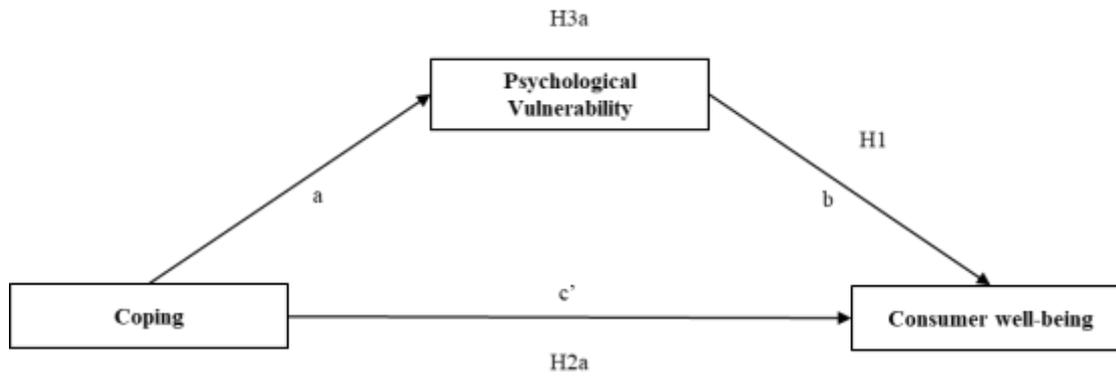
## FIGURES

Figure 1 – Conceptual Stress-Coping Model Predicting ME of Visually Impaired Consumers



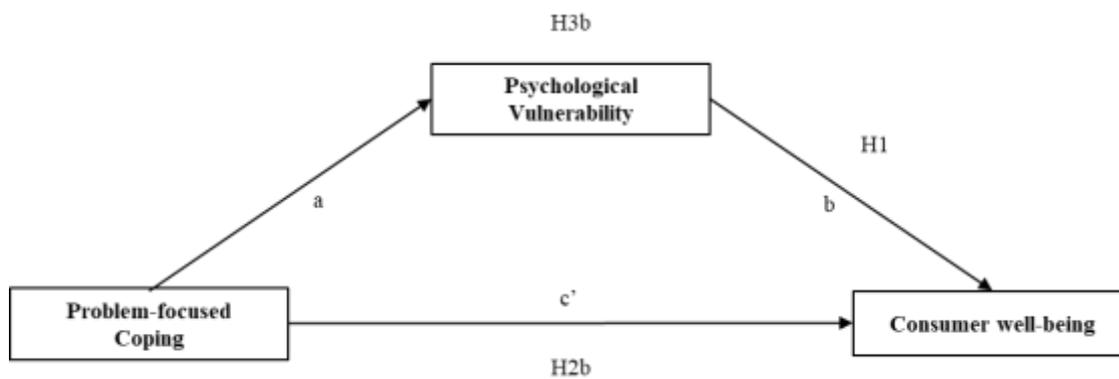
Source: Balabanis et al. (2012)

Figure 2 – Coping mediation model



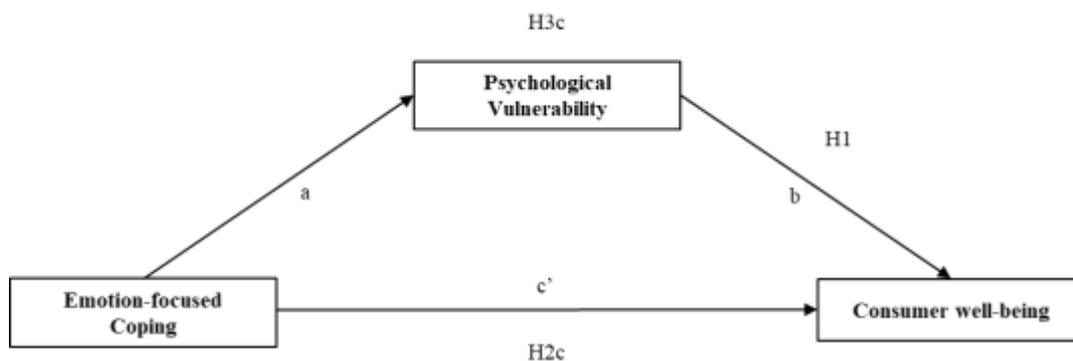
Source: Author (2018)

Figure 3 – Problem-focused coping mediation model



Source: Author (2018)

Figure 4 – Emotion-focused coping mediation model



Source: Author (2018)

Track 20 - PDW Papers

**ID #647**

**Concerns over production process (CPP):  
Scale development and validation regarding beef in Brazil**

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**Abstract**

*Food seals and certifications regarding origin are valued by consumers, but studies show that the knowledge and the concern about them could be different individually, are multidimensional, and are less than a desirable level for a good food choice. A lack in the literature of a specific scale that measure the dimensions related to the consumer concern of production process is a gap that has been verified and suggested in previous studies. This paper proposes a Concern over the Production Process (CPP) scale. The production of beef for the empirical investigation is due to the relevance of this product in Brazil, regarding the high level of consumption, recent food safety scandals and the discussion of sustainability in production. The concept of the construct derived from a triangulation among the results of a bibliographic research, an interview with experts and two focus groups with consumers. To empirically test the scale, 725 frequent beef meat consumers were interviewed. After the statistics tests and purification, the final scale results with 18 items and six latent variables: animal welfare, traceability, social responsibility, environmental responsibility, sanitation in slaughterhouses. New studies are suggested to test CCP in other cultural contexts and different groups of consumers and types of food.*

**Keywords:** Scale Development; Beef; Consumer Behavior; Certification; Origin; Brazil.

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## **INTRODUCTION**

With the increase in income in Brazil, more consumers started to buy meat more frequently. Consumers have exhausted their basic need for food and have come to consider additional factors as important, moving to more sophisticated products that meet their needs and expectations. In this context, consumers have sought more information about food quality, reflecting growing concern about environmental impact, labor laws, safety, health and nutrition

Seals and certifications regarding origin, food safety, and unique product characteristics (e.g., pesticide-free) are understood by the market, and even by the academic community, as increasingly valued by consumers. Notwithstanding, studies show that the degree and the knowledge of the consumers regarding certification are less than desirable. (Boccaletti & Nardella, 2000; Oliveira & Spers, 2018).

When buying food, consumers find a myriad of products differentiated by various attributes. Traditionally, price and brand have been perceived as the most obvious attributes (Sharp, 2010). Over the past few decades, however, more and more products with food attributes and claims, including signs of quality (such as the protected designation of origin) and organic origin information, have emerged. More recently, other claims have been used to add value to a product, such as fair trade, "low carbon footprint," natural, biodynamic, animal welfare and other "sustainable consumption" (Sirieix et al., 2013). Sustainable consumption can be the result of a decision-making process that considers not only the individual needs of consumers (related to taste, price and convenience) but also attitudes towards social responsibility (environment and fair trade), sustainable labels and sustainable food production (Vermeir & Verbeke, 2008; Hartikainen et al. 2014).

The choice of beef product as the object of study is due to the relevance of this product in the discussion of sustainability in the Brazilian food sector, taking into account that the country is one of the largest producers of beef in the world. In 2016, cattle production generated 7% of Brazil's gross domestic product (GDP) (US\$ 130 billion), having almost 80% of produced beef consumed into domestic market (ABIEC, 2018). Cattle breeding is one of the main factors responsible for the expansion of the national agricultural frontier and also the main source of greenhouse gas emissions (GHG) in the sector, accounting for 69% of total agricultural sector emissions (Seeg, 2018). Additionally, the beef sector needs to be aware of this consumer behavior to improve sustainability to develop actions and meet legislation relevant to these demands.

Regarding sustainability in food production, numerous initiatives have been carried out to encourage farmers to adopt Good Agricultural Practices. Drigo (2013) reports that producers are not interested in adhering to production standards and certification system that will confirm good practices without having clear economic benefits, that is, without a premium price for the "quality" that will be certified. On the one hand, the producer demands a differentiated price as an incentive in the production of animals within good socio-environmental practices. On the other side, slaughterhouses and retailers began a process of launching campaigns in an attempt to make the meat origin security more tangible. However, we are faced with the reality that both links do not seem to be willing to pay more for the "sustainable" Beef." In this case, quality appears as the way to obtain this Premium remuneration. Ranchers are combining beef quality with environmental efforts and has managed to break into niche markets, says Drigo (2013) in her study.

A lack of a specific scale to measure the dimension related to the production process is a gap that has been verified in the previous studies (Oliveira, 2012; Barcellos, 2007). The creation of

the *Concern over the Production Process* (CPP) scale constitutes a relevant academic contribution to assess the influence of the environmental dimension related to other important constructs such as attitude, purchase intention and the desire to pay for beef, besides identifying the degree of consumer involvement with the product. This study has brought important elements to assist cattle ranchers, industry and the retail sector in the formulation of communication strategies and product/brand positioning due to the influence of the consumer's concern over the production process.

For this reason, a scale was developed considering sustainability actions effectively carried out in the food sector. With the creation of a scale to evaluate the consumer's concern regarding the Production Process, future studies will be able to analyze the impact of consumer knowledge regarding the Production Process of beef (animal welfare, traceability and socio-environmental responsibility) as well as the impact of knowledge / concern on the quality of beef, including food safety attributes; on consumer attitudes towards sustainable consumption.

We followed the Mackenzie et al., (2011)'s approach for construct measurement and validation to develop "the concern over the production process" scale. For further details, see Figure1.

\*\*\*\*\* **FIGURE 1 ABOUT HERE** \*\*\*\*\*

## **LITERATURE REVIEW**

In this session, we tried to address some issues related to the sustainable production process as well as to take as basis some certification criteria existing in cattle raising. Issues such as animal welfare, traceability, food safety and sanitary conditions, social and environmental responsibility are part of the literature review. In the end, some initiatives that work with good practices and certification in the Brazilian beef sector were presented.

Products that contain attributes obtained from sustainability processes and supply chain practices are distinguished by their attributes of credibility, characteristics that members of the chain cannot readily discern when examining or consuming product (Golan et al., 2004). Credibility attributes are both physical and process-related. A physical attribute refers to product content properties (e.g., whether it contains elements such as genetically modified organisms (GMOs), herbicides and pesticides). A process attribute refers to characteristics of a process in the production or supply chain, such as country of origin, fair trade, labor ethics (Golan et al., 2004). In order to have an impact on the market, the processes of creating products with attributes of credibility must be guaranteed throughout the supply chain and communicated to the consumer. From a producer's point of view, it is important to understand whether their efforts in making socio-environmental practices have been effectively communicated to the market and what impacts those efforts have brought about.

Grunert et al. (2004) argue that consumer concern over the way food products are produced has increased in recent years in most European countries. There were three major areas of interest: organic production; animal welfare; and interest in products manufactured in a "natural" way, that is, without the use of advanced technology.

The quality attributes related to the production process have credence characteristics since the consumer will hardly evaluate the mentioned conditions in the production of a certain meat. During a study conducted by Grunert (1997) with organic pork, the consumer made positive inference of organic meat referring to concern for the environment, health, but also animal welfare and better taste. This study clearly shows the pitfalls of positioning a product based on the characteristics of the process, in which the effects on those dimensions of product quality

that are accessible to the consumer experience are unclear. Characteristics of the process can "influence the formation of quality expectations more as an indicator of overall quality than as a singular attribute," said Grunert.

In her cross-cultural research Barcellos (2007) raised consumer concern regarding animal welfare, protection of the environment, use of slave labor and consumption of product with Genetically Modified Organism. The results show little concern for animal welfare among the "paulistas" and Australians. In Australia, this concern with AWE was directly related to the degree of education and, inversely, to age. The concern with environment preservation may appear among the priorities of "Paulistanos" and Australians (2°) and Dutch (1°). As suggested by experts, Barcellos (2007) included a question to raise consumer concern about the use of slave labor. The possibility of using slave labor in beef cattle farms in Brazil worried 73.8% of those interviewed in São Paulo.

Chini (2015) sought to investigate consumer values on animal production as well as expert opinions on how beef produced in pasture areas could be a differential. The signal attribute, animal welfare, was much discussed in this work, this being an attribute directly related to the production process of the meat. In this case, the animal raised on pasture represents animal welfare.

Another study that addresses animal welfare, BEA, was carried out by Souza et al. (2013) to understand better the reactions of consumers to the mistreatment of animals in the industrial processes of meat production, which can cause pain, suffering, and stress. The study shows that, generally, consumers are unaware of management standards in meat production and that around 87% of respondents have difficulty connecting the food they consume to the living animal. However, evidence was found that a seal guaranteeing the absence of maltreatment in the meat production process would be well accepted by the consumer market if the public were correctly informed about differences in animal welfare standards. Even with meat being considered a commodity, some countries have labeling schemes. The main criteria certified in these schemes include herd tracking, a guarantee of origin, employee management, food safety and hygiene, and animal welfare, among others.

Some studies have discussed the level of knowledge that consumers have on the food production process, within the boundaries of different constructs. Hanf and Kuhl (2005) argue that quality, in consumer understanding, is a construct with multiple attributes and they consider orientation through the process as one of the main dimensions of the quality control system, i.e., the production system as a whole must be explicit: "from farm to fork" (Hanf & Kuhl, 2005). "Providing traceability information and having a transparent production chain becomes a competitive necessity," said the authors.

Research indicates that consumers' food choices have been more influenced by concerns about the impact of the food system on human health - Food Safety. The perception of safe food appears as a strong requirement in the choice of a product. **Traceability** during the different stages of the meat production chain appears as a way to tangibilize the "quality" of the product.

Among ways to identify traceability, some authors use the term "traceable to the farm" (Caracciolo, 2010, Cicia & Colantuoni, 2010, Loureiro & Umberger, 2007, Lusk et al., 2003). In Wu et al. (2017) study, traceability was tested including product traceability information at three levels: (1) no traceability information (NOTRACE); (2) traceability to slaughter/processing (LOTRACE); (3) traceability to the farm (HITRACE).

Several studies have shown consumer preferences and WTP for certification associated with credence attributes related to the preference for traceability and Beef origin (Umberger et al., 2003; Verbeke & Ward, 2003; Lusk et al., 2003). The advent of mad cow disease has led to more discussion on COOL (certification of origin), traceability and food safety inspection issues in consumer perceptions of food safety and quality. Loureiro and Umberger (2007) investigated with American consumers and evaluated the attributes of the country of origin certificate, traceability and meat tenderness. The results of this research prove that attributes related to "inspected food safety" presented the highest average premium compared to other three evaluated attributes. These authors also mentioned that "[...] traceability is necessary to verify credence attributes such as origin, so it is expected that the traceability of an animal will be valued by the consumer and would help maintain high reputation of American meat [ ...]" (Loureiro & Umberger, 2007, p. 510).

A meta-analysis study of consumer behavior in relation to meat traceability conducted by Cicia and Colantuoni (2010) helped to summarize the extensive consumer WTP literature on this attribute. This work demonstrated that consumers from different countries are giving more importance to attributes related to traced meat. According to these researchers, "food safety," "field traceability" and "animal welfare" seem to be consumer`s most requested attributes (Cicia & Colantuoni, 2010). They consider this information important for the industry to establish premium prices for their products with different levels of traceability (Cicia & Colantuoni, 2010). Caracciolo et al. (2010) suggest that an important attribute is a the traceability to the farm. In this case, the premium price would be between 11% and 16.4% so that the consumer would be informed about the production steps of the meat from the "farm to table."

Stranieri and Banterle (2015) carried out a study to understand consumer attitudes regarding the origin of the meat, considering information present in the product label. Results indicate that the majority of the consumers showed high interest in different information in labeled meat. The variables named as traceability, certification, freshness and shelf life are important in model studied by these authors.

The importance of traceability was analyzed in a study conducted by Wu et al. (2017) with Chinese consumers who were interviewed for their preferences on pork traceable meat in a real-choice experiment. Results showed that consumers had the greatest willingness to pay (WTP) for traceability certification. Additionally, traceability to slaughter/processing was considered as a substitute for local product labeling and as a complement to non-local agricultural product labeling. Despite the heterogeneity among the consumer groups, they all had some positive WTP for local product attribute in traceable pork meat. Therefore, it is beneficial to include source labeling during the launching of traceable food markets in China.

Kraisintu and Zhang (2011) have identified the benefits of traceability in each sustainability dimension. In the economic dimension, factors that create economic sustainability are cost savings and increased profits; in social dimension, traceability provides social sustainability, reducing, preventing and controlling the occurrence of harmful foods; and, in environmental dimension, traceability contributes to environmental sustainability, protecting environmental resources and preventing pollution. Traceability alone does not reduce the asymmetry of information about the credence attribute, but it becomes a necessary condition to control unobserved attributes, such as animal welfare and environmentally friendly production (CICIA; COLANTUONI, 2010). The demand for products with labels containing credence attributes (e.g., natural, organic, local, "human") need a traceability system to verify the integrity of information contained in these labels (Loureiro & Umberger, 2007).

Some studies have addressed consumer interest regarding social aspects, especially employees' work conditions. The study conducted by Stöckigt et al. (2018) approached the broad topic of sustainability in online-shopping deliveries and grocery shopping. The authors looked at implicit measures of sustainability awareness by investigating the relative importance of products' sustainability-related attributes in a CBC (Choice-based conjoint) and tried to explain individual differences in these by previously proposed trait variables. Results show that in scenarios where certain information is accessible (e.g., about a grocery product's environmental impact or the working conditions of a product's delivery), sustainability-related attributes, such as environmental impact and working conditions, show higher importance values in the decision-making process for a certain scenario than most other attributes. In other words, it is an interesting result the fact that consumers seem to base their decisions on sustainability-related attributes (in case information is provided) to an about equal extent as on price. The result is in line with Rashid and Byun (2018) who concluded from their experiment that a Fairtrade label on a product causes a significant increase of attitude, purchase intention, and brand trust compared to products without a tag informing about fair and environmentally-friendly conditions during production.

There are several implications that can be assigned to Stöckigt et al. (2018) research. First of all, the CBC's descriptive results show that sustainability concerns would play a much greater role in consumer decision making, if information on sustainability— e.g., the environmental impact and the working conditions behind products—were displayed in pre-purchase situations (i.e., on product shelves or in the online shop) in a similarly clear and simple manner as price.

There seems to be an inconsistency between consumers' values of the ecological and socially responsible production and their actual choices of products with claims for these attributes. Ghvanidze et al. (2017) decided to examine this relationship between consumers' values – namely, environmental values and ethical concerns for food production – and consumers' preferences for products indicating social and ecological responsibilities of producers. In this study, the choice of the product attributes – namely, nutritional information, health benefits, ecological impact of production (produced with minimum chemical emissions) and social responsibility of producers (good working conditions for our employees)– was based on an extensive literature review and the results of the pilot study. Results showed product attributes emphasizing the ecological impact of production and social responsibility of food producers are specifically valued by consumers with high levels of environmental consciousness and by those concerned about goods production.

Some studies demonstrate the relevance of the concern over Environmental Responsibility related to Production Process. Organic and locally grown products have positive environmental impacts due to the reduction of greenhouse gas (GHG) emissions required for their production. Magistris and Gracia (2016) conducted a non-hypothetical choice experiment on Spanish consumers to test their preferences for sustainable food products by examining those related to reducing GHG emissions: organic and locally produced almonds. Results suggest that consumers were willing to pay a price premium for locally grown (less distant) and organically grown almonds and were not interested in paying a higher price for almonds that traveled long distances.

On Carlsson et al. (2010) study about common citizen's willingness to pay (WTP) for reducing CO<sub>2</sub> emissions, Americans generally seem to believe less in climate change, and that human being is responsible for these changes when compared to the Chinese and Swedes. The study also found clear differences in the WTP between three countries (China, Sweden, and The United States), rejecting the hypothesis of equality in WTP (for a given level of CO<sub>2</sub> reduction)

between them. Sweden had the largest WTP; and China, the lowest. Thus, while Swedes and Chinese have similar attitudes towards climate change, they differ considerably in their WTP for this attribute.

The study developed by Echeverría et al. (2012) seems to have been the first paper to provide an analysis of the WTP for food labeling concerning the Carbon Footprint (CF) in developing countries. This work showed that, contrary to general belief, Chilean consumers respond well to the global warming issue. Although they are unfamiliar with the concept of CF, they want to receive more information related to this topic and also prefer foods with low GHG emissions. Chilean consumers show a positive attitude towards this concept and are willing to pay 29% above the average price for milk and 10% bread. Those authors mention that WTP seems to be specific for these products. Thus, any intention to extrapolate the exact results of this study (WTP values) should be done with caution.

Several studies have included consumer's degree of knowledge over the food production process, within the measurement of different constructs. In Oliveira (2012) research this construct is closely related to the perception of Food safety. In this way, the author intended to access the degree of consumer knowledge on issues such as animal welfare, traceability, and socio-environmental responsibility. In our work, we will use these dimensions for the evaluation and measurement of the construct "Concern over Production Processes."

At this moment it will be presented some initiatives directly related to Good practices and socioenvironmental certification criteria within Brazilian livestock (BPA, GTPS and Rainforest Alliance) which served as the basis for concepts involved in creating the scale of concern over the production process.

The Good Agricultural Practices Program (BPA) created by Embrapa (linked to the Brazilian Ministry of Agriculture, Livestock and Food Supply) and partners was created over a decade ago, and the exercise of developing and promoting the implementation of good practices in the Beef supply chain inserted new concepts to the rancher's routine. BPA seeks to adapt the field to technologies and to use of production practices focusing on efficiency and sustainability, important words in the agricultural sector. This Good Agricultural Practices system is widely accepted among main actors in the Brazilian Beef supply chain and became a reference for quality and socio-environmental certifications systems in this sector.

Initiatives to trace beef for export, especially to the European Union, have contributed to meeting expectations of international consumers regarding food safety. To ensure the quality and Food safety, consumer groups, non-governmental organizations, and supermarket chains, linked to national and international meat trade have demanded from their suppliers implementation of quality control processes, certifying that products offered by market requirements and standards. BPA has as a prerequisite the implementation of good practices in the field, as well as in industry and other links in the beef production supply chain. Another market requirement concerns the sustainability of production systems, i.e. those that respect environmental laws, are economically viable and also guarantee animal welfare.

The main control activities in BPA are listed in Table 1, which are: Farm management; Farm social function; Human resource management; Environmental management; Rural Facilities; Pre-slaughter management; Animal welfare; Pasture Management; Food supplements; Animal identification and traceability; Sanitary Control and Reproductive Management. BPA has evaluation criteria for each of these areas. The description of these criteria was used as the basis for the scale proposed in this study.

The *Rainforest Alliance* certification system (SAN, 2010) is one of the most recognized certification systems in the sustainable agriculture sector and is present in several countries. The Rainforest Alliance's mission is to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior. Support strategies help to improve farming practices, management systems and to increase farmers' knowledge. At the same time, these aspects contribute to improving the conservation of biodiversity, natural resources, productivity and resilience of farms, as well as improving livelihoods of producers, workers and their families.

The *Rainforest Alliance* for Sustainable Agriculture recognizes the challenges of climate change and seeks to address them by actively promoting Climate-Smart Agriculture and developing resilience of farms and farming communities. The Rainforest Alliance standard promotes the three pillars of Climate-Intelligent Agriculture: 1) sustainably increase productivity and farming practices; 2) adapt and develop resilience to climate change; and 3) Reduce or eliminate greenhouse gas emissions where possible (Rainforest Alliance, 2017).

The five basic principles that are part of this system incorporate effective Planning and Management; Biodiversity Conservation; Conservation of Natural Resources; Better livelihoods in human well-being; Sustainable Livestock Production.

Among the areas covered in this certification system it can be mentioned: animal welfare and management; food; sanitation, traceability, sustainable pasture management, phytosanitary treatments; waste and pollutants management; environment; employees training; employee health and safety; employee well-being and social aspects.

Another reference of an institution that works with socio-environmental practices in Brazilian livestock is the GTPS (roundtable: Sustainable Livestock Working Group). GTPS created in 2018 an Indicator Guide for Sustainable Livestock production (GIPS). The objective of GIPS is to provide guidance on what is meaning of sustainable livestock and to encourage all stakeholders involved on Beef supply chain to improve their practices towards sustainability through the construction of a self-assessment tool for continuous improvement, gradual, with different performance stages, applicable to all members of Brazilian Beef supply chain in an auditable format. The activities covered by the GIPS includes five principles: Management and Support to the Production Sector; Communities; Workers; Environment and Supply Chain. (GTPS, 2018).

## **METHOD**

This study adopts an exploratory sequential mixed method (Creswell, 2014) or Independent mixed methods research strategy (Bahl & Milne, 2007), where the results of the phase of study stage will serve as a substrate for the others.

We justify the conduction of this study through mixed methods since the inability of a data source (e.g., only quantitative) to provide a complete solution to our problem (Creswell & Clark, 2011). The application of qualitative and quantitative approaches together provides a more consistent solution to the problem than one method's use separately (Johnson & Onwuegbuzie, 2004). Mackenzie et al. (2011)'s construct measurement and validation procedures were used to develop "the concern over the production process" scale. For further details, see Figure 1.

### ***Specific domain of construct (Step 1)***

We delimit the concept of the construct from the triangulation among the results of the bibliographic research (Grunert et al., 2004; Barcellos, 2007; Cicia & Colantuoni, 2010; Grunert et al., 2011; Chini, 2015; Wu et al., 2017; Caputo et al 2018; Oliveira & Spers, 2018), five in-depth interviews with experts, two focus groups with consumers and consultations with the Brazilian Agricultural Research Corporation (EMBRAPA, 2011), the Sustainable Livestock Indicators Guide (GIPS) of the Sustainable Livestock Working Group (GTPS, 2018) and the Rainforest Alliance (SAN, 2010).

### ***Items generation (Step 2)***

In this step, 36 items were generated from the bibliographical and empirical researches conducted in step 1. After the items were generated, the authors evaluated the adequacy of the items and eventual redundancies and problems of conceptual equivalence. At the end of this evaluation, 12 items were discarded, the remaining 24 items divided into the six dimensions of the scale (see Table 2).

\*\*\*\*\* TABLE 2 ABOUT HERE \*\*\*\*\*

### ***Face and content validity (Step 3)***

We prepared a pretest on the SurveyMonkey platform and sent the link to 40 beef consumers and five marketing professionals before the instrument was applied. The respondents were instructed to read the questionnaire carefully and report any problems with the spelling, meaning of the statements, as well as the use of the measurement scale. The Marketing Specialists also validated content, pointing out possible problems in the clarity of the statements and the theoretical adequacy of the items. To perform the judgment, two scales were used on a seven-point Likert scale ranging from "too bad" and "very good" and "completely inappropriate" to "completely inappropriate." Items with an average below three are revalued and/or redone.

After this procedure, the respondent's doubts were discussed by the researchers under the supervision of an adjudicator, who was responsible for judging the relevance of the proposed changes. The final wording of the items is shown in table 3.

### ***Specification of the measurement model (Step 4)***

Concern over the production process (CPP) is measured through 24 issues divided into traceability (TRA), animal welfare (AWE), social responsibility (SOR), food safety concerns in meatpacking (FSC), environmental responsibility (ENR), and legality (LEG). It is a second order reflective multidimensional construct, measured from six first order reflective dimensions with multiple indicators. The observable variables are measured on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree."

### ***Data collection (Step 5)***

The questionnaire link on the Survey Monkey platform was sent by email to Brazilian consumers registered in a research company database. We created filters to exclude consumers who rarely or never purchased meat and those individuals who did not eat meat.

Of the 795 who accessed the questionnaire, only 725 filled it completely. We detected 34 unsystematic missing values, and they were filled with the average of their respective variables. The sample was separated into two groups through a lottery. In section 4.1, we used sample 1

to perform an exploratory factorial analysis (EFA) and to check the adjustment of the instrument (Step 6). In section 4.2, sample 1 was used to confirm the model fit using confirmatory factorial analysis (CFA), reliability, convergent, and discriminant validity obtained in the first CFA and to test the nomological validity of CPP scale (Step 7-8). In section 4.3, sample 2 was used for cross-validation of the scale (Step 9).

In addition to a specific section dealing with socio-demographic issues, three parts of the quantitative instrument dealt with constructs of the survey, all measured on a seven-point Likert scale ranging from “strongly disagree” to “strongly agree.” The first part of the questionnaire addressed the scale we developed (concerns over the production process) and the other scales were used to test its nomological validity.

Next, the second section addressed questions related to product involvement (PIV) and consisted of 14 questions divided into the dimensions of risk likelihood (RIL), importance attributed to risk (RIM), symbolic value (SIV), and pleasure value (PLE) (Laurent & Kapferer, 1985; Jain & Srinivasan, 1990; Verbeke & Vackier, 2004; Barcellos, 2007).

The third section dealt with attitudes related to sustainable consumption (ASC) from the “food product” (FOP) and “general green product” (GGP) constructs and contained eight items (Roberts, 1996; Lages Neto, 2002; Bedante, 2004; Silva et al., 2015). Further details about the questionnaire are provided in Table 3.

\*\*\*\*\* TABLE 3 ABOUT HERE \*\*\*\*\*

### ***Scale purification and refinement (Step 6)***

Regarding scale purification and refinement, we conduct an exploratory factorial analysis (EFA) in each dimension of the scale to verify the unidimensionality and reliability of the measurements, as well as check the convergent and discriminant validity.

We have confirmed that all second-order constructs are one-dimensional. The reliability of the dimensions was attested by high Alpha values (between .852 to .971), the convergent validity was obtained by high factor loadings (between .734 to .969) and AVEs (between .697 to .911). Additionally, we found discriminant validity by the criterion of Fornell and Larcker (1981).

## **RESULTS**

### ***Gathering data and reexamination of scale properties (Step 7)***

To analyze the scales, composite reliability (CR) and MaxR(H) were used to measure the internal consistency of the constructs. To attest discriminant validity, we compared if maximum shared variance (MSV) and average shared squared variance (ASV) are fewer than AVE. For convergent validity, we considered AVE values greater than .500 (Fornell & Larcker, 1981).

The Amos 22.0 Software was used to perform a CFA employing covariance-based structural equation modeling. The model fit indices we considered were chi-square per degree of freedom ( $\chi^2/df < 5.0$ ), GFI ( $> .90$ ), TLI ( $> .95$ ), CFI ( $> .95$ ) and RMSEA (close to .06) (Hu and Bentler, 1999). The Harman single factor test was used to check for the existence of common method variance. (Podsakoff and Organ, 1986).

The CFA of scale did not present good fit indices ( $\chi^2/df = 4.173$ ; GFI = .812; TLI = .920; CFI = .932; and RMSEA = .094). Considering the problem of model fit, we opted to exclude items using the modification indexes.

To obtain a good fit, we excluded items CPP3, CPP8, CPP9, CPP14, CPP17 and CPP24. As a result, we reach an adjusted model ( $\chi^2 / df = 3.514$ ; GFI = .892; TLI = .953; CFI = .963; and RMSEA = .083). We also attested the reliability (CR > .700 and MaxR (H) > .800), convergent validity (AVE > .500) and discriminant validity of the scale (MSV < AVE, Fornell & Larcker, 1981). Further details about reliability, convergent and discriminant validity, see Table 4. To consult correlations among constructs and factor loadings see Figure 2.

\*\*\*\*\* TABLE 4 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* FIGURE 2 ABOUT HERE \*\*\*\*\*

### ***Assessment of scale validation (Step 8)***

In this step, we tested the nomological validity of the CPP scale using the hypothesized structural model with PIV as an antecedent (Burnier, Guerra, & Spers, 2018). We perform a CFA of the PIV scale and the measurement model, considering CPP as the response variable and PIV as a predictor.

The results show that the PIV scale presented a good adjustment index ( $\chi^2 / df = 1.262$ , GFI = .977, TLI = .994, CFI = .996 and RMSEA = .027) after excluding items PIV09 (RIL dimension) and PIV11 (RIM dimension).

We also attest the reliability (CR between 0.719 and 0.935), convergent validity (AVE between 0.564 and 0.826) and discriminant validity (MSV - between 0.012 and 0.254 < AVE) among the dimensions of the construct. These results indicate the possibility of using PIV in the structural model to test the nomological validity of the CPP scale.

We confirmed the fit of the measurement model ( $\chi^2 / df = 2.482$ , GFI = .853, TLI = .942, CFI = .948 and RMSEA = .064) and estimate the beta coefficient between PIV and CPP. We verify that PIV is an antecedent of CPP ( $\beta = .586$ ; S.E = .113; critical ratios = 5.179;  $p < .001$ ). These results corroborate the findings of Burnier, Guerra, and Spers (2018) and confirm the nomological validity of the CPP scale.

### ***Cross-validation of the scale (Step 9)***

For the cross-validation of the instrument, we used sample 2. First, we tested the fit of the CPP scale to rule out the existence of sample bias in the results found in section 4.2. After, we performed a CFA in ASC scale and tested the relationship between CPP (antecedent) and ASC (consequent) using structural equation modeling.

The results shown in Table 5 suggest that in CPP scale the criteria of reliability (CR between .879 to .959), convergent validity (AVE between .709 to .886) and discriminant validity (MSV - between .440 and 0.720 < AVE) were reached. The results of CFA show also a good fit for CPP ( $\chi^2 / df = 3.672$ , GFI = .882, TLI = .948, CFI = .959 and RMSEA = .086), confirming the scale good properties. Further details about correlations among dimensions and factor loadings see Figure 3.

\*\*\*\*\* TABLE 5 ABOUT HERE \*\*\*\*\*

\*\*\*\*\* FIGURE 3 ABOUT HERE \*\*\*\*\*

We also found excellent fit indices for ASC ( $\chi^2 / df = 3.092$ , GFI = .970, TLI = .972, CFI = .983 and RMSEA = .076) and for structural model that consider ASC as a consequent of CPP construct ( $\chi^2 / df = 3.169$ , GFI = .845, TLI = .935, CFI = .943 and RMSEA = .078). After confirming the good properties of the constructs, we tested the cause and effect relationship

between CPP and ASC to reinforce the discriminant validity obtained in section 4.2. The results confirmed CPP as a predictor of ASC ( $\beta = .969$ ; S.E = .079; critical ratios = 12.296;  $p < .001$ ), corroborating previous nomological validity (section 4.2) and literature (Burnier, Guerra, & Spers, 2018).

## **CONCLUSIONS**

A gap indicated at the beginning of this work was the absence of a specific scale to measure the dimension related to the production process. A scale was proposed to measure items related to the production process, and the qualitative study served as the basis for its construction.

The relevant conclusion of this study was the confirmation of a scale that can measure items related to the production process. The scale developed with six latent variables and 18 items is adequate to measure the construct "concern with the production process." The discriminant and convergent validations have attested the possibility of using these items in the measurement of this construct. Moreover, we confirmed the nomological validity of the instrument using PIV as an antecedent construct and ASC as a consequent of CPP. The final instrument is shown in Table 6.

Regarding the last step (10) of the process of development and validation of the CPP scale, we present instructions to the researchers and practitioners who will use our instrument in their researches and projects.

The CPP scale is multidimensional and was measured on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree." The instrument has to be applied directly with beef consumers. We recommend that appropriate filters are created in the questionnaire to exclude consumers who rarely or never purchased meat and those individuals who did not eat meat. It is possible that application patterns are updated by researchers (Mackenzie et al., 2011), especially in the case of new validation and adaptation research.

Previous studies explore only some dimensions of the production process as observed in Oliveira and Spers (2018) and Barcellos (2007) that found animal welfare, traceability, and socio-environmental responsibility as relevant in determining the consumer's concern with the production process. Some criteria used in socio-environmental certification standards (SAN, BPA, GIPS / GTPS) cover items related to good practices that were also evaluated in this study.

In this article, a filter question was used before the questionnaire was answered to maximize responses from respondents with higher income. The fact that it does not include the low-income public becomes a limitation to extend the findings to the Brazilian population. This procedure was adopted considering that the consumer with income above R\$ 60,000 (Usd 18,000) per year should be part of the public that is adequate to understand attribute's concept of sustainable Beef.

As a suggestion for new research, the proposed model should be used as a reference for new research addressing the socio-environmental theme in other segments of the food industry in Brazil. The scale with the six latent variables that compose the construct "concern over production process" (animal welfare, traceability, social responsibility, environmental responsibility, sanitation in slaughterhouses) can be adapted and used as a reference in investigations that intends to address this subject.

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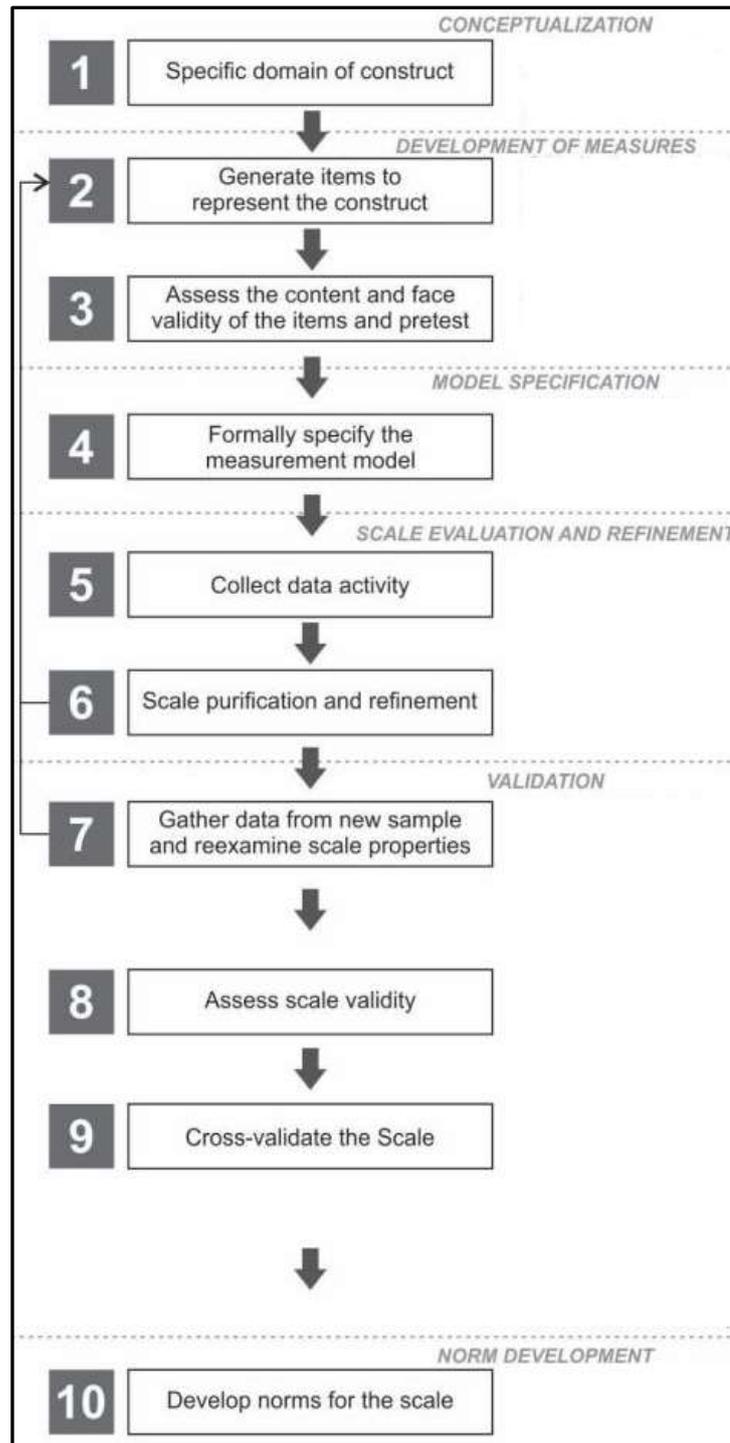
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**Figure 1** – Scale development and validation  
Source: Adapted from Rossetto, Borini, and Frankwick (2018)

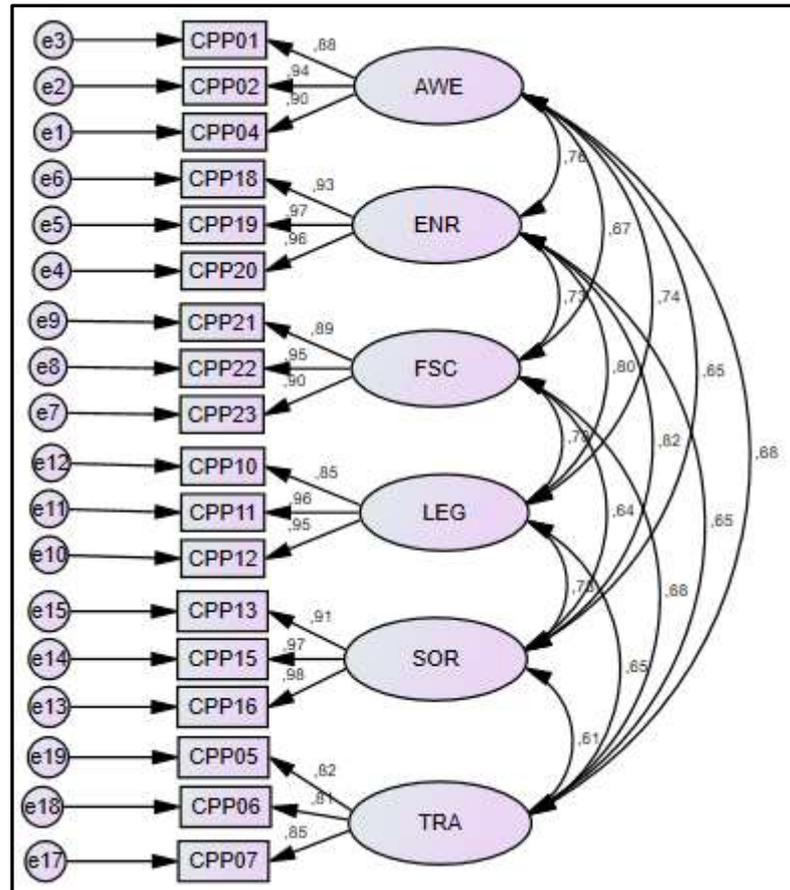


Figure 2 – CFA of CPP scale – sample 1

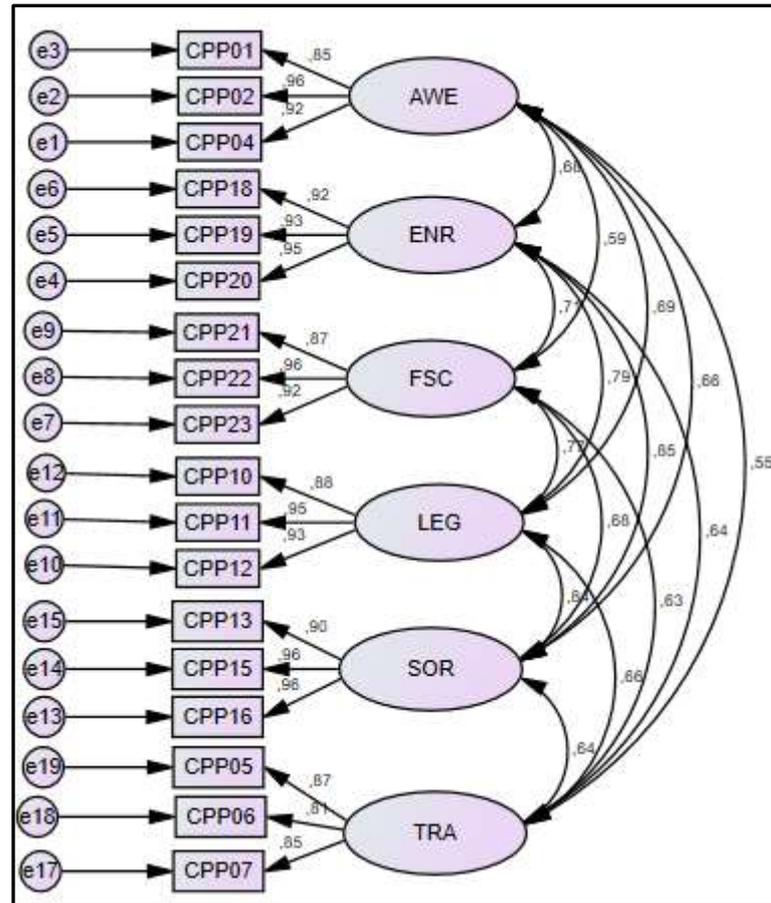


Figure 3 - CFA of CPP scale – sample 1

**Table 1 – BPA Assessment areas**

Activities	Description
Farm Management	It deals with the four functions that make up the administration of rural property: planning, organization, direction and control. Proper management requires that all of these functions be exercised at a minimum level, applied to the various functional areas of the company.
Farm Social Function	It deals with the criteria and requirements established by law in the social, environmental and productivity areas of the rural property.
Human Resource Management	It deals with social and labor relations that regulate participation of the rural worker in the productive systems, having ethics as the basis and, culture and moral values as partners, which are inseparable.
Environmental Mmanagement	It deals with proper management of natural resources existing in a rural property, in accordance with environmental laws, and with recommended techniques for soil conservation, biodiversity, water resources and landscape.
Rural Facilities	It deals with adequacy of farming facilities in order not to cause damage to the animal (leather and carcass) and to ensure safety of personnel responsible for animals` management
Pre-slaughter Management	It deals with knowledge and application of operations involving management, facilities and transportation conditions aiming to reduce injuries that can compromise quality and yield of carcass and leather.
Animal Welfare	It deals with knowledge about animal behavior and management strategies implementation that take into account physiological and behavioral needs of cattle, with direct and indirect gains in the production of quality meat and leather.
Pasture Management	It deals with care that must be observed in the formation, recovery and utilization of pastures. As they are main component of cattle feed, supply and nutritional value of forages directly affect herd productivity, and the appropriate management of livestock can extend its productive life, reducing pasture recovery costs.
Food Supplements	It deals with inputs and additives quality used in animal supplementation in order to guarantee food production that is economically viable and free from residues that could harm human health.
Animal identification and Traceability	It deals with different ways of animal individual identification and recording of occurrences that significantly contribute to animal and herd yield evaluation and information tracking throughout animal`s life.
Sanitary Control	It deals with preventive and curative measures of sanitary control recommended for herd good performance, ensuring safe and healthy food production.
Reproductive Management	It deals with management practices that aim to optimize calf herd reproductive and production performance in a rational, economic and environmental friendly way

Source: by authors, 2019

**Table 2 – CPP scale source**

2nd Order variable	1st variable	items	References
Concerns over the production process	animal welfare	4	Caputo et al. (2018); Chini (2015); Grunert et al. (2014)
	traceability	4	Barcellos (2007); Cicia and Colantuoni (2010); Oliveira and Spers (2018); Wu et al. (2017)
	legality	4	BPA norms; RAS; Imaflora
	social responsibility	4	BPA norms; RAS; Imaflora; Ghvanidze et al (2017); Stöckigta et al. (2018)
	environmental responsibility	4	BPA norms; RAS; Carlsson et al. (2010); Echeverria et al. (2014); Magistris and Garcia (2016).
	food safety concerns in meatpacking	4	BPA norms; RAS, Imaflora

**Table 3 - Descriptive statistics of measures**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Product Involvement (PIV)	Pleasure value (PLE)	PIV01	Meat is important to me	5,686	1,583	5,823	1,520
		PIV02	For me meat is absolutely necessary	5.141	1.811	5.239	1.799
		PIV03	I enjoy a meal with meat more than a meal without meat	5.584	1.772	5.660	1.720
		PIV04	I appreciate meat very much	5.804	1.557	5.828	1.577
	Symbolic value (SIV)	PIV05	You can tell a lot about a person based on his/her choice of meat	3.986	1.967	3.830	2.062
		PIV06	My choice of meat conveys about me to other people	3.967	2.026	3.809	2.104
		PIV07	My choice of meat gives other people an image of me	3.892	2.020	3.820	2.088
	Risk importance (RIM)	PIV08	I would find a bad choice of meat terrible	5.144	1.833	5.158	1.976
		PIV09	I don't have a lot to lose when I make a bad choice of meat (rev)	2.920	1.994	2.994	2.087
		PIV10	I find it very annoying to make a wrong choice of meat	5.080	1.994	5.006	2.087
	Likelihood of risk (RIL)	PIV11	When I buy meat, I know that I make the right choice (rev)	5.365	1.776	5.303	1.773
		PIV12	I feel lost when having to choose meat	5.435	1.478	5.396	1.540
		PIV13	I never know if I make the right choice of meat	2.565	1.478	2.604	1.540

**Table 3 - Descriptive statistics of measures (cont.)**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Concern over the Production Process (CPP)	Animal Welfare (AWE)	CPP01	I am concerned if animals were created in a natural and free way	3.615	2.020	3.672	1.983
		CPP02	I am concerned if animals received a humane and ethical treatment throughout their life	3.413	1.969	3.417	1.928
		CPP03	I am concerned if animals received adequate feeding and sanitation.	5.576	1.732	5.668	1.639
		CPP04	I am concerned if slaughter was carried out painlessly and according to animal welfare standards	5.430	1.764	5.314	1.893
	Traceability (TRA)	CPP05	I only choose one beef when it is possible to identify its origin	4.890	1.871	4.906	1.878
		CPP06	I try to choose foods that have guaranteed origin	5.710	1.489	5.668	1.505
		CPP07	I try to choose food that can be traced back to its origin in case of any problems	5.017	1.866	5.011	1.868
		CPP08	A traceable food is a safer food.	5.680	1.549	5.794	1.488
	Legality (LEG)	CPP09	I am concerned if producers and meatpackers follow labor standards (workers register. safety at work) .	5.403	1.720	5.263	1.865
		CPP10	I am concerned if producers and meatpackers use child labor or forced labor	5.558	1.712	5.532	1.805
		CPP11	I am concerned if producers work within the legality	5.702	1.625	5.586	1.719
		CPP12	I am concerned if meatpackers work within the legality	5.776	1.616	5.744	1.639
	Social Responsibility (SOR)	CPP13	I am concerned if producers and meatpackers worry about benefits to officials and families (health plan. early childhood education)	5.017	1.860	5.135	1.824
		CPP14	I am concerned if producers and meatpackers promote development of communities	4.934	1.897	4.870	1.922
		CPP15	I am concerned if producers value hiring and training of local labor	4.948	1.865	4.928	1.895
		CPP16	I am concerned if meatpackers value hiring and training of local labor	4.953	1.851	4.920	1.870
	Environmental responsibility (ENR)	CPP17	I am concerned if producers adopt practices that reduce greenhouse gases emission	5.133	1.840	5.047	1.906
		CPP18	I am concerned if beef comes from farms that have not had deforestation	5.080	1.833	5.039	1.925
		CPP19	I am concerned if beef comes from farms that conserve water and avoid its waste	5.097	1.808	5.067	1.880
		CPP20	I am concerned if beef comes from meatpackers that conserve water and avoid its waste	5.088	1.812	5.097	1.848
	Food Safety concerns in the meatpackers (FSC)	CPP21	I am concerned if beef comes from meatpackers properly inspected by health authorities	5.834	1.586	5.895	1.492
		CPP22	I am concerned if beef comes from meatpackers that have good hygiene practices in relation to slaughter environment and machinery	5.840	1.558	5.727	1.589
		CPP23	I am concerned if beef comes from meatpackers that take care of the hygiene of employees (uniforms) and of instruments used	5.837	1.562	5.681	1.601
		CPP24	I am concerned if beef comes from meatpackers that have waste and effluent control	5.536	1.665	5.406	1.771

**Table 3 - Descriptive statistics of measures (cont.)**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Sustainable Consumption Attitude (ASC)	General Green Products (GGP)	ASC01	I would be willing to stop buying products from companies guilty of polluting the environment	5.014	1.800	5.086	1.858
		ASC02	I make a special effort to reduce the use products that use scarce natural resource	5.293	1.666	5.183	1.753
		ASC03	When possible. I always choose products that cause less pollution	5.589	1.541	5.448	1.712
		ASC04	I do not buy a product when I know the possible damage it can cause to the environment	5.372	1.616	5.232	1.728
		ASC05	When I buy products and foods the concern over the environment interferes with my purchase decision	5.188	1.675	5.144	1.760
	Food Products (FOP)	ASC06	I prefer foods that are produced respecting the environment	5.686	1.501	5.644	1.582
		ASC07	I buy organic products because they are healthier	5.161	1.760	5.196	1.748
		ASC08	I am willing to pay a little more for products and foods that do not harm the environment	5.343	1.626	5.385	1.674

Notes — M = mean; SD = standard deviation; \* Sample 1; \*\* Sample 2

**Table 4 - Confirmatory factorial analysis - sample 1**

	SOR	AWE	ENR	FSC	LEG	TRA
<b>SOR</b>	<b>0.955</b>					
<b>AWE</b>	0.647	<b>0.906</b>				
<b>ENR</b>	0.817	0.757	<b>0.953</b>			
<b>FSC</b>	0.644	0.671	0.726	<b>0.913</b>		
<b>LEG</b>	0.734	0.737	0.799	0.781	<b>0.919</b>	
<b>TRA</b>	0.610	0.677	0.647	0.681	0.648	<b>0.825</b>
<b>CR</b>	0.969	0.932	0.967	0.938	0.942	0.865
<b>AVE</b>	0.912	0.821	0.908	0.834	0.845	0.680
<b>MSV</b>	0.667	0.573	0.667	0.610	0.638	0.464
<b>MaxR(H)</b>	0.979	0.937	0.973	0.945	0.958	0.866

Note: the diagonals represent the root of the extracted variance

**Table 5 - Confirmatory factorial analysis - sample 2**

	SOR	AWE	ENR	FSC	LEG	TRA
<b>SOR</b>	<b>0.941</b>					
<b>AWE</b>	0.661	<b>0.910</b>				
<b>ENR</b>	0.848	0.677	<b>0.933</b>			
<b>FSC</b>	0.679	0.592	0.710	<b>0.921</b>		
<b>LEG</b>	0.839	0.687	0.786	0.767	<b>0.921</b>	
<b>TRA</b>	0.637	0.548	0.641	0.629	0.664	<b>0.843</b>
<b>CR</b>	0.958	0.936	0.953	0.944	0.944	0.880
<b>AVE</b>	0.885	0.829	0.871	0.848	0.849	0.710
<b>MSV</b>	0.719	0.472	0.719	0.588	0.704	0.441
<b>MaxR(H)</b>	0.966	0.952	0.954	0.958	0.951	0.884

Note: the diagonals represent the root of the extracted variance

**Table 6 – Final instrument**

2nd order variables	1st order variables	Item Code	Item	M*	SD*	M**	SD**
Concern over the Production Process (CPP)	Animal Welfare (AWE)	CPP01	I am concerned if animals were created in a natural and free way	3.615	2.020	3.672	1.983
		CPP02	I am concerned if animals received a humane and ethical treatment throughout their life	3.413	1.969	3.417	1.928
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		CPP22	I am concerned if beef comes from meatpackers that have good hygiene practices in relation to slaughter environment and machinery	5.840	1.558	5.727	1.589
		CPP23	I am concerned if beef comes from meatpackers that take care of the hygiene of employees (uniforms) and of instruments used	5.837	1.562	5.681	1.601

Notes — M = mean; SD = standard deviation; \* Sample 1; \*\* Sample 2

Track 20 - PDW Papers

**ID #666**

**Sequential foreign direct investment in the international business research: Systematic review and future directions**

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**Mario Henrique Ogasavara** (ESPM, Brazil)

**Abstract**

*The traditional models of internationalization embody a static concept, where multinational enterprises make investments decisions without regard to the acquired learning in the expansion process. However, internationalization has been understood as dynamic, where the investments are made sequentially in different markets with an accumulation of previous experience. This paper aims to systematically review the existing literature on sequential foreign direct investment within the aspects of International Business theory by analyzing 27 years of research on this topic. Analysis is focused in the predictors and outcome variables as well as aspects of theory congruence, contingency. In doing so, we found four relevant clusters: (i) institutional environment, (ii) location (iii) path dependency, (iv) learning. Overall, the study provides a conceptual framework interlinking these four clusters and identified unexplored points, particularly the way in which investments failures affect learning. The findings serve as a guide for future research on sequential investments.*

**Keywords:** Sequential foreign direct investment; International Business; Systematic Review..

**Acknowledgments**

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## INTRODUCTION

One of the fundamental questions related to International Business (IB) involves understanding the reasons why firm internationalizes and becomes a multinational enterprise (MNE). Initially, economists focused on the country characteristics of the foreign direct investment (FDI): the reasons for attracting FDI were related to the national competitive factors. However, the internationalization theories based on an economic perspective (Buckley & Casson, 1976; Buckley & Casson, 2011; Dunning, 1980; Hennart, 1982, 2010; Hymer, 1976) presented a static model of investment decisions. In these models, scholars had not considered previous investment decisions or experience gained in the region or expansion in the country where MNE has already invested.

The behavioral-based models, especially the *Uppsala* gradual expansion model (Johanson & Vahlne, 1977) argued that activities in international markets intensify as MNE accumulates experience. Although the *Uppsala* model brings a more dynamic concept in the internationalization process, the gradual expansion does not contemplate the condition of global competition and strong technological changes that require a faster internationalization of the organizations.

However, Kogut (1983) argued that the theoretical models that explain FDI have focused on the motivations of internationalization based on national factors and market imperfections. There is a fundamental flaw in the design of these arguments by considering FDI as a single investment. Kogut (1983) argued whether the initial reasons for FDI are the same as the sequential foreign direct investment (SFDI). We should not understand FDI as an isolated decision, but as a resulting process stemming the advantages of having an organization that is an MNE. In other words, its capacity and flexibility in transferring resources between countries using its business network in different countries. SFDI should be studied as a process, not as an isolated decision (Kogut, 1983).

Surprisingly we did not find any systematic review that evaluates the development of the SFDI on IB research. The previous systematic review focused on the internationalization process as an isolated process. Our systematic review focused on peer-review articles listed on *ISI Web of Knowledge* and *Scopus* databases over 27 years (1980 to 2016). Despite SFDI has not been considered a theory in itself, our systematic review was based on the aspects of congruence and contingency (Fry & Smith, 1987), their predictors (independent variable) and outcomes (independent variables) (Suddaby, 2010).

By doing so, we intend to contribute to the IB literature in four important aspects. First, it reinforces the notion that investment decisions are not isolated events, based on traditional theories of investment location. They are a consequence of the dynamic aspects that influence these decisions. Second, we explain these dynamic factors and the way in which they interconnect with the internationalization decision. Third, we offer a definition of SFDI that could support academics in the proper definition of the constructs related to SFDI. Finally, we identify aspects not explored by the authors, allowing the development of propositions and directions for future research on SFDI.

## METHODOLOGY AND SELECTION OF ARTICLES

The systematic review of the literature has been used as a mechanism for the advancement of knowledge. According to Webster and Watson (2002), the systematic literature review process facilitates the development of the theory and reveals areas where research is needed. The systematic review still provides meaning to a large amount of information and is a method of

mapping areas of uncertainty, where few surveys were eventually conducted (Petticrew & Roberts, 2008). Systematic reviews have been used for the advancement of theory. For instance, Tian, Deng, Zhang, and Salmador (2018) analyzed the impact of culture on innovation. Their findings support academia research aspects of innovation in emerging markets.

We defined the research question as how SFDI have contributed to the understanding of IB. In order to respond this question we used the methodological approach defined by Knopf (2006) – each selected paper was evaluated to understand its content and scope. For the evaluation of areas of consensus, disagreement and gaps and the state of current knowledge, we used the concepts related to what constitutes a sound management theory. First, we evaluated whether the various forms of SFDI used by authors constitute a clear construct (Suddaby, 2010). Secondly, we evaluated the papers considering Fry and Smith (1987) about theory building. Finally, we evaluated predictors and outcome variables as well as aspects of congruence, contingency of the selected papers for each of the clusters (Whetten, 1989).

We used databases *ISI Web of Knowledge (WOS)* and *Scopus* as the primary research sources, both with academic recognition as bibliometric sources of academic studies. At this stage, we carefully selected the research terms, including a consultation with an expert panel in IB research to validate the terms and keywords. In this way, we used for searching several combinations of the terms, including “*sequential*”, “*subsequent*” with “*investment, entry, foreign direct investments, FDI, subsidiaries*”. Similarly, we combined the terms “*post entry*” and “*post-entry*” with the same words quoted. We searched all terms in the title, abstract and author's keywords. We determined the search period of 27 years from 1980 to 2016. We chose the initial year of 1980 because it was the decade when the analysis of the internationalization aspects went from the level of country factors to the level of the firm (Rugman, Verbeke, & Nguyen, 2011). We found a total of 297 articles in the *WOS* database and 383 documents in *Scopus*.

The first filter excluded all articles presented in conferences and books due to their potentially preliminary presentation (i.e., conferences) and the absence of peer review process. After this screen, we remained with 149 articles in the *WOS* plus 202 documents in *Scopus*. The second filter analyzed the abstracts with the purpose of evaluating their correspondence to our research question. We eliminated articles with concepts related to investment decisions through game theory, since they are more focused on *economic* based research instead of IB studies. After that, 31 articles remained in *WOS* sample and another 33 in *Scopus*. It should be noted that we found a total of 12 articles in both databases.

We evaluated these articles based on their full content to ensure their correspondence with our research question. From this analysis, we excluded 22 articles. The remaining 30 articles provided citation information on other articles that focused on the study of SFDI. We identified three relevant articles in this condition; (Arregle, Beamish, & Hebert, 2009; Arregle, Hébert, & Beamish, 2006; Rittippant & Rasheed, 2016). Our final sample comprises on 33 articles, including 18 of *WOS* database, 12 of *Scopus*, and three added according to their relevance on SFDI research.

## **LITERATURE REVIEW ON SEQUENTIAL FOREIGN DIRECT INVESTMENTS**

### ***The descriptive analysis of sequential foreign direct investments***

We found the first article on SFDI published by Chang (1995), which is considered a seminal paper in the area by being the most cited. The 33 papers presented a total of 1269 citations, with

an average of 60.4 citations per year. Furthermore, concerning the evolution of the number of articles published per year, there is no clear evolution regarding the number of articles per year. Figure 1 shows the result of this analysis.

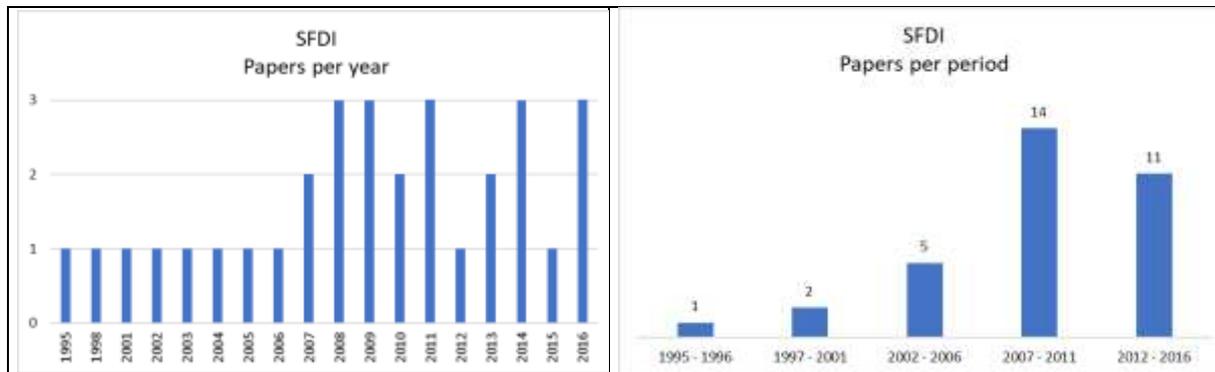


Figure 2: Sequential investments – analysis by period

Source: Prepared by authors

Most of the published papers followed empirical/quantitative approaches (total of 30 articles), only two qualitative articles (Francis, Zheng, & Mukherji, 2009; Suh, Wang, Nam, & Zhang, 2014), and one mixed method (qualitative and quantitative) study (Guler, 2007). All researches used a longitudinal analysis, as expected for an investigation related to SFDI. Some articles adopt the direction of investment: 14 of them are investments from Japan to somewhere in the world. A total of 11 articles used data from *Kaigai Shinshutsu Kygyou Souran* published by Toyo-Keizai Inc., recognized for the quality of data and the possibility of grouping data into different classifications (market segments, expansion, internationalization speed, among others). Table 1 shows all peer-reviewed papers on 23 academic journals.

Table 6: Articles by Academic Journal

Academic Journals	Number of articles	Citations	Impact factor	Impact factor 5 years
Strategic Management Journal	3	523	3.380	5.972
Academy of Management Journal	1	301	6.233	10.588
Journal of International Business Studies	7	212	3.620	5.659
Administrative Science Quarterly	1	83	5.316	7.517
Management International Review	2	43	1.076	1.704
Journal of Economics & Management Strategy	1	32	0.823	1.296
International Business Review	1	20	1.669	2.307
Journal of World Business	2	18	2.811	3.729
Review of Quantitative Finance and Accounting	1	9	-x-	-x-
Thunderbird International Business Review	1	8	-x-	-x-
Journal of Management Studies	1	4	4.260	6.563
Eurasian Geography and Economics	1	4	0.603	0.956
Journal of the Japanese and International Economies	1	4	0.508	0.795

Academic Journals	Number of articles	Citations	Impact factor	Impact factor 5 years
Asia Pacific Management Review	1	3	-x-	-x-
Japan and the World Economy	1	2	0.603	0.649
Journal of Asia Business Studies	1	2	-x-	-x-
Transformations in Business and Economics	1	1	0.462	0.359
Applied Economics	1	0	0.586	0.664
Economics Bulletin	1	0	-x-	-x-
Asia Pacific Business Review	1	0	0.683	0.852
BAR: Brazilian Administration Review	1	0	-x-	-x-
Management Research Review	1	0	-x-	-x-
European Business Review	1	0	-x-	-x-

Source: Prepared by the authors based on *InCites Journal Citation Reports 2015* (Thomson Reuters)

## The systematic review of sequential foreign direct investments

### ***What is Sequential Foreign Direct Investments***

According to Suddaby (2010, p. 346) constructs “are conceptual abstractions of phenomena that cannot be directly observed”. Constructs are the building blocks of theories, and for the soundness of theory, constructs needs to have clarity in four dimensions: (i) definition, (ii) scope conditions, (iii) semantic relationship to other constructs, (iv) degree of coherence to the argument being proposed by authors (Suddaby, 2010). In our systematic review we initially focused on the first aspect of the construct clarity, its definition. The other aspects are evaluated considering the predictors and outcome variables after clustering the papers. We assumed that this “clustering” strategy for the systematic review can better represent the current state of knowledge about SFDI.

Surprisingly, authors used a great variety of terms even within the same paper. The top three most cited papers (Chang, 1995; Chang & Rosenzweig, 2001; Delios & Henisz, 2003) used terms like *sequential entry*, *sequential investment*, *sequential investment process*, *sequential investment pattern*, *sequential FDI*, *sequential foreign investment*, *sequential foreign entry*, *sequential entry*, *sequential expansion*, and *sequential fashion*. Other common terms are subsequent investments, subsequent moves, subsequent location moves, sequential expansion, sequential post-entry expansion, sequential post-entry establishment and other forms of sequential investment. Only one paper defined sequential investment as “the establishment of a new subsidiary by the Japanese parent firm in Brazil, which may or may be not in the same line of business” (Ogasavara, 2010, p. 66). However, Ogasavara (2010), in his definition excluded investments made to expand an existing subsidiary, focusing sequential investments as a creation of a new business operation in the same local market. On the other hand, a series of articles consider expansion of the subsidiaries, regardless it involves the creation of a new subsidiary or not. For instance, Zeng, Shenkar, Lee, and Song (2013) consider the increase of the scope as a variable in the evaluation of the mortality rate of MNEs.

It is clear from the analysis of the papers that SFDI (and its different variations) is not defined and are used with different meanings, according to the data available for the researcher and/or the objective of the study. In general, the importance of a clear construct of SFDI have been neglected by the authors. Suddaby (2010) recognizes that authors may assume that readers are capable of understanding what authors supposed to mean. Although we recognize that sequential investments may embody a clear concept, a better definition is essential for a proper construct about sequential investment.

Based on our understanding we propose the following definition for SFDI: Sequential Foreign Direct Investments:

*MNE investments in foreign countries to modify their commitment to the host country after their first move*

The increase of commitment may take different forms: (i) the expansion of the scope of operations of its subsidiaries, (ii) the increase of the number of subsidiaries in the same country/region; (iii) diversification of businesses; (iv) the change of subsidiary constitution to a higher commitment, like a sales representative to a joint venture to a whole owned subsidiary. On the other hand, decisions to reduce its commitment, for example, closing out a subsidiary can also fit our definition.

In order to evaluate the appropriateness of our proposed definition, we followed Suddaby (2010) recommendation of a *good definition*. First, the definition should capture the essential properties of the phenomena. Our definition properties are clear: increase of the commitment to a host country. Second, definition should avoid tautologies and circularity. Third, definitions should be parsimonious, i.e. concise, but not too narrow. Our definition is concise when it focuses on “commitment increase” and its wide enough to accommodate different mechanisms of increase commitment, as exemplified.

### ***Clustering of the papers***

After the first review of the content of the papers, we identified that an evaluation of the sample as a whole would not represent the state of knowledge about SFDI. The basic reason were the different aspects covered by the papers, without a common ground to enable a proper comparison. After a first evaluation of the papers, we identified four different general web of causalities between predictors and outcome variables. The clustering was reviewed by two academics and the results compared. Differences were discussed and adjusted as required. As a result, four clusters were established: (i) institutional environment; (ii) location; (iii) path dependency; and (iv) learning (see figure 2: Sequential foreign direct investments – clusters).

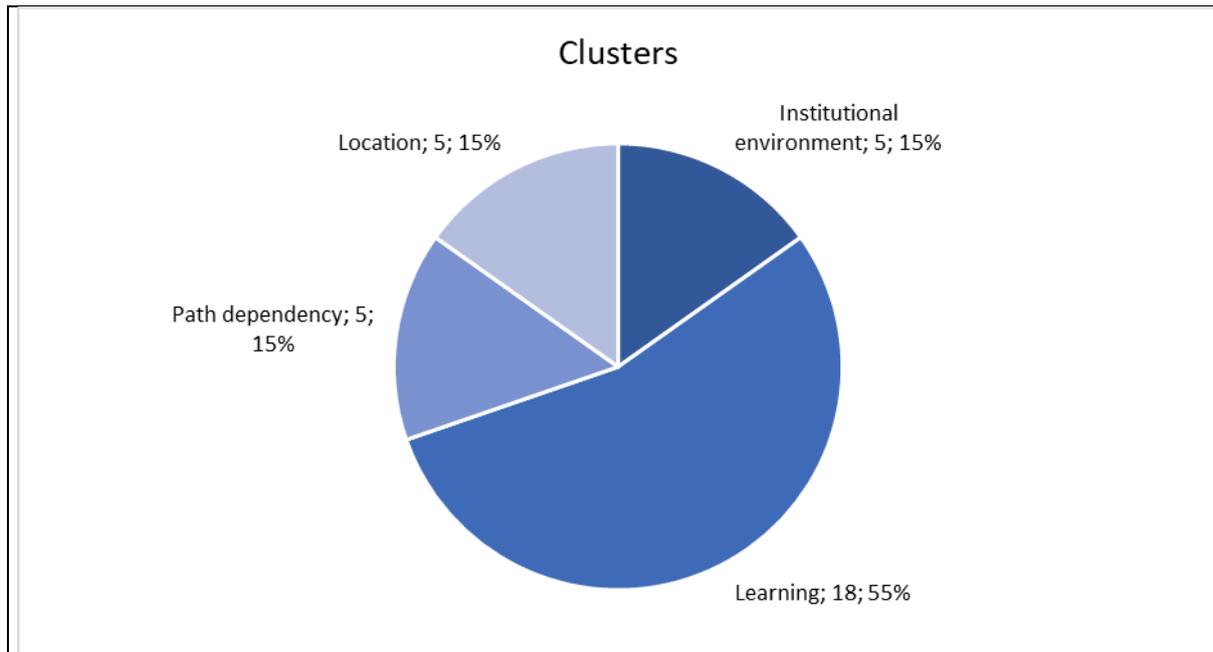


Figure 3: Sequential foreign direct investments – clusters

Source: Prepared by authors

### ***Institutional Environment – predictors, outcome variables, congruence, contingency***

In the cluster *Institutional Environment – IE*, there is a mix of predictors and outcome variables. It is one of the clusters with a theoretical qualitative paper (Francis et al., 2009). Authors proposed that initial investment is impacted by coercive country pressures, industry mimetics, and firm internal rules. SFDI is more influenced by normative forces. Their evaluation, despite its logical arguments for the understanding of the impact of the elements of the institutional environment (Scott, 1995), needs to be empirically tested. As a theoretical paper, boundaries of the proposition could be more clearly defined.

From this cluster, SFDI is considered a dependent variable in three papers: (i) an investors raise the stock of FDI in a subsidiary by a significant amount (Fisch, 2011); incremental FDI as a log of new fixed assets of the firms (Ni, 2016); (iii) options to grow, delay or exit (Rittippant & Rasheed, 2016). Only Guler (2007) considered SFDI as an independent variable and measured indirectly as rounds of financing in a venture as independent variable and its amount as control variable. This last one is justified as authors are considering a hazard model of success or termination of the SFDI.

Fisch (2011) presented a model of real options to explain the decision to invest in a subsidiary, considering the influence of the uncertainty of the institutional environment and the moderating effect of the irreversibility of investment decisions. MNEs, rather than remaining in a pattern of SFDI, maintain a flexible strategy and develop their subsidiaries depending on the volatility of the economy and the irreversibility of their investments. Investors choose the timing to invest by analyzing the value of the expected returns versus the amount needed to exercise the option (increasing investment in the subsidiary, postponing or not realizing the investment). In this papers, predictors of the outcome variable are related to the institutional environment in terms of country specific factors: economic volatility and political instability. No aspects of normative and/or cultural cognitive forces are evaluated. As moderators of the relation the authors consider important factor like cultural distance, economic trend, international experience, investment

share and industry and subsidiary size. Outcome variable is the raising of FDI in subsidiary. Boundaries of the causality are related to statistical limitations and the different types of investments included in the evaluation (for instance greenfield and acquisitions).

Ni (2016) identifies that China's Investment Promotion Agencies act positively in SFDI, especially in the high-tech industry. The article considered as outcome variable the new fixed assets for firms upon SFDI, and the existence of an Investment Promotion Agency. The authors used a sophisticated model to evaluate the impact to conclude the relation is positive. Rittippant and Rasheed (2016) argued that host country factors (economic growth rate and economic freedom), industrial competitiveness, and ownership concentration all have a significant impact on the decision to grow, postpone or exit its initial FDI. It is the only one which uses the initial mode of entry as a predictor variable. Authors used as institutional elements as political risk, economic freedom, economic growth rate.

Last, Guler (2007) identifies that venture capital organizations are less likely to close their investments even when returns on investments are declining. Intra-organizational political aspects, as well as the pressures of co-investors and partners, can influence decisions to maintain or terminate investments, regardless of expected returns. Author's paper is focused on venture capital and cannot be extended to firms.

As indicated above, there is no common predictors of the impact of the institutional environment on SFDI. In terms of congruence, defined as laws of relationship of a theory's variables (Fry & Smith, 1987), we could not identify a common web of relationship linking Institutional Environment and SFDI. As indicated above, there is no common predictors of the impact of the institutional environment on SFDI. None of the articles seeks to assess whether "institutional differences" affect SFDI decisions. The use of the concepts of the institutional environment is made generally and not based on the elements that constitute it. One of the possible reasons is the difficulty in measuring these aspects within an empirical evaluation. The exception is Francis et al. (2009), where the authors propose that normative forces have a more significant impact on SFDI. However, its empirical evidence is not possible since it is based on a theoretical approach.

In terms of contingency, defined as the capability of a theory to maintain its integrity in a different condition (Fry & Smith, 1987), predictions in the selected papers are limited by the variables used. In general, the boundaries of the causality between variables are not clear or are limited by the variables themselves. In other words, limitation is not given by a "ground" theory.

### ***Location – predictors, outcome variables, congruence, contingency***

Cluster *Location* is also characterized by a different set of predictors. In general, independent variables are related to firm capabilities (or characteristics), host country macro data, agglomeration variables, and geographic dimensions. SFDI is a dependent variable in three papers. Chang and Rosenzweig (1998) measures SFDI as incremental foreign entry, Muñoz-Sepulveda and Rodriguez (2014) as a total number of positive entries by firm / year. Song (2002) estimated SFDI as the change of activities, upgrading, status quo, downgrading.

He, Zou, and Zhu (2011) evaluated the functional and geographical expansion of MNEs in accordance with the patterns of SFDI and intra-firm competition. The results indicate that the same MNE seeks to locate its subsidiaries in the same place because of SFDI. The authors identified, specifically for Japan, the occurrence of agglomeration due to the country of origin. Competition between firms and units of the same firm tends to mitigate the agglomeration effect in the country of origin.

In an analysis of the SFDI patterns by MNE, Chang and Rosenzweig (1998) have identified that Japanese and European companies are entering in the market where they present their strongest business line, and after a while, they enter in less stronger business lines. Concerning industry effects, SFDI is stronger in the electronic than the chemical sector. The research confirmed that entry into a foreign market is a sequential process, with the effect of the industrial sector being more important than the country of origin.

Yamashita, Matsuura, and Nakajima (2014) investigated the effect of agglomeration of Japan MNEs having China as a host country. Top-tier suppliers and customers "pull" investments in a given location. This agglomeration effect does not repeat for the second and third level. The presence of relationships between firms (for subsidiaries located close to suppliers or customers) leads to SFDI in that region due to the cheaper accesses to suppliers and customers. Sequential entry decisions in a specific country can be explained by the positive effects of geographical proximity and the same type of industry. This effect is less significant than the previous presence in the country (Muñoz-Sepulveda & Rodriguez, 2014). According to Song (2002), decisions to carry out SFDI are influenced by host country conditions and firm capabilities. As a result, the author identified that the subsidiary's capabilities compensate for the macroeconomic factors influencing SFDI decisions.

Location decisions are changed based on the dynamic aspects of the SFDI, but the articles do not address how much of this decision impacts positively or negatively on the subsidiary's performance. The OLI paradigm indicates that potential sources of competitive advantage from MNEs explain the scope and geographic location of "value-adding" activities (Dunning, 1980, 1988, 2001). Specifically, the "L" (location advantages) indicates that decision factors refer to the demand for natural resources, market, efficiency and/or strategic advantages of the MNE.

Cluster *Location* does not clear indicate a common ground of variables (predictors and outcome variables). As discussed, SFDI is measured differently in three papers. The other two make inferences about SFDI: intra-firm clustering as a result of the SFDI (He et al., 2011) and the second concludes that agglomeration by first-tier suppliers and customers draws SFDI into a location (Yamashita et al., 2014). We could not identify a law of relationship between variables, as these are different. Interesting to observe that limitations or boundaries of the studies are not included in four of the five papers. The expansion of the findings to a different condition is not evaluated or even discussed by the authors. A very general relationship can be established in terms of a potential impact of SFDI on location decisions. Despite an explanation of the location decision is made, none of the papers indicates if learning resulting from these SFDI has changed their investments decisions.

### ***Path Dependency – predictors, outcome variables, congruence, contingency***

Path dependency is a characteristic of a sequence of events, where an event is unable to be realized without the influence of its past. Events are not independent; there is a logical association between them (Araujo & Rezende, 2003).

The five papers at this cluster indicates that entry and exit decisions are influenced by previous decisions made by MNEs. For example, Chan, Makino, and Isobe (2006) identified that entry and exit decisions are influenced by previous decisions of their own and other MNEs. Arregle et al. (2009) identified that previous entries and exits in a particular region have a significant impact on subsequent location decisions. The decisions for the location of a region-based subsidiary seek to obtain aggregate advantages and specific regional advantages of the firm (to the point of resource depletion). Chung and Song (2004) concludes there is a trend that MNEs locate their subsidiary in locations where they already have a subsidiary. If a firm has no

experience, the location will be made where competitors are located. A similar conclusion is reached by Ogasavara (2013). The author analyzed whether the previous entry in the country influences the choice of repeated entries in the same country. The author identified that firms tend to follow previous entry strategies (initial investment), while for SFDI, earlier entries made by the parent firms and competitors have great influence on market access in a given country. Nachum and Song (2011) established that SFDI is carried out in the same portfolios of services. However, the extension of its concepts to manufacturing companies and/or other segments are limited.

These five articles explored the relationship between SFDI and path dependency. Some aspects should be highlighted when analyzing these articles within the perspectives of the clustering. None of them considered the institutional differences between countries of origin and host countries. Arregle et al. (2009) indicated that location decisions point to regionalization of investments, but it does not establish whether these decisions result from institutional "proximity" or learning in the region. Investments in location with previous investments (Chung & Song, 2004) do not consider institutional and/or learning aspects.

When analyzing whether there is a common set of predictors and outcome variables, we found that SFDI is measured differently by authors. As outcome variable, it is measured as a frequency of foreign market entry by (Chung & Song, 2004) and as number of foreign subsidiaries (joint ventures and wholly owned subsidiaries). Other paper's do not measure SFDI directly, they use other set of variables to conclude about SFDI and path dependency – for instance, location is initially for distribution and sequential ones for manufacturing (Chung & Song, 2004).

For cluster *Path Dependency*, we cannot conclude there is congruence between SFDI and path dependency. As variables are distinct in each paper, a clear relationship between SFDI and path dependency could not be stated. In general, authors make no prediction about the replication of their findings to other set of characteristics.

### ***Learning – predictors, outcome variables, congruence, contingency***

The largest cluster of papers (total of 18) seeks to assess how and what types of learning affect SFDI decisions. The papers indicate that the realization of SFDI leads to learning that changes the strategies of investment decisions. SFDI is considered a dependent variables in 11 papers. On the other hand, construct used by authors varies but with a certain commonality. For example, 3 papers estimated SFDI as the entry to a host country (Chang & Rosenzweig, 2001; Delios & Henisz, 2003; Qian & Delios, 2008). The aspects related to the likelihood of reinvesting in host country is evaluated by another 3 papers (Chang, 1995; Pehrsson, 2016; Peng, Yang, & Liang, 2011). This cluster also includes the impact of the speed / rhythm and pace of SFDI in the learning processes (Gao & Pan, 2010; Jiang, Beamish, & Makino, 2014; Zeng et al., 2013).

The remaining of the articles do not evaluate SFDI directly but as consequence of the relationship between dependent and independent variable. For example, Ogasavara and Hoshino (2009) considered the firm's experience to evaluate subsidiary performance – authors concluded that the accumulation of experience (based on SFDI) is a key strategy to improve subsidiary performance. That is also the only cluster where there is one paper considering the negative aspects from a "wrong learning" as a consequence of SFDI (Zeng et al., 2013). As far as control variables are concerned, we could only identify the use of firm size and country characteristics in 5 papers. Industry data are also considered as control variable in other 5 papers.

Reduction of the liability of foreignness is one of the key aspects evaluated in this cluster. In summary, the papers reinforce the concepts of the Uppsala model (Johanson & Vahlne, 1977). Basically, learning from previous entries reduce liability of foreignness, the uncertainty of the political hazards, increase subsidiary performance. On the other hand, according to Zeng et al. (2013), experience from a new dissimilar culture may actually harm SFDI. As MNE expand into dissimilar cultures, they need to establish mechanisms to reduce the effects of misleading learning. This evaluation is not in accordance to the findings of Ogasavara and Hoshino (2009), where the experiential learning increases MNEs capabilities and increase MNEs subsidiary performance. In similar evaluation, Suh et al. (2014) identified that SFDI develop capabilities at the headquarters perspective and increase operational knowledge at the subsidiary level.

Another group of papers within this cluster evaluates the factors influencing SFDI decisions. Luo, Luo, and Liu (2008) considered origin, experience, initial location to explain SFDI decision. Broad market experience at corporate level and experience at subsidiary level can increase SFDI probability (Pehrsson, 2016).

The pace of the SFDI is evaluated on 3 papers. Gao and Pan (2010) demonstrated that the impact of the experience accumulation of entry modes varies according to the choice of entry modes. The cumulative experience of the three entry modes (contractual, joint venture, wholly owned subsidiary) increases the pace of expansion. of entry experience can handle the constraints of entry mode change. Lee, Abosag, and Kwak (2012) studied the speed of foreign market entry which is significantly influenced by business networking. According to the authors, the effects of the networking at the initial investments and SFDI are different. The third paper considered that the pace can impact the subsidiary survival due to the time compression diseconomies. Subsidiaries established at a faster speed are less likely to make a profit. Similarly, network given by the *Keiratsu* grouping have a greater probability to make SFDI (Blonigen, Ellis, & Fausten, 2005)

The greater number of articles identified in the learning cluster demonstrates the relevance of the theme to SFDI. In this cluster, mostly because of the greatest numbers of papers, we could observe similarities within the studies. Despite this similarity between the studies, we could not observe common set of predictors. The relationship between learning and SFDI is evaluated differently by the authors. The extension of the evaluation to another set of conditions (contingency) is also focused on the limitation given by the variables, making impossible to evaluate the extension of the conclusions to other conditions.

## **Proposed Framework**

Clustering of the papers allowed us to summary their fundamental concepts. *Institutional Environment* is related to market uncertainties, thus affecting SFDI. An unstable institutional environment, coupled with a higher rate of expansion of subsidiaries, negatively affects the profitability of subsidiaries. For *Location*, MNE seeks to agglomerate subsidiaries in the same host country and carry out its SFDI where it has the greatest competitive advantage. Concerning path dependency, SFDI is "pulled" by the region where the MNE initially established itself. Finally, *Learning* is considered as an effect of the SFDI, allowing the acquisition of different types of knowledge and changing subsidiary entry mode.

Based on the grouping of the paper according to four clusters, we propose a conceptual framework that presents the interlinking between them. Figure 3 indicates this framework and the fundamental aspects of each cluster.

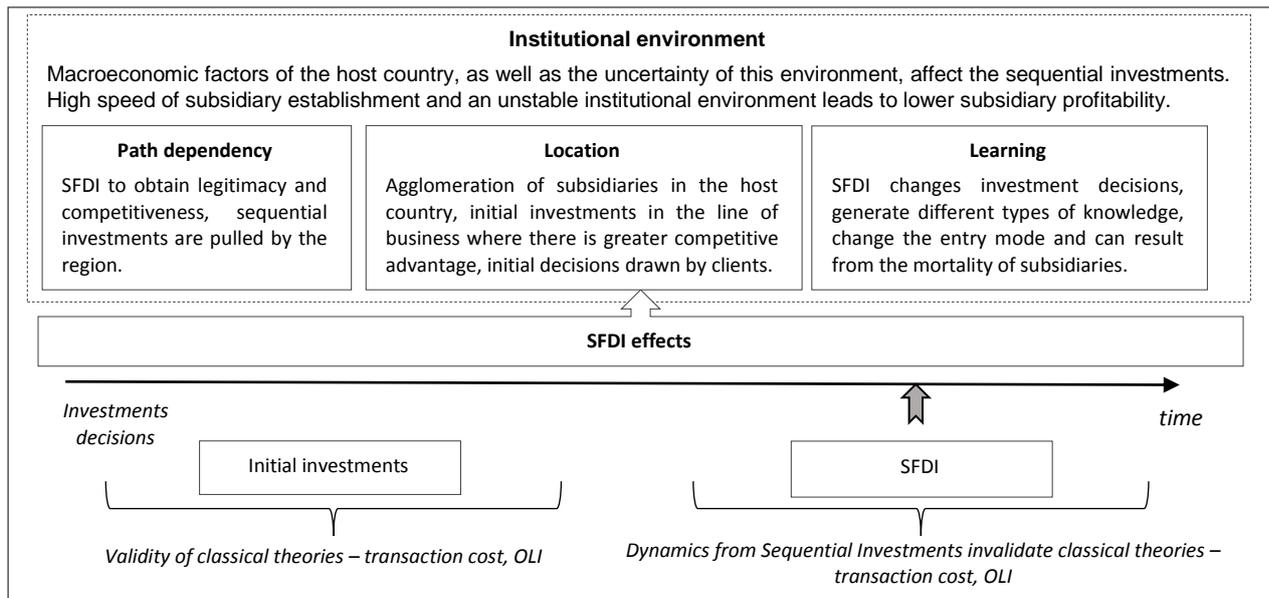


Figure 4: *Conceptual framework – SFDI*

Source: Prepared by authors

## OPPORTUNITIES FOR FUTURE RESEARCH

Based on the clustering of the papers, the current status of SFDI literature and the framework, we propose a research agenda to cover the unidentified aspects of SFDI, the potential improvements required to foster a better understanding of SFDI and its impact on International Business. We evaluate the impact of the lack of a proper definition of SFDI, followed by our basic evaluation factors on the clustering: *predictors, outcome variables, congruence, contingency*.

The need of clear constructs is a basic requirement of a sound theory. If academics wants to advance our understanding of SFDI, constructs have to be clearly established. First, we noticed that authors have not defined what SFDI is. The lack of a proper definition, although may be a characteristic of a new field, may generate a lack of precision, and as a consequence, prevent a proper focus on research and further development. Not without surprise, the predictors and outcomes on SFDI are largely different from one paper to another. This large variation was identified not only within the cluster evaluated but as a general aspect of the papers in the systematic review.

### ***Institutional environment and SFDI***

Our suggestions for future research on *Institutional Environmental* and SFDI are related to the very nature of what constitutes an institutional environment. According to Scott (1995), there are three fundamental pillars that constitute institutions: (i) cultural-cognitive; (ii) normative; and (iii) regulative. All pillars provide stability and meaning to social life. Briefly, the cultural-cognitive pillar refers to the structures that promote the sharing of meaning to social behavior. The normative pillar consists of the rules and procedures that define the expected behavior for social acceptance. The regulative pillar is the "rules of the game", which defines what can and cannot be accepted within the "game".

In relation to institutional environment, there is a need to explore the relationship of each of its elements (cultural-cognitive, normative and regulative) and SFDI. It should be noted that none of the papers considers cognitive-cultural aspects on SFDI. Regulatory aspects are assessed in the articles of Rittippant and Rasheed (2016) (economic freedom) and Ni (2016) (investment promotion agencies). Two articles use characteristics of the host country to conduct their studies, such as economic growth, economic volatility, and only one of the articles assesses normative elements (Guler, 2007).

Other important aspect is the evaluation whether institutional distance impacts SFDI. Cultural dissimilarity and its impact on International Business has been a focus of different authors (Hofstede & Minkov, 1991; Kogut & Singh, 1988; Zaheer, Schomaker, & Nachum, 2012). A comprehensive study of the distance in International Business is conducted by Hutzschenreuter, Kleindienst, and Lange (2016). The authors identified a lack of clarity in relation to the dimensions of distance and how to measure it. For example, they identified authors have used four different distances in IB: cultural, institutional, geographic and economic distance. They also identified that measurement of distance is made at different levels: country or individual. A proper consideration to what distance how to measure it is a necessary condition for the evaluation of the IE but not sufficient. A clear distinction of the pillars that constitutes the IE is recommended as they may have different impacts on SFDI decisions.

Last in this cluster, we suggest that authors should recognize (and consider) that national culture is not homogeneous, since there are different within-country subcultures. The cultural distance “construct” from one country to another requires further consideration in relation to these subcultures. For example, SFDI could be affected by these subcultures within the same country.

### ***Location and SFDI***

*Location* is one of the fundamental aspects of the internationalization, as already mentioned. The eclectic OLI paradigm says that the geographic decision considers factors related to the demand for natural resources, new markets, efficiency and / or search of strategic advantages (Dunning, 1980, 1988, 2001). The questions that challenges *SFDI* and *Location* are whether the “L” factors remains the same after the initial investment. The papers in this cluster evaluates fundamental aspects but not the OLI location factors. The cluster reveals other directions for SFDI after initial investments.

The SFDI is attracted by subsidiary capability, geographic agglomeration effects, firm portfolio, but these evaluations are not directed to the factor L in OLI paradigm. Further research is required to evaluate whether SFDI is pulled by Location factors. But most important, is the interconnection of Location, Institutional Environment and SFDI. As recognized by Dunning and Lundan (2008), institutional environment affects all the OLI factor. According to Dunning, the extent, form and quality of country’s incentive structures given by the institutions affect the investments, and as a consequence, the SFDI.

In our evaluation, location decisions and SFDI have to consider Institutional Environment. Locations decisions do not indicate a web of causality without the moderating control of the institutional environment. Further, this evaluation has to consider not only the most visible part of the elements of the institutional environment, the regulative aspect, but also the cultural-cognitive and normative elements.

### ***Path dependency and SFDI***

This cluster offers a different evaluation of SFDI – basically, SFDI is pulled by the search of legitimacy given by the entry of other firms into a foreign market, regional effects on SFDI,

SFDI as a consequence of their initial investments, existing portfolios of products and competitors actions. As it can be seen, path dependency is a key aspect on the SFDI decisions but needs to be further explored.

The gray areas that could be explored by academics are similar to the suggestions given in the relation of Location and SFDI. We suggest considering the same aspects of the Institutional Environment as mediator of the relationship of path dependency and SFDI. In other words, we advocate that a sound web of causality between path dependency and SFDI will be only fully understanding when considering the elements that constitutes the Institutional Environment.

### ***Learning and SFDI***

The first aspect to be considered in the *Learning* cluster is that the spillover from learning and SFDI are not been fully explored. From the sample, just one article seems to evaluate the effect of spillover experience in the realization of SFDI (Peng et al., 2011). In a systematic review of knowledge spillover from FDI, Perri and Peruffo (2016) proposes three constructs for spillover (magnitude, speed and scope), but the evaluation does not identify its direct impact on the realization of SFDI. The networking and SFDI is evaluated in only one article (Lee et al., 2012).

The collaboration networks and embeddedness to the internationalization process has been widely examined by different academics (Ahuja, 2000; Gulati, Nohria, & Zaheer, 2000; Inkpen & Tsang, 2005; Uzzi, 1997). On the other hand, the specific effects of the SFDI and embeddedness are not clear. The impact of internal and external networks on the decisions for SFDI seems to offer a new perspective on academic studies.

As already discussed, there is a certain agreement that SFDI is positively associated with SFDI. The exception is the work of Zeng et al. (2013) where the learning on dissimilar culture may adversely impact the learning process. It seems that institutional environment is one of the key factors in understanding the relationship between SFDI and Learning. It seems that SFDI promotes greater learning, which may be greater in the case of minor institutional differences. It has to be pointed out that previous investigation is based on success ratings (Chang, 1995; Chang & Rosenzweig, 1998; Goerzen & Makino, 2007; Pehrsson, 2016), but not failures.

In this sense, SFDI failure is assessed by Zeng et al. (2013) (wrong learning in a dissimilar culture) and by Jiang et al. (2014) (TCD, a higher speed of expansion generates a lower survival of the subsidiaries of MNEs). The occurrence of FDI failures is not studied to evaluate if failures cause a level of learning equivalent to that of successful investments. Another area of investigation is whether SFDI promotes a higher performance of the subsidiary, and this performance is greater in case of successful learning. Furthermore, as the learning is greater in similar institutional environments, the successes are expected to be greater when investments are made in these environments. In other words, SFDI in countries that have greater institutional proximity should perform better because of more effective learning (successes).

Last, in this cluster, the rhythm and pace of the SFDI and learning is evaluated in 3 papers (Gao & Pan, 2010; Jiang et al., 2014; Zeng et al., 2013). These evaluation highlights that SFDI may not be fully understood without proper consideration to the “speed” factor in which SFDI occurs. Another aspect to be considered is the long-term effect of the SFDI on the learning process. Based on the articles evaluated on this systematic review, we could identify that SFDI can change investments decisions. On the one hand, it generates different types of knowledge and change entry mode. On the other hand, this long-term effect could be further explored.

## CONCLUSIONS

This study carried out a systematic analysis of the literature on SFDI, considering the IB theory. Based on 33 articles related to the theme, we identify four clusters of articles: (i) institutional environment, (ii), location (iii) path dependency and (iv) learning. The analysis allowed to identify, examine and organize the studies on SFDI. It was possible to identify the current situation of the literature on one of the most relevant topics in IB research, decisions about where and when to invest and possible factors that impact this decision. The elaboration of a conceptual framework linking SFDI, institutional environment, location, path dependency, and learning allowed the development of the propositions of this study, to be explored and confirmed by quantitative empirical investigations in future research.

The very essence of IB studies gives the academic contribution. On the one hand, the traditional IB theory that considers the decision-making events about international expansion (particularly, where to expand) as isolated events, where the experience of learning in a particular country or region is not relevant. On the other hand, the studies presented in this systematic review demonstrate that the subsequent decisions on the expansion of subsidiaries consider the learning resulting from these investments. Another contribution is related to the concept of learning with failure. The study of failures has received little attention in the academic literature. However, it is an important factor in the aspects of IB research and needs to be explored in future research.

This systematic review also presents managerial contributions. First, by highlighting the importance of learning in SFDI decisions, and secondly, identifying and proposing that failures can lead to learning as relevant as the success. Researching these fundamental aspects of IB can help organizations to decide, more assertively, how their sequential investments should be applied.

The study itself presents its limitations typical of systematic reviews. There might be articles about SFDI that had not have been identified within the research process. Also, the cluster analysis allowed a general classification to facilitate the understanding of contributions on the research topic, but it can limit the understanding of the interrelation and interdependence between the clusters. Despite of these limitations, this is the first systematic review that evaluate the development of the SFDI on IB research. There are great opportunities for future research on this topic.

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## **Track 21**

# ***Doctoral Consortium***

Track 21 Doctoral Consortium

**ID #587**

**In addition to the classic factors, are there any other ones that may help explain the companies' capital structure?**

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**Abstract**

*It is paramount importance to have an in-depth knowledge about theories of Trade Off, Pecking Order and Agency, to understand that there is still a puzzle to be solved: they fail to explain effectively what are the most appropriate determinants companies should analyse when they choose their debt policy. This finding suggests that there is not a single theory about capital structure that incorporates all the essential factors and that those theories' forecasts seem to unveil that need for new explanatory sources, or new determinants, that could meet the current and growing constraints corporations have to tackle nowadays. Hence, the general objective of this research is to analyse the implications of new determinants to understand the process of the Companies in Capital Structure. The logical intuition is based on the relation and interaction of classical variables, widely used in the finance related field, relying on the CEO' Skills, as well as the use of restricted factors for the reality of the American States, such as corruption, immigration and refugees. By means of econometric procedures, such as cross-section, panel data and moderation of instrumental variables, this research comprises the 2.265 sample American companies, extracted directly from the database Wharton Research Data Service, for a timeline of 2010 to 2018. Among other explicit contributions, we find it interesting to highlight that this research is a novelty with respect to identification, interaction and discussion of new factors in the choice of the determinants of capital structure, as these elements may add value to the companies' debt policy although they have never been put to use altogether. These variables offer new perspectives for research studies in corporate finance, as well as a breakthrough path in the research for the World Bank (corruption) and the ONU (humanitarian aid for the coordination of immigrants and refugees).*

**Keywords:** Capital Structure. CEO. Corruption. Immigration. Refugees..

## **Justification and the Research Problem**

Some research has established the conceptual framework for explaining the determinants of capital structure (Modigliani & Miller, 1958, 1963; Jensen & Meckling, 1976; Myers, 1977, 1984; Myers & Majluf, 1984; Myers, 2001; Fama & French, 2002). These seminal researches can be categorized in three theoretical approaches: Trade-Off, Pecking Order and Agency, aimed to explain the choice of the main determinants of the capital structure.

However, all these theories failed to produce conclusive evidence on how these companies get into debt (Graham & Harvey, 2001; Leary & Roberts, 2010). In this light, Frank & Goyal (2009) it discusses the need to identify a better theory of capital structure, which must explain why companies tend to keep a certain level of debt for long periods, and what would be these factors and/or determinants. Overall, and although the last six decades have produced a significant amount of empirical literature on the determinants of capital structure, several authors claim that the results are rather inconclusive (An, Li, & Yu, 2016; Li, Munir, & Karim, 2017; Cen & Doukas, 2017; Gounopoulos & Pham, 2018).

In addition, one of the alternatives for further investigation of possible and/or new explanations can unfold other fields, such as the characteristics of managers. The research of Bertrand & Schoar (2003) signals that the CEOs have explanatory power for various corporate decisions, including investment policies, such as capital expenditures and acquisitions and financial policies: liquidity, financial leverage, interest coverage, payment of dividends and organizational strategies. Some research by (Jiraporn, Kim, Kim, & Kitsabunnarat, 2012; Custodio, Ferreira, & Matos, 2013; Custodio & Metzger, 2014; Li, Munir, & Karim, 2017; Cen & Doukas, 2017; Gounopoulos & Pham, 2018) consider utterly important the CEOs' profile, namely: age, nationality, gender, participation on the board, the company founder, holder of post-graduation titles/degrees, Ivy League alumnus, internal promotions, remuneration, specialization or broad band education, power, background in finance, value of the CFO compensation and the proximity of the compensation of the CFO to the CEO's.

Besides these variables, and to further explain and understand the determinants of capital structure, some themes of global impact, not previously listed in corporate finance topics, that after being transformed into variables, were characterised by region and/or State Locator, as for example: corruption (Smith, 2016), immigration (James, Hsieh, & Wu, 2017) and refugees (Gericke, Burmeister, Lowe, Deller, & Pundt, 2018). Corruption has a direct relationship with the level of indebtedness, as it suggests that companies involved in corrupt practices, have a comparative advantage in obtaining access to debt and, in particular, to the long-term debt, as highlighted by Smith (2016). As for legal immigration, immigrants are generally recognized by their entrepreneurial drive, including the CEO, because they often have linguistic, intercultural skills, and, as foreign people, they have pre-existing links and bridges with global networks, and thus they can develop and operate companies that become exporters in their host countries (Saxenian, 2002).

This line of reasoning implies that the financial performance of organizations employing immigrants offers more lucrative returns than non-immigrant enterprises (Gericke et al., 2018). Regarding the refugees and the indebtedness of companies, research elaborates on two premises: first, according to the research of Alloush, Taylor, Gupta, Valdes, & Gonzalez-Estrada (2017), show that companies have no capacity for growth, either by the difficulty of finding credit and need for investment or due to their relationship with a community that has no income or the fact that refugees get financial provisional aid from the local governments and from the United Nations. Having in mind the current arguments and questions, it was considered

appropriate to explore the interaction amongst the set of variables, which were never used at the same time, as an attempt to further understand and find more comprehensive answers to the determinants of companies' capital structure. Indeed, available theories have very slim chances to explain properly (An et al., 2016).

Under the above circumstances, this research orients itself toward the following question: How can the new determinants help in explaining the capital structure of companies? In addition, the study ascertains to identify the influence and the main implications that possible new factors can offer when shedding light upon the choice of the main determinants of the organization's capital structure. Overall, this study aims to analyze the impacts of the choice of new factors and/or determinants of the companies' capital structure.

### **Motivation and Contributions**

It is worth mentioning that so far there are no specific studies on the theme that addresses a significant set of variables, and that we propose ourselves to resort to for explaining the new choices of determinants of Capital Structure. A second argument unveils the existence of several theories and schools of thought on the subject of capital structure and which were primarily developed in the last 60 years. The point is that, until the present time, all these theories are inconclusive (gap) with respect to the choice of the most appropriate determinants for analyzing the Organization's debt policy.

Therefore, we intend to seek new answers that challenge the advancement and evolution of already consolidated theories. As for the third motivational argument, it defends that companies in corrupt areas have less money and unveil more indebtedness than companies in areas less corrupt ones, as claims Smith (2016). In other words, it seems that corruption is considered part of the engine that operates in the market, which affects the corporate policies of cash and debt. The fourth motivational argument makes reference to two of the biggest humanitarian crises of the century: immigration and refugees (ONU, 2017). With respect to immigration, a reduction in the effect of the legal immigrant visas in the USA provides a reduction in innovation, productivity, revenues and profits at the company level (Ghosh, Mayda, & Ortega, 2014). These arguments, either about immigrants and about refugees, unveil the governments' concern to have, inter alia, economic and social infrastructure to host and integrate them. It is a fact that the difference of the level of intellectual capital companies embody in absorbing this labour cannot be denied (immigrants x refugees), nevertheless, in most cases, they need to resort to indebtedness to support this absorption and invest in technological capital to expand their companies.

With regard to the contributions of this research, we consider this study contributes to the level of academic and practical approach. From the academic point of view, this research outshines in the sense it is a novelty with respect to identification, relationship and interaction of new capital structure determinants as these elements can influence the capital structure of companies in different settings (countries) and considering the behaviour of managers in the decision-making process. In addition, this research contributes to the enrichment of literature on capital structure because it resorts to the utilization of three still unused variables at the level of companies, directly, which are corruption, immigration and refugees.

### **Empirical Strategy**

Overall, this research aims to analyze the impacts of the companies' choice of new factors and/or determinants of Capital Structure. This choice draws on some arguments and specific objectives as pinpointed below: (i) Relate, in the same model, the classical variables set with

the set of innovative variables; (ii) Identify and compare eventual similarities of companies' indebtedness located in regions with high probability of corruption and regions with legally closed corruption cases; (iii) Analyze the impact of immigration and refugees on the companies' financial policy, and, in particular, in the areas with higher incidence of corruption; (iv) Interrelate the classical variables of capital structure with the profile of the CEOs of American companies. As such, it was necessary to access the database of companies published in the Wharton Research Data Services (WRDS), through the bases: BoardEx, Execucomp database, ISS (Institutional Shareholder Services) and Compustat. The analysis of the sample period goes from 01 January 2010 until 31 December 2018, within which were used 2.265 American companies. In order to verify the relationship between the dependent variable indebtedness (market and accounting) and the other independent variables, we use an approach through OLS regressions, Panel Data and instrumental variables.

The main equations, are: Equation 1- OLS regression; Equation 2- Use of instrumental variables (variables with lag); Equation 3- Panel Data regression with fixed effects; Equation 4- Panel Data regression with random effects; Equation 5- Panel Data regression with fixed effects and instrumental variables; and Equation 6 - regression with Panel Data with random effects and instrumental variables. It is worth mentioning that in order to better understand the behaviour of the elements comprised in the database, we have run a set of tests to identify possible structural problems.

The main problems, which will be properly explained in the following sections and their tests, are (i) problems of Heteroscedasticity. Test: Robust and Breusch Pagan test; (ii) problems of Multicollinearity. Test: VIF (Variance Inflation Factor); (iii) problems of Specification. Test: Linktest; (iv) Functional Form Problems. Test: Test F; (v) data Correlation. Test: Author correlation; (vi) Distribution of data: test: Shapiro Wilk Normality Test; (vii) Lack of influence of observations: test: Cook's Test. The classic determinants selected for the research and used in the econometric model, are: (i) Company Size; (ii) Growth; Profitability; (iv) Volatility; (v) Tangibility; (vi) Age; (vii) Dividends; (viii) Liquidity; e (ix) Investments. Subsequently, the variables drawn from the characteristics of CEO's were added to the classic ones in the same econometric model. The selected variables are: (i) Age; (ii) Nationality; (iii) Gender; (iv) Participation in the board; (v) Founder; (vi) MBA; (vii) Ivy League; (viii) Tenure; (ix) Power; (x) Finance Specialist; (xi) Compensation; (xvii) Compensation of CFO; e (xiii) Proximity of remuneration CFO - CEO. Although the large number of variables in the regressions makes it difficult to view and interpret the equations, in addition to limiting the data analysis, we will apply the Principal Component Analysis (PCA).

We envision to reduce the dimensionality of the set of variables, keeping most of the variation within the data set. The PCA performs this reduction identifying directions, the so-called principal component calls, along which the variation in the data rises to its maximum. The sample, for your time, is plotted, whilst making it possible to evaluate visually the similarities and differences between variables, in addition to identifying if the determinants can be grouped. Another highlights the possibility of separate regressions only to corruption, immigration and refugees (in isolation), as an intuition of logic to evaluate each of the groups and their possible effects.

## **Expected Results and Conclusions**

Understanding the traditional models of capital structure determinants, to include managerial features, can reduce some important gaps between known theoretical predictions and unresolved empirical facts. However, the prevalence of high debt use, on average in companies,

raises the question of whether top managers actually use their skills to maximize the value of the company. The main implications of corporate corruption practices negatively influence the definition of corporate financial policies, such as: risk taking, dividend policies, capital structure, results management, cash vs. debt, equity versus debt decisions, and aggressiveness in accounting practices. In turn, the use of legal immigrants in relation to corporate indebtedness is based on the following understanding: the effects of immigration on the performance of companies depend, among other measures, on the level that immigrants are substitutes or complementary to existing workers - natives. Regarding refugees, it should be noted that companies, in turn, tend to contract more debt to expand their businesses, considering the low value added of their products and services, due in large part to the low technical qualification of their employees. In addition, companies tend to be indebted, also, to the subsidies they receive from the state for the admission of refugees, since these benefits are insufficient for the investment and growth demand that the business organization needs for its sustainability.

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*Track 21 Doctoral Consortium*

**ID #598**

**The impact of incentives on inward foreign direct investments: Good institutions pay off**

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**Abstract**

*This article analyzes the impact of tax and financial incentives on Greenfield foreign direct investments. Drawing on location choice theories, the importance of financing and fiscal incentives for Greenfield projects is discussed. I propose that the effectiveness of incentives in attracting foreign investment is dependent on the institutional conditions of the host country. Both financial and fiscal incentives seem to attract foreign investment, but this is only the case when the competing countries have similar institutions in place. I illustrate these ideas with a study of incentives in 106 countries in 2010-2017. The results support the notion that good institutions pay off as incentives do not substitute for bad institutions.*

**Keywords:** Inward Foreign Direct Investment; Government-Multinational Relationships; Investment Promotion; Institutions; Policy..

## **INTRODUCTION**

The benefits associated with foreign direct investment (FDI) for host countries are well documented in the literature. In order to attract these benefits, many countries have been implementing incentive policies to target foreign multinationals (MNEs). Several scholars have addressed these incentives as determinants of inward FDI (from here onwards, FDI) location. Concerning grants, Wren & Jones (2011) found that they impact positively on the attraction of FDI in the U.K. About taxes, Barthel, Busse, & Neumayer (2009) utilized panel data to conclude that taxation treaties are positively related to FDI. However, the literature is not clear about the effectiveness of incentives when it comes to choosing the investment location. The Global Investment Competitiveness Survey (World Bank, 2018), for example, found that investors do not find incentives important when they look for a location to invest, as incentives were ranked fourth out of six investment climate characteristics. Moreover, Golub (2009) asks for more studies concerning FDI policies, since unlike international trade, policies towards FDI does not have many studies aiming to quantify them.

Hence, since the impact of FDI incentives on the attraction of FDI is not clear, this article intends to analyze the influence of FDI incentives on attracting FDI. In order to do that, I will split them into fiscal and financing incentives, so it could observe the particularities of these types of incentives since some countries rely on fiscal, some in financing and others in both types of incentives. I propose that the effectiveness of incentives in attracting foreign investment depends on the institutional conditions of the host country. Both financial and fiscal incentives seem to attract foreign investment, but this is only the case when the competing countries have similar institutions in place.

## **LITERATURE REVIEW**

The growing importance of multinational firms (MNEs) in world production and technology diffusion and the changes in the institutional environment across countries have heightened the interest on the impact of FDI on both home and host countries. The last decades saw a considerable increase in the global FDI stock, which accounted for around US\$ 7 trillion in 2000 to more than US\$ 30 trillion in 2017 (UNCTAD, 2018). In order to encourage investments, governments have to take into consideration their costs and benefits. James (2016) says that there is a constant tension when setting the incentive policies given the budget restrictions faced by the country. This posits a challenge to the policy-maker since the benefits could be lower than the cost. One way to minimize this problem is to direct the right type of incentive to the specific sectors where the spillovers would be higher.

Since each government has different characteristics and want of different types of FDI, its policies should be designed to attract the right type of investment. These policies can take many forms: a) loans and grants to finance the operation; b) tax incentives to attract investments and to avoid re-locations by reducing costs; c) information provision to reduce institutional distance and to help the firm deal with local bureaucracy d) regulatory incentives, meaning the creation of free trade zones, provision of monopoly rights, lowering of environmental/labor regulations or the participation on investment or trade agreements (Tavares-Lehmann, 2016).

The OECD (2001) poses that both financial and fiscal incentives can be used for many reasons, but mainly to encourage economic activity or to allocate firms in a given region. Moreover, these incentives can be done to a) offer products/services that the market otherwise does not provide; b) offset market fluctuations; c) correct market failures, and d) enhance employment. Apart from that, developing countries rely more on fiscal incentives and technology transfer,

while developed countries focus on providing financing incentives (de Mello, 1997; Moran, 1998). This is because developing countries cannot afford the cost of financing incentives. In this case, MNEs prefer financial incentives because it would reduce the amount of capital needed to start the operation, while fiscal incentives only would matter if the operation is successful.

Even though MNEs seek the benefits given by the incentives, they also look for good institutions. North (1990) affirms that institutions influence the strategic choices and competitiveness of an MNE as they define the environment in which the MNEs operate. Dunning's (1998) article about location gave the first step on discussing the role of institutions and government policies and how they influence the location strategies of MNEs. Following him, many scholars investigated this subject (e.g., Cleeve, 2012; Henisz, 2000; Jandhyala & Weiner, 2014; Lu, Liu, Wright, & Filatotchev, 2014). For example, Lu et al. (2014) discussed the role played by government support for the FDI location choices from Chinese firms, while Henisz (2000) does a comparative institutional analysis and employs an objective measure to political hazards for the MNEs. Moreover, Boateng, Hua, Nisar, & Wu (2015) pose that host country institutional environment may act as an impeditive in the location choice process of an MNE, while te Velde (2001) argues that institutions can create locational advantages for the MNE.

Therefore, governments have to choose how they will design and combine incentives in order to get the best result when taking into consideration their institutional environment. Thus, FDI incentives framework determines the business conditions for investors that plan to move to the country, as MNEs choose their location based on their advantage necessities. These necessities can be linked to resources, market, efficiency and strategic assets (Dunning & Lundan, 1992), which are called market-oriented variables (Dumludag, Saridogan, & Kurt, 2007). Apart from these market-oriented motives, Dumludag et al. (2007) highlight the institutional variables as the other variables affecting FDI, for example, the protection of civil and property rights, corruption levels, enforcement mechanisms, macroeconomic and political stability when entering a new location. Moreover, they affirm that if these variables do not exist in the location, the investors will face a higher cost when doing business. Thus, bad institutions and unfavorable policies increase the costs for investors, while good institutions reduce risks (Meyer, Estrin, Bhaumik, & Peng, 2009). This is because the majority of MNEs prefer to enter more socially, politically and economically stable institutional markets using wholly-owned firms (Brouters, 2002).

## **METHODOLOGY**

In order to tackle my objective, I intend to propose three hypotheses concerning FDI incentives:

*Hypothesis 1: Tax incentives have a positive impact on Greenfield investments*

*Hypothesis 2: Financing incentives have a positive impact on Greenfield investments*

*Hypothesis 3: Incentives can replace good institutions to attract Greenfield investments*

I will test these hypotheses on a dataset of 106 countries. Given that the data comprises incentives announced by the countries from 2010 onward, my analysis comprehends the period from 2010 to 2017. Moreover, due to missing data or lousy reporting of incentives by host countries, the analysis will be limited to 106 countries.

Given our data, the most indicated estimator is the generalized method of moments (GMM). This is because the GMM estimator is generally used to study samples with a short-time period and a relatively large cross-section. This approach was proposed by Arellano & Bover (1995) and Blundell & Bond (1998), and it enables us to consider the presence of unobserved country-specific effects as well as to deal with the problem of reverse causality or simultaneity. Thus, the GMM best suit my proposal because the unobserved industry-specific effects may be correlated with the regressors.

In order to deal with endogeneity problems and with the fixed country specific effects, Arellano & Bond (1991) developed an estimator where the lagged dependent variable and the endogenous regressors can also be instrumented using its lagged levels. This is done by taking the first differences, which eliminates the individual specific effects as shown in my model:

$$\begin{aligned} \text{Greenfield projects}_{i,t} - \text{Greenfield projects}_{i,t-1} = & \alpha_0 + \alpha_1 (\text{tax deals}_{i,t} - \text{tax deals}_{i,t-1}) + \alpha_2 \\ & (\text{loan/grant deals}_{i,t} - \text{loan/grant deals}_{i,t-1}) + \alpha_3 (\log \text{ of GDP per capita}_{i,t} - \log \text{ of GDP per capita}_{i,t-1}) \\ & + \alpha_4 (\text{natural resources}_{i,t} - \text{natural resources}_{i,t-1}) + \alpha_5 (\text{property rights}_{i,t} - \text{property rights}_{i,t-1}) \\ & + \alpha_6 (\text{inflation}_{i,t} - \text{inflation}_{i,t-1}) + \alpha_7 (\text{institutions}_{i,t} - \text{institutions}_{i,t-1}) + \varepsilon_{i,t} \end{aligned}$$

A limitation of this method is that it does not eliminate first-order serial correlation in the residuals due the weak exogenous control of endogeneity. Therefore, in this model I will apply a two-step GMM-Sys estimator to control for this weak instrument by using a system of two equations derived from the level equation. Table 1 summarizes the variables description.

Variable Name	Description
Greenfield projects	Number of Greenfield projects in the host country
Tax delas	Number of projects with tax incentives
Loan/grant delas	Number of projects with loan, grant, subsidies incentives
Log of GDP per capita	Log of GDP per capita in US dollars
Natural resources	Total natural resources rent as percentage of GDP
Property rights	PCT applications by filing date
Inflation	Consumer price index, 2010 = 100 end of period
Institutions	Standardized average of the seven Worldwide governance indicators per rank

## EXPECTED RESULTS AND CONCLUSIONS

I expect that tax and loan/grants incentives will have a small but positive and significant impact on Greenfield FDI depending on the institutional environment of the country. Moreover, it is expected that institutions weaken tax incentives. In other words, tax incentives do not matter for countries with good institutions, thus even for countries with bad institutions, this type of incentive cannot compensate for institutional quality, as institutions do matter. Additionally, when dividing the sample basing on their institutional environment, I intend to find that the effect of loans/grants deals will grow in countries with good institutions, while both tax and loans/grants will have a significant and positive impact on countries with bad institutions. Thus, countries with similar institutions when competing against each other will offer incentives to attract the right type of FDI. In this case, countries with good institutions offer loan/grant incentives, which is preferred by the MNEs, while developing countries that cannot offer many financing incentives, will rely on tax incentives to compete among themselves as their institutional environments are similar.

Given these expected results, the paper will shed light on how tax and loan/grant incentives behave in different environments. This can contribute to the literature in two ways. First, it will

help to understand the role of incentives as a determinant of the location choice of an MNE. Second, it will show how institutions matter when competing for FDI and that incentives do not compensate for bad institutions.

Concerning policy-makers, the results will help them tailor better policies to attract FDI and thus avoid unnecessary expenses. For managers, this paper will allow them to understand the relationship between institutions and incentives, as they can take that into account when deciding their investment location. Thus, by showing how incentives differ among institutional environments, this paper will be able to help them in bargaining with governments. This means that MNEs could look for countries that offer more or different type of incentives depending on the institutional environment of the host country.

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*Track 21 Doctoral Consortium*

**ID #616**

**Creativity, Innovation Systems and Development of Metropolitan  
Cities: proposing causal models for São Paulo and Milan**

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**Abstract**

*Exponential transformations in economy and society have been pushing the development of cities to a new extent. Due to the emergence of variables and uncertainties, understanding the complexities derived from the relation between creativity, innovation and development of cities has become decisive. In this sense, the literature of creative cities and regional innovation systems are explored to explore the phenomenon in a comprehensive way, besides building a bridge between societal, cultural and economic perspectives. Therefore, the aim of the paper is to develop a causal model of the influence between creative, sociocultural and institutional factors in regional innovation systems of metropolitan cities. Cognitive causal mapping methodology and split questionnaire design are applied with São Paulo (Brazil) and Milan (Italy) inhabitants to capture the similarities and differences of their perceptions regarding the variables proposed. Three causals maps are designed based on the significant influences with a confidence interval of 99%: for São Paulo, Milan and for the similarities between both cities. As a result, data shows that it is impossible to conceive the phenomenon as exclusively social or economic-centered since they are equally influential and there is a constant feedback between both, reinforcing the existence of a symbiotic relationship. Regional innovation systems are influenced by different variables, such as education and research influencing formal innovation; and social interaction and culture influencing creative industries. Besides, São Paulo and Milan maps depict differences on the dynamics of culture, quality of life and industry.*

**Keywords:** Creative Cities; Regional Innovation Systems; Cognitive Causal Mapping; Urban Development; International Innovation..

## **RESEARCH QUESTION AND JUSTIFICATION**

Urban development phenomenon has been facing severe changes in the last decades, especially considering digitalization, global mobility and sustainability. Therefore, properly understanding urban development from a critical and comprehensive approach is crucial either from sociological and economic perspective. Such economic perspective has not only also been facing changes, but hurdles in the past years throughout the world. In this sense, one of the main characteristics of our *zeitgeist* is the potential of knowledge and creativity to generate innovations that can mold the economic capability of a region.

The dynamics among changes in urban development, hurdles in economic development and relevance of knowledge, creativity and innovation is the empirical justification of the research. Since such dynamics are complex and multidimensional, to shine a light on them, two literatures are explored: creative cities and regional innovation systems.

When comparing both literatures, it is possible to identify synergies regarding the relevance of innovation and knowledge-creation for urban and economic development. Besides, each literature approaches phenomena in a specific way: creative cities literature perceives urban development regarding the influence of culture and creativity; while regional innovation systems literature analyses how innovation and location are related from an economic performance perspective.

The complementarity of creative cities and regional innovation systems to better analyze and understand the dynamics of the empirical phenomenon depicts the theoretical justification of the research. Therefore, the research aim is to develop a causal model of the influence between creative, sociocultural and institutional factors in regional innovation systems of metropolitan cities.

## **LITERATURE REVIEW**

### ***Creative cities***

There has been a development in the comprehension of creative cities. In seminal publications, the manifestations tend to be specific in areas such as culture and arts (Clark, 2004; Gerring, 1999; Mitchell, Atkinson, & Clark, 2001), expressing a unidimensional approach to the topic. With literature development, authors began to articulate different aspects such as entrepreneurship and urbanization (Alvarez, Sepe, & Di Trapani, 2010; Flew, 2012; Lloyd, 2011; Méndez & Moral, 2011), representing more complex and multidimensional manifestations.

Therefore, it is possible to identify that the literature of creative cities was broadened in the past decade to comprehend the complexity of city development. Nevertheless, due to such complexity, the literature lacks operationalization with validated definitions and indicators. After a literature review and content analysis with inductive categorization, the conceptual definition used in the research is:

Creative Cities are defined geographic spaces with a structure formed by i) formal institutions capable of providing a healthy and sustainable environment that encourages educational growth and creative and innovative businesses; ii) cultural apparatus that enhance local characteristics and inspire cultural exchange with other regions; iii) public and private urban areas that allow creativity flow through exchange of ideas and experiences between people; iv) a society open to cultural, religious, ethnical, racial, creedal and sexual orientation differences; v) creative and

innovative businesses that absorb specialized workforce and transform knowledge into innovation; and vi) structural and social foundations that allow the region's globalization. The interaction between aspects allows attraction and retaining of a creative and economically active population, urban regeneration and development, cultural enhancement of the social network, global competitiveness of local businesses and economic development in the region.

Nine categories emerged from the inductive categorization, considered the capitals for urban development in creative cities: human, technological and innovative, multi-social, global mobility, social, livability, industrial, connectivity and cultural. These categories are presented in Figure 1 and used in this research as the framework to understand the level of influence among local factors and regional innovation systems.

### ***Regional innovation systems***

Regional innovation systems derive from regional clusters literature on the sense that it considers the dependency relationship between firms in a given geographical space (Rosenfeld, 1997), and from networks literature on the sense that it considers the relevance and consequences of different types and degrees of relationship between firms (Granovetter, 1983, 1985).

Therefore, the literature of regional innovation systems focuses on spatial patterns of innovation within a city or a region not only considering the regional network of innovative firms, but also the supporting peripheral network such as institutions and associations (Bjørn T Asheim & Gertler, 2005; Cooke, 1998). It explores what is the influence of regional proximity between firms, institutions, universities and the urban realm regarding economic development (Bjorn T Asheim, Smith, & Oughton, 2011).

Bjørn T Asheim and Gertler (2005) define three types of regional innovation systems. Analytical knowledge-based systems are represented by industries in which innovation is the result of knowledge generation from a scientific perspective, focusing on radical innovation and codified knowledge. Synthetic knowledge-based systems are represented by industries where innovation is the result of new combinations or application of existing knowledge, focusing on incremental innovation and problem-solving. Symbolic knowledge-based systems are represented by industries where innovation is the result of proposing meaning, desire and new ways of interpreting the world, focusing on creativity and design.

## **RESEARCH DESIGN**

Cognitive causal mapping is a methodology based on the cognitive science of mental models (Johnson-Laird, 1980) that allows the researcher to derive a statistically significant causal model that is designed from the perspective of a given research sample. Mental models are captured and designed using a method known as cognitive mapping, where presumed relations between variables are identified and tested (Barreto, Crescitelli, & Figueiredo, 2015; Markoczy & Goldberg, 1995; Markóczy, 1994).

The research used two criteria to identify relevant relations. First, the relations must have an average other than zero with a 99% confidence interval. Second, the average must represent a regular, strong or very strong influence between variables. This way, it is possible to present a causal map that is statistically significant and considers the strongest levels of influence between concepts, allowing the researchers to discuss the most relevant relations.

Then, the mean cognitive causal map was designed, formed by significant relations resulting from criteria aforementioned. An appropriate software for mental maps, such as CMapTools, may be used to create the mean map (Cañas et al., 2004).

The scale to be used in the questionnaire varies in the literature, as highlighted by Barreto et al. (2015). It depends on conceptual complexity and how familiar respondents are with their definitions. Considering the sample in this research, each question has a 11-point Likert scale varying from negative influences (from -5 as very strong to -1 as very weak) to positive influences (+5 as very strong to +1 as very weak). Besides, there is score zero, meaning lack of influence between variables (Barreto et al., 2015)

Two cities were chosen for the causal models to be designed: São Paulo and Milan. These cities were chosen because, besides having well developed innovation systems, they represent the presence and impact of urban, social, economic and innovation development in Brazil and Italy, respectively.

The sample is formed by inhabitants of each city, being equally divided between overall population (inhabitants that experience the city in a daily basis), specialists in urban development (researchers, professors, architects and urbanists) and specialists in regional innovation (researchers, professors, entrepreneurs and professionals of technology and innovation-driven companies).

The questionnaires were written in English, translated to Portuguese and Italian and designed in Google Forms. Then, were individually sent via e-mail to the list presented in Appendix 1. A total of 230 split questionnaires from São Paulo and 205 split questionnaires from Milan inhabitants was collected, representing 46 and 41 complete questionnaires.

## **RESULTS**

The results are divided in three section. The first section is focused on similarities, meaning the relations that were identified in both São Paulo and Milan samples. Then, the results are focused on significant relations exclusively for São Paulo; and the last section is focused on significant relations exclusively for Milan.

The mean causal map representing all variables and significant relations for both São Paulo and Milan is presented in Figure 1. To better depict the final model of the research, all variables and relations are presented, but the ones not considered significant for both samples are presented in light gray. To make reading easier, significant variables and influences (arrows) are presented with specific colors and the average levels of influence are presented in the lines (and their corresponding sample).

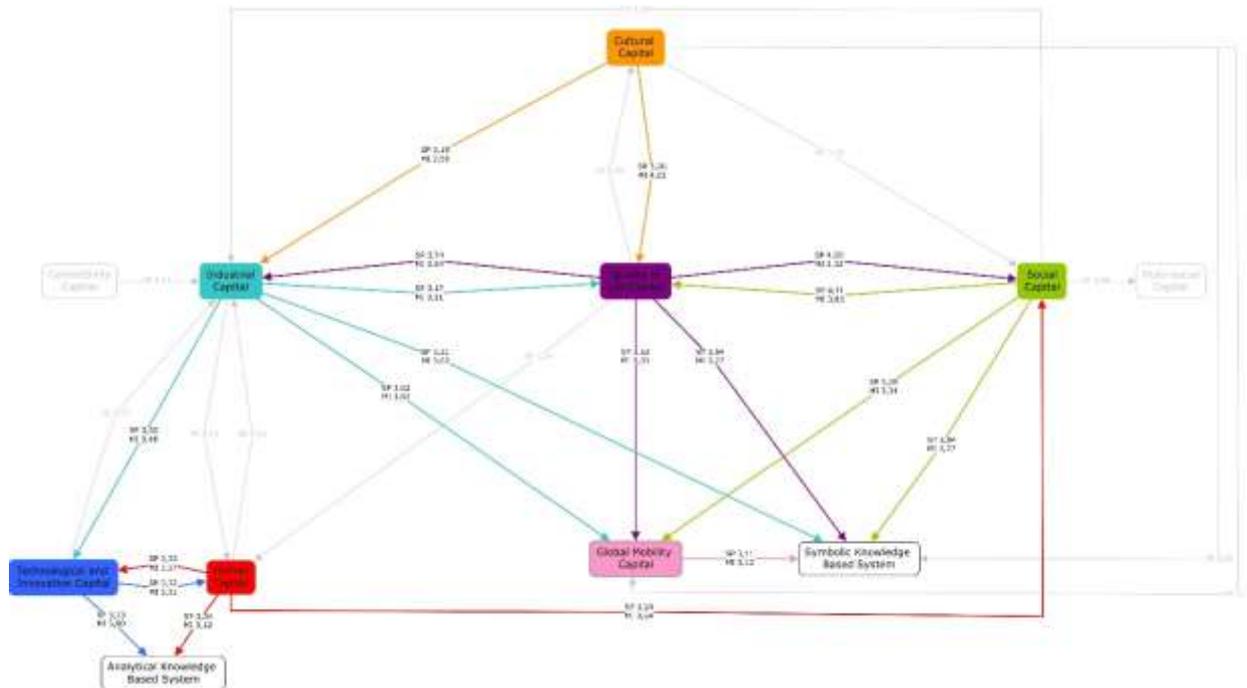


Figure 1. Similarity Mean Map

According to both samples, Cultural is the only independent variable in the map, meaning that it is not influenced by any other variable. Besides, Connectivity and Multi-Social are not presented in the map because none of their relations (either influencing or being influenced) was considered significant; as well with Synthetic that is not influenced by any other variable of the research.

Still considering the embeddedness of each variable, Industrial and Quality of Life are considered the most influential variables, influencing four other variables each. Besides, Symbolic, Quality of Life and Global Mobility are the most influenced variables in the map, being influenced by either four (Symbolic) or three other variables.

Since the influence between variables could be bidirectional, three reciprocal relations were identified: Social and Quality of Life; Industrial and Quality of Life; Human and Technological. Even though these relations do not allow the identification of causality, it is possible to imply that both variables influence each other simultaneously.

Regarding specifically the regional systems of innovation, besides the Synthetic Knowledge not being considered significant, there are differences on which variables influence each type of system. While the Analytical System is influenced by only two variables (Technological and Human), the Symbolic System is influenced by four variables (Social, Quality of Life, Industrial and Mobility).

## EXPECTED CONTRIBUTION

Considering the aim of the research to develop a causal model of metropolitan cities, the literature reviewed and empirical data from cities in two countries, represents the possibility of conceiving the phenomenon in a scientific and multidimensional perspective while considering social-centered and economic-centered approaches. On the one hand, it effectively builds the bridge between both creative cities and regional innovation systems literatures in a

comprehensive way, highlighting how such a complex phenomenon must be thoroughly analyzed.

On the other hand, the research allows companies, research institutes and policy-makers to better understand the dynamics of development and innovation in cities, especially what is the causality between variables and what is the optimal path for investment according to the expected output. Nonetheless, the research is limited to samples from São Paulo and Milan and since differences were found between their maps, the authors encourage researchers to further apply the methodology within different countries and contexts.

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Track 21 Doctoral Consortium

**ID #661**

**The choice of international governance mode: New evidences of Brazilian franchisors**

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**Abstract**

*This dissertation proposes to adapt and test multi-theoretical models of international governance mode choice in the context of Brazilian franchisors expanding their operations abroad. The purpose is to understand which aspects influence the international governance mode choice in an emerging market franchisor standpoint. To answer the proposed research question three papers will be developed addressing different theoretical lenses, through an integrative model on the franchisor's choice of international governance modes based on organizational economics and strategic management perspectives. The first and second papers will attempt to test parts of the model by focusing first on different theoretical perspectives without interaction effects to highlight the explanatory power of each theoretical lens, through a quantitative - descriptive approach using a representative sample of data from the Brazilian Franchising Association related to the year 2018. The first paper considers variables from resource-based theory (RBT) and organizational capability theory (OCT): system-specific assets, local market assets and financial assets. The second paper will consider variables from transaction cost theory (TCT) and agency theory (AT): environmental uncertainty, behavioral uncertainty and transaction-specific investments. And the third paper will attempt to evaluate the applicability and fitness of the resultant model in an emerging market context through a qualitative research with Brazilian franchisors. This work contributes to the literature by using quantitative and qualitative methods to test the international governance mode of emerging markets franchisors. The study approach will encompass the lack of research on international governance mode and, on emerging markets' franchisors expanding to international markets.*

**Keywords:** International franchising; Governance modes; Entry modes; International Marketing; International Business.

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*Track 21 Doctoral Consortium*

**ID #712**

## **Arts Entrepreneurship on the International Career of Artists from Emerging Economies**

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**Ilan Avrighir** (ESPM, Brazil)

### **Abstract**

*This research aims to analyze how arts entrepreneurship influences the career performance and internationalization of artists from emerging economies, focusing on Brazil. The theoretical framework refers to the phenomenon of entrepreneurship in the core of the arts, more specifically a deep analysis on the concept of arts entrepreneurship in the visual arts, and through a systematic review of literature and the analysis of the properties attributed to the concept, namely arts entrepreneurship, the study makes a significant contribution in the sense of consolidating the theoretical alignment around the theme. The research methodology uses both qualitative and quantitative approaches in the development of multiple case studies and in the use of the survey method. Keywords: Art Entrepreneurship; Art; Internationalization; Career Management*

**Keywords:** Art Entrepreneurship; Art; Internationalization; Career Management.

### **Acknowledgments**

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001

## **INTRODUCTION**

Modernist and contemporary artists from emerging economies, such as Brazil, have achieved international recognition; their collections have been presented at exhibitions, fairs and international art galleries, and their art, estimated at millionaire values, have been negotiated and acquired by collectors and renowned art's institutions, in Europe and the United States, such as the Museum of Modern Art in New York (MOMA), and Christie's, Sotheby's and Tatte Galleries in London.

While this broad exposure of national artists has projected them internationally, and brought them to the forefront of the global art market, "taking the work of Brazilian artists out of the country is still a goal for most galleries" (Latitude, 2018).

Although the arguments that art is above all an attribute of personality and talent, and regardless of its origin and nationality, there seems to be a hierarchy of countries represented in international galleries (Quemin, 2006), limited in large part to artists from the USA and European countries, while those from Latin America, Africa and Asia are poorly represented (Velthuis, 2013).

In the face of this paradox, the discussions emerge, and we ask, what reasons or factors explain the performance and internationalization of artists, especially those in emerging economies, such as Brazil, and how did they achieve this recognition? How can these factors, allied to creativity and talent, explain international career success?

Dimensions that integrate the entrepreneurial process, the entrepreneurial orientation - such as proactivity, innovation, identification of opportunities, and networking - are present in both the artistic and business segments, which justify the adoption of an entrepreneurial perspective in the field of art, theme of research of this study.

### ***The Central Research Question***

How does Arts Entrepreneurship influence the international performance and career of artists from Emerging Economies and the trade of their works abroad?

### ***Objective***

The purpose of this thesis is to analyze "if" and "how" the Arts Entrepreneurship influences the international performance and career of artists from Emerging Economies and the trade of their works abroad?

### ***Relevance – Contribution***

The research will provide an important theoretical contribution in the field of “arts entrepreneurship”, since the concept is not consolidated, and it is still being discussed among different authors in the academic literature, with multiple attributes.

Gartner et al (2015) makes an appeal to the academic community for the development of the concept on Arts Entrepreneurship. The author raises a question of mobilizing research and future contributions to the field: "How do artists organize themselves, both in terms of how they generate art, and how what is produced as art is valued and exchanged?" (Gartner et al, 2015).

### ***Originality - Value***

Although Arts Entrepreneurship has received increasing attention from academic research, there is no knowledge of the use of this theoretical framework to study the international career

performance of artists from Emerging Economies and the trade of their works in developed markets.

## **THEORETICAL BASIS**

Entrepreneurship at the core of the arts refers to creativity, the creation of new ventures, innovative behavior, and recognition of opportunities and risks. Such behavior translates into the artistic sphere in self-management and self-realization of the artist in a career direction (Beckman and Essig, 2012). In line with this precept, Entrepreneurship and Art Management resemble each other; both involve the attributes of the entrepreneur, the process of creation, innovation and combination of resources and the generation of value - artistic, economic and social (Taylor et al., 2015, Chang and Wyszomirski, 2015).

## **RESEARCH DESIGN, DATA AND METHODOLOGY**

**\*\*\*\*\* INSERT FIGURE 1 ABOUT HERE \*\*\*\*\***

The qualitative and quantitative approach foreseen in this thesis will carry out two empirical studies. The first will be a multiple case study and the second a survey.

In the first study, there will be developed eight multiple case studies with eight artists from Brazil, using as theoretical reference the taxonomy of components from Arts Entrepreneurship (Chang and Wyszomirski, 2015). In the literature review this taxonomy was the most promising breakthrough in the sense of identifying variables that

allow us to analyze the Arts Entrepreneurship, and establish empirically verifiable propositions. The multiple case studies will allow to broaden and consolidate the Chang and Wyszomirski (2015) taxonomy, and to derive propositions that would be tested in the next study.

## **EXPECTED RESULTS**

Consolidation of the concept Arts Entrepreneurship, presenting its main attributes.

The phenomenon of Entrepreneurship on Arts explains the performance and international career of artists.

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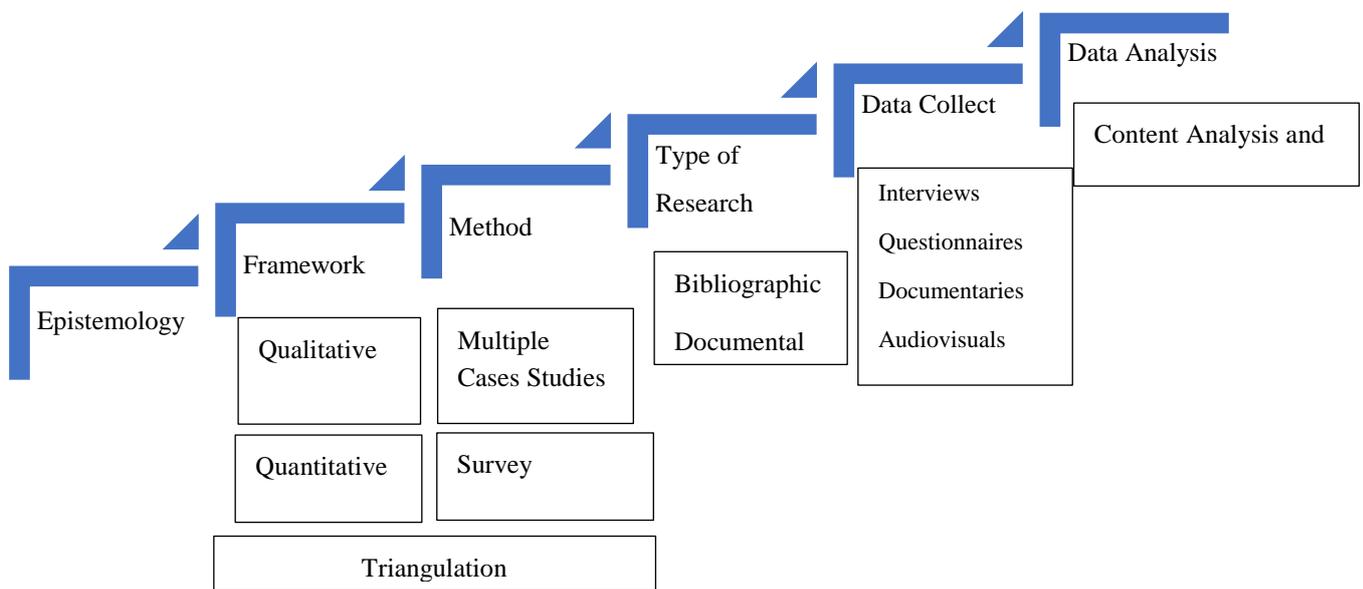
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**Figure 1 - Methodological Path**  
Source: Author (2019)



Track 21 Doctoral Consortium

**ID #732**

## **Women's empowerment and strategic networks: The impact on entrepreneurship**

**Liliane Matias de Almeida** (ESPM, Brazil)  
**Luciana Florêncio de Almeida** (ESPM, Brazil)

### **Abstract**

*In the current scenario, Brazil has stood out in entrepreneurship, not only in the country as in the world, so much that it was considered the first in the ranking of the entrepreneurial countries in the year 2015. According to the GEM (Global Entrepreneurship Monitor), the country also stood out in the year 2000. A highlight for entrepreneurship is the increase in women's participation in entrepreneurship, which in the year 2016 reached a rate of 51.5% for early entrepreneurs. In the area of management and business, strategic networks have an essential role play for participants presenting benefits such as the search for contributions and solutions for decision-making opportunities, and the more credibility and trust, the more assertive decisions, the network also contributes access to knowledge and opportunities. In network theory, the stronger the link of the individual in the network, the higher the network and this provides to the power and influence that the network has over the network itself and other networks. Collaborating with the rate of women's participation in entrepreneurship, female empowerment is a movement that has gained space and has supported the insertion of women in the labor market. This movement contributes to changes involving the personal perspective and the perspective of autonomy and social, political, and economic freedom. The research seeks to understand if the dimensions that contribute to empowerment enables women to participate in strategic networks to take advantage of opportunities in digital entrepreneurship. The study has a quantitative approach, and the data collection will be through a questionnaire.*

**Keywords:** Empowerment; Woman; Digital Entrepreneurship; Networks; Development..

### **Acknowledgments**

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Track 21 Doctoral Consortium

**ID #738**

## **Socio-environmental enterprises in tourism: an analysis of environmental, social and economic value creation from the organizational culture perspective**

**Cristina de Moura João** (University of São Paulo (USP), Brazil)

**Rosa Maria Fischer** (University of São Paulo (USP), Brazil)

### **Abstract**

*The emergence of socio-environmental ventures brings a new way of looking at the market, making the socio-environmental value creating a profitable business. This type of business is growing in the tourism sector, recognized for its potential for economic and local development, enabling less developed areas to have a chance of being reinserted into the World's economy (Binns and Nelt, 2002; Mitchell and Ashley, 2010; Weppen and Cochrane, 2012). In order to create socio-environmental value, the intention must already exist in the organization's culture. In other words, from its origin and formation to the development of negotiation strategies and on its day-to-day business. Culture plays a decisive role in value creation, hence it is imperative to understand and analyze the main characteristics influencing value creation in socio-environmental initiatives. In this context, the research problem posed by this project consists of analyzing the corporate culture main characteristics in the tourism sector and socio-environmental value creation. The idea is to understand if and how characteristics of the corporate culture of such ventures has an influence in the socio-environmental value creation. To answer this, we used a qualitative case study with data collected from interviews, field observation and documents. The object of this research are ventures in tourism that seek to create value socio-environmental initiatives. The aim of this research is to contribute to the discussion about socio-environmental entrepreneurship in tourism and value creation. Also, in more practical terms, to contribute with more tools for these organizations to create socio-environmental value along with economic sustainability.*

**Keywords:** Socio-Environmental Entrepreneurship; Tourism Social Entrepreneurship; Social-Environmental Value Creation; Organizational Culture.

### **Acknowledgments**

I'd like to thank the financial support from CAPES in this research.

*Track 21 Doctoral Consortium*

**ID #769**

## **A new model of financing in Brazilian industrial research: The case EMBRAPII**

**Sandro Freitas Nascimento** (ESPM, Brazil)

**Marcos Amatucci** (ESPM, Brazil)

### **Abstract**

*This paper proposes the analysis of the Embrapii model impacts, the expansion of applied industrial research and the accumulation of technological capabilities generated in companies that work in partnership with the Innovation Center linked to a Federal Institute of Professional Education. The Institutional Theory and the Evolutionary Theory of Innovation are used as reference. The methodological approach of the research is qualitative, the data collection was done through semi-structured interviews, the first with Embrapii center manager studied, then with the researcher responsible for the projects and finally with the representative of the partner company. The main results show that the interviewees are unanimous in emphasizing the importance of the Embrapii model to increase the technological capabilities of the company and improve its performance. In addition, they report the main advantages and disadvantages arising from the execution of the research projects.*

**Keywords:** Technological capacity; Innovation; Embrapii..

### **Acknowledgments**

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

*Track 21 Doctoral Consortium*

**ID #771**

**The reinvention of the university: The transformation of the concept of university in the context of social, political and economic changes**

Claudia Cristiane dos Santos Silva (ESPM, Brazil)

Marcos Amatucci (ESPM, Brazil)

**Abstract**

*The imperatives of a period of time are reflected in institutions. This isn't different in one of the oldest institutions in the world, the University. They are created taking into account the social, political, and economic demands of the era in which they are founded. However, universities resist the passage of time, which is revealed in several institutions almost millennial, such as the University of Bologna. Considering that the relationship between university and society is dynamic and, therefore, what explains the longevity of these institutions? According to contingency theory, the functioning model of organizations that survive the dynamics of social transformations has a structure that adapts to changes in the environment. In the scope of this investigation, we will try to understand what are the needs that justify the foundation of a Higher Education Institution and how the changes that maintain its longevity are made. The methodological course that will guide this research involves aspects of a qualitative approach.*

**Keywords:** Higher Education Institution; Contingency Theory; Innovation; Structure; Strategy.

**Acknowledgments**

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## **Track 22**

# ***Special Poster Session - Master's & Ph.D. Dissertations***

*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #736**

**Financial vulnerability and banking services: The conduct and perceptions of banking agents towards the consumer's financial well-being**

Roberta Gabriela Basilio (ESPM, Brazil)

Mateus Canniatti Ponchio (ESPM, Brazil)

**Abstract**

*This study seeks to understand the conduct and perceptions of retail banking agents towards the consumer's financial well-being. The results highlight that agents sometimes act by influencing consumers to choose bad financial decisions. It contributes by revealing practices of retail banking that are not considered in the literature.*

**Keywords:** Consumer behavior; Financial well-being; Financial services; Financial Vulnerability; Ethics in sales.

**Acknowledgments**

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## **EXTENDED ABSTRACT**

Losada-Otalora et al. (2018) explore the role of banks in enhancing consumer knowledge with the goal of increasing consumer financial well-being. These authors mention that although the transparency of banking information impacts on the financial well-being of consumers, there is a gap in the understanding of how banks act in this direction. To explore this gap, this work investigates the employees who are at the front line of the bank, the banking agents.

Empirical studies on financial services and the well-being of individuals have addressed consumer well-being as a result of savings behavior (Martin & Hill, 2015), coproduction of financial services and counseling (Mende & van Doorn, 2015), and the role of banks in financial well-being, but they only addressed the consumer as an object of study.

As proposed by Brügggen et al. (2017), we relate financial well-being and the provision of banking services. They do not consider the dark side of financial advice and sales efforts, such as the financial exploitation of older consumers and conflict of interest. Our study reveals practices of Brazilian retail banking, which are not considered in the literature, where the behavior of the agents can accentuate the vulnerability of the customer.

According to the Organization for Economic Co-operation and Development (OECD), financial education is a process in which consumers develop understanding about financial products by seeking information, making conscious choices, and seeking advice when necessary. They act in favor of their financial well-being. Among 143 countries, Brazil ranks 67th, with 35% of adults being financially literate (Klapper, Lusardi, & Oudheusden, 2016).

In Brazil, it is observed that older individuals with higher income, a higher level of education, and less indebtedness pay lower interest rates, because they represent a lower risk to banks. In personal loans, the form of credit offered by banks, interest rates reach 27.37% per month, equivalent to 1,722.61% per year (Central Bank of Brazil, 2019).

Such information reveals a market environment where the consumer is exposed to a supply of credit at high interest rates. Without adequate financial literacy, this can contribute to a reduction in his financial well-being. On the one hand, banks offering financial services profit from high interest rates and high service charges. On the other hand, there are consumers with little information and preparation to deal with their personal finances.

A qualitative research study using a phenomenological method was performed during an in-depth interview with twelve bank agents in São Paulo. The interviewees were selected by the snowball method. The interviews were recorded and documented for content analysis with a focus on semantic categories (Gibbs, 2009). In total 722 minutes of recorded audio that were authorized by the informants at the beginning of each interview. Interviewers encouraged interviewees to talk about the following: (i) examples of customer service experiences, (ii) reports of feelings, (iii) how they perceive their daily activities, and (iv) about company policies for the conduct of customer service.

According to Hansen and Riggle (2009), ethical behavior in sales involves the promotion of consumer well-being. Thus, transmitting misleading information or even omitting information about the limitations of a service (Losada-Otalora et al., 2018) represents unethical conduct for salespeople. This reduces consumer welfare, because they characterize a situation that is unfavorable for consumption (Baker, Gentry, & Rittenburg, 2005). The data show that bank agents may act opportunistically in the face of asymmetric information. Informants feel the pressure to act with bold goals, which leads the agents to take less care of the customer's financial well-being in some sales and to prioritize profit.

The commissions-based compensation system can motivate unethical behavior of salespeople in order to achieve their goals and this creates a conflict of interest for the seller (Román & Munuera, 2005). The informants' reports show that the information asymmetry and the conflict of interests present in contracting financial services accentuate the vulnerability of the consumer (see Appendix 1). They recognize that the elderly and people with low schooling are vulnerable consumers.

In the perception of the informants, a loan default is linked to the irresponsibility of the customer when contracting the banking products without the proper personal financial planning. Thus, consumer default is not due to consumer vulnerability (Baker et al., 2005), because control is in the hands of the individual. But it ends up being a consequence of the liberal conditions in the credit supply that is peculiar to the Brazilian market (Cordeiro et al., 2019).

Based on financial vulnerability (O'Connor et al., 2018) and financial well-being, it is worth noting that agents act in two conflicting ways, as victim and accomplice. In some situations, as accomplices of banks, they disregard the consumer's financial well-being and act unethically, prioritizing their goals and the bank's interests. In other situations, they act as victims of the rewards system and the pressure to achieve their goals. As a result, agents tend to influence vulnerable consumers to opt for bad financial decisions, such as renewing loans by older consumers without them being aware of exactly what they are deciding. We have observed the conflict of interest involved in the activity of the banking agents and how this can harm the financial well-being of the individuals.

On the other hand, financial vulnerability may be a consequence of the liberal conditions in the credit supply in the Brazilian market, where market dynamics favor access to credit consumption for a population without financial knowledge (Cordeiro et al., 2019).

Considering the contextual factors in the financial products market in Brazil, such as the low level of consumer financial literacy, high interest rates, and the level of indebtedness of Brazilians, it is relevant that studies deepen the understanding of relationships between banking agents and the financial well-being of consumers in other countries. Exploring the dark side of financial advisory and financial product offerings also appears to be an important addition to the Brügger et al. (2017) financial well-being research agenda.

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### Commentary on results

#### Perceptions of agents about consumers

- **Agent as an accomplice**

Although the agent perceives the vulnerability of the customer, s/he is pressured by the bank to reach its goals regardless of the financial well-being of the customer, so s/he acts as an accomplice of the bank. Thus, s/he ends up acting in an unethical way by prioritizing their goals and the interests of the bank to the detriment of the interests of the customers, who have their well-being undermined.

It has been observed that the information asymmetry and the conflict of interests present in the contracting of financial services accentuate the vulnerability of the consumer.

#### Perceptions of the agents in relation to the bank as an employer

- **Agent as victim**

Agents behave as victims because of the pressure on them to meet goals and the stress that they face from ethical dilemmas. They are exposed as the representative of the bank's interests and they act for the sake of survival inside and outside the institution. Informants have shown greater awareness of conduct that undermines consumers' financial well-being and less concern to justify or ameliorate such conduct.

### APPENDIX 1 - Perceptions of banking agents about their activities

Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #739**

## **Adhesion and preservation of the treatment of TYPE II Diabetes: The relationship of people with TYPE II Diabetes and medications**

Sérgio Ricardo Duarte Palhas (ESPM, Brazil)

Fábio Mariano Borges (ESPM, Brazil)

### **Abstract**

*This study aimed to know the beliefs that guide the attitudes regarding the adherence and preservation of the treatment in people with type II diabetes, being used as methodological method the qualitative approach. Fourteen people with type II diabetes participated in the study, and the in-depth interview was used as an technical for data collection. Through the analysis, three themes of significance were found: the influence of knowledge about type II diabetes and its consequences; conceptions about treatments and the relationship between doctors and patients; as well as the role of the family, and society in relation to the person with type II diabetes. It was found that people with type II diabetes have theoretical knowledge of the importance of taking medications correctly, and in accordance with prescriptions and medical guidelines, even those that admit of treatment disruptions, it was still verified that the family and the physician, are determining factors in adherence and preservation of treatment.*

**Keywords:** People; Diabetes; Medication; Adhesion; Treatment;.

### **Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #740**

## **Well-being to plus size fashion consumer**

**Ana Julia Büttner** (ESPM / Anhembi Morumbi, Brazil)

**Suzane Strehlau** (ESPM, Brazil)

### **Abstract**

*This research aim to understand well-being related to female plus size fashion consumer. The central premise is a possible relationship that well-being positively influences fashion consumption and fashion consciousness. Therefore it can be a predisposition that well-being, self-esteem and fashion consciousness of plus size women are low, because Brazilian retail limit their fashion consumption. Quantitative and qualitative will be the methodology used in this research, so a fashion consumption scale will be developed to measure these women's consumption combined with well-being, self-esteem and fashion consciousness. At the qualitative part interviews and iconographic analysis will be done about this women's plus size fashion consumer.*

**Keywords:** consumer behavior; fashion; plus size; well-being.

### **Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #745**

## **The shopping experience of the popular consumer in fashion retail**

**Andreia Bezerra Bessa Vieira Rocha** (ESPM, Brazil)

**Fábio Mariano Borges** (ESPM, Brazil)

### **Abstract**

*A recurring theme in the business community, and since the 1990s also in the academic community, is the shopping experience. Increasingly, it is necessary to offer a differentiated buying experience that is aligned with the company's brand purpose, in order to achieve the differentiation of a given product or service. This study investigates the experience of buying popular Brazilian consumers in fashion retail. Through the use of the qualitative methodology, with in-depth interviews with a sample of 13 participants, we sought to understand the relevant characteristics that consumers perceive in the shopping experience and how they impact on the purchase decision. The economic importance of retailing coupled with the relevance of the popular consumer market justifies the choice of the subject studied. The literature review covered the following topics: the retail sector, the fashion retail, the Brazilian popular consumer, and the shopping experience. The fieldwork brought a relevant panorama about the current experience of buying the popular consumer, such as their buying process, motivations and decision making process. It identified the main variables of the expectations in the purchase of clothes, and, above all, the satisfaction with the purchase. Finding everything in one place, at the right price, not necessarily the cheapest, in a clean and comfortable environment that provides them with welcome and well-being are the drivers of this experience. The research also concluded the main factors of the store atmosphere of this public. As a result, the store was identified and the popular customer experience.*

**Keywords:** Shopping Experience; Retail; Low income.

### **Acknowledgments**

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Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #747**

## **The influence of anthropomorphism on the intention to buy of consumers with high need of touch**

**Jussara da Silva Teixeira Cucato** (ESPM, Brazil)

**Eduardo Eugênio Spers** (ESPM/University of São Paulo, Brazil)

### **Abstract**

*Particularly in e-commerce the way the consumer receives and processes the information is unique, in this buying environment there is no personal interaction, nor the possibility of physical contact with the products. However, for some consumers touching is an important way to get information. Thus, some companies are committed to making their sites more receptive, leading consumers to a greater perception of interaction through social clues. Among social clues, there is communication between humans and computers. The adoption of anthropomorphising in e-commerce with the use of virtual assistants would be a good way to widen the social clues provided. Therefore, this study seeks to investigate to what extent anthropomorphization of virtual assistants impacts on the decision-making process of consumers purchasing with high need for touch. Thus, it is intended to perform three experiments with the manipulation of the variables in a controlled environment.*

**Keywords:** consumer behavior; need for touch; anthropomorphization; intention of buying.

### **Acknowledgments**

The present work was carried out with the support of CNPq, National Council for Scientific and Technological Development - Brazil.

*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #749**

**Internationalization of state-owned banks: A case study of Banco do Brasil, Bank of China and Westlb**

Jorge Ferreira dos Santos Filho (ESPM, Brazil)

Frederico Araújo Turolla (ESPM, Brazil)

**Abstract**

*This research studies the process of internationalization of Banco do Brasil, Bank of China and WestLB as commercial SOBs following the proposition that state-owned banks have specific intangible assets that benefits their process of internationalization. The theoretical framework is based on the classical theories regarding internationalization of enterprises and its applications to the internationalization of banks; specific literature related to state ownership; institutional approach and intangible asset. Through a multiple-case study of the above-mentioned companies, this study explores the unique characteristics and the idiosyncrasies present in the internationalization of large state-owned banks. The result of emprirical research support the main proposition of this study that state-owned banks banks have specific intangible assets that influence in their process of internationalization as well as the empirical evidence that these intangibles are related to specific ownership advantages deriving from state ownership highly correlated to specific knowledge company's reputation and country's reputation.*

**Keywords:** International Strategy; International Business; Bank internationalizationalizatio; State-owned banks..

**Acknowledgments**

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## **INTRODUCTION**

Despite the scant in the literature, the internationalization of state-owned multinational companies (SOMNCs) has become an important phenomenon in International Business (Cuervo-Cazurra et al, 2014). This lack of empirical studies of State-Owned Companies, and specifically State-Owned Banks (SOBs) is the motivation of this research.

As proposed by Rugman (2006), when banks internalize their ownership advantages by setting subsidiaries abroad, they generate new opportunities for the development of firm specific advantages. In addition, according to Qian & Delios (2008) banks internationalize in order to follow their domestic clients that go abroad and set up subsidiaries. Considering this rationale, bank internationalization is driven by maintaining the existing client base.

Qian and Delios (2008) also propose that banks undertake foreign direct investment to secure internalization benefits by following their existing clients, and to achieve economies of scale in the application of their intangible assets in international markets.

Complementing the argument proposed by Qian and Delios (2008), Wu (2009) states that brand is classified as an intangible asset of a company. Wu (2009) also argues that the literature mainly addresses the issue on brand equity of private firms and very little investigates the remaining effect with a particular focus on state-owned enterprises. But the author finds evidence that in recent years, state-run corporations began to respect brand value and assess its possible influence because the competitive environment grew more complex.

However, despite the importance of globalization of state-owned multinational companies, the phenomenon has not received attention yet in the literature (Cuervo-Cazurra et al, 2014). Also, state-ownership of banks is a neglected aspect by both financial systems of many countries and academic studies (La Porta et al, 2002).

While there is an entire field of Sociology and Economy devoted to institutional studies (Scott, 2001; North, 1999), and a solid foundation of IB studies dedicated to the role of intangible assets in the internationalization process of companies (Rugman, 1981; Dunning, 1980, 1993), there are considerably fewer studies dedicated to Multinational Banks (MNBs), because their difference from other multinational firms in terms of the nature of their product offerings, the information intensity embedded in their products, and the way that they internationalize (Qian and Delios, 2008).

The relevance of Commercial state-owned banks for the international financial system, the specificity of the phenomenon of intangible assets, and the lack of empirical studies on the internationalization of SOBs are the key drivers of this research.

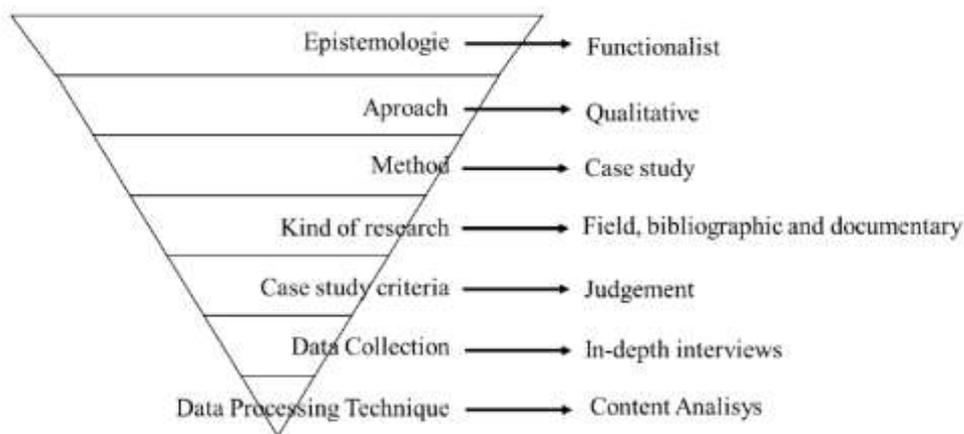
Based on the above discussed and recognizing the relevance of institutional environment for international business (Peng, 2004), the purpose of this research is to find evidence that state-owned banks have specific intangible assets that benefits their process of internationalization. To accomplish this purpose, the following research question is addressed:

*What are the specific intangible assets that benefit the internationalization of Commercial State-Owned Banks?*

Therefore, the main objective of this Master's Dissertation is to use an interdisciplinary approach to investigate the process of internationalization of Banco do Brasil, Bank of China and WestLB as state-owned banks considering proposition that state-owned banks have specific intangible assets that benefits their process of internationalization.

## METHODOLOGY

In order to achieve the proposed objectives of this research, the method adopted is a case study within qualitative paradigm. Also, this chapter address the functionalist epistemological approach (BURREL and MORGAN, 1979), the as well as the qualitative approach as a research method (CRESWELL, 2013; AUERBACH & SILVERSTEIN, 2003; KNOX & BURKARD, 2009). Based on qualitative research tools, a thematic analysis of participant's data collected from in-depth interviews and documents analysis is employed (EISENHARDT, 1989; BARDIN, 2010; YIN, 2010). The methodological procedures are described in the Figure 3 below.



Source: Adapted from Lima, 2010

## FINDINGS

The objective of this research was to investigate the process of internationalization of Banco do Brasil, Bank of China and WestLB as state-owned banks considering proposition that state-owned banks have specific intangible assets that benefits their process of internationalization.

As discussed in the section Case Analysis, empirical evidence supports the main proposition of this study that the state-owned banks analised have specific intangible assets that influence in their process of internationalization as well that these intangibles are related to specific ownership advantages (DUNNING, 1980; 1998; DUNNING; LUNDAN, 2008) deriving from state ownership (CUERVO-CAZURRA *et al*, 2014; ESTRIN *et al*, 2016), highly correlated to specific knowledge (ZANDER and KOGUT, 1995), company's reputation and country's reputation (WANG and YANG, 2007; WU, 2009).

The findings of the multiple case study supported as the earlier literature for the most part but also presents an incremental theoretical contribution in the sense that based on previous theoretical studies related to bank internationalization (NIGH *et al*, 1986; QIAN; DELIOS, 2008; WILLIAMS, 1997; BUCH; DELONG, 2004; FOCARELLI; POZZOLLO, 2005); institutional environment (NORTH, 1990, 1999; SCOTT, 2004; CANTWELL; DUNNING; LUNDAN, 2010; CAHEN, 2015); ownership advantages (DUNNING, 1979, 1980, 1998; RUGMAN, 1980; DUNNING; LUNDAN, 2008) and state-ownership (CUERVO-CAZURRA *et al*, 2014; LA PORTA *et al*, 2002; MICCO, PANIZA and YAÑES, 2007); and intangible

assets (DELIOS; BEAMISH, 2001; LEV, 2001; KOGUT; ZANDER, 1993) this research presents a theoretical explanation for the phenomenon of specific intangible assets of SOBs in their internationalization.

This study also proposes a scientifically useful contribution with a view that the research developed may contribute for future agenda related to SOBs and a practical contribution in the sense that decision makers of commercial SOBs may base their strategic decision based on the findings presented.

Finally, the results of this Master's Dissertation provide a setting for either validation or expansion of research.

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Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #750**

## **Male cosmetics consumption: A question of manhood, vanity and social segmentation?**

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### **Abstract**

*As society is shifting away from considering the consumption of some items exclusively for females, the so-called grooming market (the male cosmetics market) has grown quickly and attracted attention from both marketing professionals and academics. Thus, this research sought to understand the influence of vanity, manhood, social segmentation, age and marital status on male cosmetics consumption. The variables were defined through a deep analysis of previous literature, which resulted in five hypotheses: (H1) For men, the level of manhood (M) negatively impacts cosmetics consumption (C); (H2) For men, the level of vanity (V) positively impacts cosmetics consumption (C). (H3) Being part of the lower-middle class (S) negatively influences cosmetics consumption; (H4) Age (A) has a moderating effect on a) vanity (V) in cosmetics consumption b) manhood (M) in cosmetics consumption; (H5) Marital status (R) has a moderating effect on a) vanity (V) in cosmetics consumption. b) manhood (M) in cosmetics consumption. Based on a sample of 476 Brazilian men, data were analysed by quantitative methods such as linear regression and factor analysis. Only two out of five hypotheses were confirmed, however, it revealed that vanity, manhood, social segmentation and marital status are statistically significant as a predictor variable for cosmetics consumption. Vanity and manhood positively influence consumption and individuals from the lower social classes consume more cosmetics than those from the higher classes. Regarding the expected moderators, the marital status does moderate the effect of vanity on consumption, however, age was correlated to it, hence, it taken away from the model. These results have broadened the scope of the literature on the subject and enabled the recommendation of marketing strategies for managers in this sector.*

**Keywords:** Cosmetics; Men; Vanity; Socioeconomic Segmentation; Consumer Behaviour.

### **Acknowledgments**

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## **PURPOSE**

As society is shifting away from considering the consumption of some items exclusively for females, the so-called grooming market (the male cosmetics market) has grown quickly and attracted attention from both marketing professionals and academics. Thus, this paper sought to understand how the variables of manhood, vanity and social class influence the consumption of male cosmetics.

## **RELEVANCE AND CONTRIBUTION**

At a thriving pace, men are expanding their space in the cosmetics market, which has gradually ceased to be dominated by female consumption. In 2017, the so-called Men's Grooming segment posted sales of almost US\$50 billion globally, and R\$20 billion in Brazil, which is equal to 19.3% of the cosmetics market share in that year compared with 14.8% a decade earlier (EUROMONITOR, 2017).

To identify the unexplored gaps and the main variables attached to the grooming consumption, a deep dive through the previous literature was performed. The theory holds that men still feel uncomfortable with female element associations to their male image (Elliott and Elliot, 2005). However, rules, motivations and the outline of consumption aren't always clear (Gill et al., 2005, Ricciardelli, 2011, Mcneill and Douglas, 2011; Oliveira Júnior and Cancela, 2012; Rieder et al., 2015). Thus, our findings add to the growing body of work at the nexus of male cosmetics consumer behaviour.

## **ORIGINALITY AND VALUE**

The potential and magnitude of the male cosmetics segment is notable, as is the lack of theoretical background on consumer behaviour in this niche, more specifically in terms of a quantitative approach and variables such as manhood, vanity and social class. Therefore, this dissertation improves the literature of the subject, clarifying how variables of manhood, vanity and social class influence the consumption of male cosmetics in a wider, more generalizable, perspective than previous research that adopted qualitative techniques in other boundary conditions.

It also shows how the resulting theory turns into recommendations of marketing strategies to the managers of the segment, to provide sales increase and well-being to male cosmetics consumers.

## **THEORETICAL BASIS**

Previously, only the female beauty pattern was required, today it also extends to men. The metrosexual attitude allows men to take care of their appearance and made them realize that they don't have to be sloppy to affirm their masculinity (Oliveira Júnior and Cancela, 2012). Other than functional benefits, some cosmetics have many other associated relevant meanings for example, as a facilitator of social and loving relationships (Oliveira e Leão, 2011). Although, the problem solution usage still prevails and is preferred as a justification for use (Mcneill and Douglas, 2011).

Many say that the buying and spending intension of grooming products is much more linked to vanity than to the income itself. (Priyadarsini, 2009; Caimbro, 2012; Cheh, 2014). The working class is willing to spend on beauty not as a form of conspicuous consumption, but rather to draw closer to the aesthetic deal (Jarrin, 2011).

Regarding the demographic characteristics of the consumers, all the studies in which the segmentation by age was explored, the youngsters are most susceptible and with greater intentions of purchase of grooming products (Priyadarsini, 2009). Nevertheless, the previous literature has never studied the Brazilian youth. Furthermore, women, either as objects of conquest or experts, are the main cosmetics consumption influencers. (Thota, Hermosillo, et al., 2014)

## **METHODOLOGY**

The deep analysis of previous literature, briefly summarized above, resulted in five hypotheses: (H1) For men, the level of manhood (M) negatively impacts cosmetics consumption (C); (H2) For men, the level of vanity (V) positively impacts cosmetics consumption (C). (H3) Being part of the lower-middle class (S) negatively influences cosmetics consumption; (H4) Age (A) has a moderating effect on a) vanity (V) in cosmetics consumption b) manhood (M) in cosmetics consumption; (H5) Marital status (R) has a moderating effect on a) vanity (V) in cosmetics consumption. b) manhood(M) in cosmetics consumption.

A quantitative approach was adopted through a survey applied to men aged 18 years or over and from various social classes. As instrument, a questionnaire composed of four blocks of inquiries of demographic characteristics and validated scales were used: Cash and Cash (1982) for cosmetics usage, Stern, Barak and Gould (1987) for manhood and Netemeyer et al. (1995) for vanity.

The data were collected through an electronic questionnaire made available on digital platforms such as Facebook and WhatsApp and by approaching men in public places such as parking lots, restaurants and malls.

## **RESULTS AND IMPLICATIONS.**

Based on a sample of 476 Brazilian men, data were analysed by quantitative methods such as linear regression and factor analysis. Among the expected moderators (age and marital status) collinearity was found, and this prevented both from being incorporated into the model. Consequently, only marital status was used as a moderator. The results allowed to deepen the theory on male cosmetics consumption trough the estimation of a model that projects the men's cosmetics consumption with the variables of vanity, masculinity, social class and civil status (Table 1). It resulted in a statistically significant 79.87% R<sup>2</sup> (p-value < 0.001) with the following equation:

$$C = 24,07 + 0,82 M + 0,44 V + 1,19 S - 24,77 R - 0,95 MR + 0,95 VR$$

The model indicates that consumption is positively influenced by vanity and, contrary to intuition, by both manhood level and belonging to lower social classes, which is surprising, but converges with the ideals of some other authors. Additionally, it was found that most of the cosmetics used were functional ones, and the least used were the products for specific hedonic needs. The epitome of results is illustrated in Table 2.

Therefore, when designing marketing strategies, companies can develop product, distribution and service tactics that specifically meet men's needs and enhance their characteristics. They should emphasize that the cosmetics consumption can bring tangible benefits that can help them to achieve professional and relationship success. Firms ought to also practice affordable, cost-effective prices to capture the promising lower-class market.

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## APPENDIX

Table 1 - Multiple Regression

Term	Coef.	EP Coef.	T -Value	P-Value	VIF
Constant	24,07	1,43	16,87	0,000	
Manhood Index	0,818	0,218	3,75	0,000	3,51
Vanity Index	0,4357	0,0846	5,15	0,000	1,20
Social class (Middle-Low)	1,193	0,383	3,11	0,002	1,03
Marital status	-24,77	1,73	-14,30	0,000	17,49
Masc. vs. Marital status	-0,955	0,261	-3,65	0,000	16,39
Van. vs. Marital status	0,9523	0,0253	37,58	0,000	5,04

Source: Prepared by the author in Minitab 18.1, 2017.

Table 2 – Results Epitome

Hypothesis	Variable	Type	Description	Expected Signal	Result	Model Signal
H1	Manhood (M)	Continuous	M → C	-	Refuted	+
H2	Vanity (V)	Continuous	V → C	+	Confirmed	+
H3	Social class – Middle - Low(S)	Dummy	S → C	-	Refuted	+
H4a	Age	Discrete	$\begin{matrix} A \\ \downarrow \\ M \\ V \end{matrix} \rightarrow C$	-	Refuted	∅
H4b	(MA e VA)			-		
H5a	Marital status	Dummy	$\begin{matrix} R \\ \downarrow \\ M \\ V \end{matrix} \rightarrow C$	+	Confirmed	+
H5b	(VR e MR)			+		

Source: Prepared by the author, 2017.

Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #752**

## **Emotional commitment, loyalty, and brand loving: The construction of relationships between students and higher education institutions**

**Breno Brossard de Mello Carvalho** (ESPM, Brazil)

**Luciana Florêncio de Almeida** (ESPM, Brazil)

### **Abstract**

*Currently, education in Brazil is a sector with many competitors, who have bet on the potential growth of the sector in the country, given its notorious public educational deficit. In this context, strategies of differentiation by HEIs become necessary in the search for attraction and loyalty of students. The purpose of this work was to investigate the strength of the antecedents social and academic integration, perceived quality and confidence in the emotional commitment with HEI and its relation to loyalty, as well as to test the impact of loyalty to HEI on the love of the brand. The proposed conceptual model was based on the seminal study of Hennig-Thurau, Langer, Hansen (2001), as well as on the applications of the model of the referred authors in the Brazilian context, among them, Bergamo (2008), Marques (2008). As an additional contribution, the addition of the brand love construct as a result of loyalty was proposed and operationalized. Next to the model was added the concept of love the brand of Loureiro, Vrontis, Kaufmann (2014) as a result of student loyalty. In the empirical field, a survey was carried out with 306 students from an HEI located in the city of São Paulo. The present research made it possible to highlight the strength of three antecedents in the construction of students' emotional commitment to HEI: social and academic integration, perceived quality and trust. These results are in line with previous studies by Bergamo (2008), Marques (2008) and Henning-Thurau, Langer and Hansen (2001). As an additional result to the previous empirical research, it was also verified that the love of the brand is a result of the student's loyalty to HEI. In this way, the greater the emotional commitment, the greater the student's loyalty and, consequently, his love for the brand. These results confirm the findings of previous studies conducted in the Brazilian context, as well as add a new significant relationship between student loyalty and brand love*

**Keywords:** Inteligência de mercado, Lealdade; Amor à Marca; Comprometimento Emocional..

### **Acknowledgments**

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Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #753**

## **Consumption Occasion, choice and willingness to pay for sustainable attributes on Beef**

**Pedro Carvalho Burnier** (ESPM, Brazil)

**Eduardo Eugênio Spers** (ESPM, Brazil)

### **Abstract**

*Sustainable consumption can be the result of a decision-making process that considers not only the individual needs of consumers (related to taste, price and convenience) but also attitudes towards social responsibility, sustainable labelling and sustainable food production. This paper evaluates the influence of the socio-environmental dimension on the purchase intention and the desire to pay for beef with sustainable attributes. Based on a Discrete Choice Analysis Model, sixteen (16) hypothetical products were generated and eight (8) scenarios were evaluated to measure the Probability of Choice (POC) and the Willingness to Pay (WTP) regarding different socio-environmental attributes of beef. The innovative aspect of this research is to propose an evaluation of the influence of attributes exclusively related to socio-environmental sustainability and the willingness to pay (WTP) for beef, assessing consumers from Brazil, a developing country with significant production and consumption of this product. With regard to the sustainability attributes included in the study, one is related to the animal itself (animal welfare); others are related to the production process (traceability), effects on the environment (greenhouse gas emissions - CO<sub>2</sub>) and finally to the product itself (as a sustainable brand). Different consumption situations were analysed to check the influence of functional versus recreational/hedonic beef choice. The findings confirm the importance of the attributes animal welfare and traceability in the decision making process of beef purchase. The study also indicates that presence of a known brand, influence the choice of beef in a functional (day-by-day) purchase when compared to a hedonic purchase. Results suggest that the beef industry and retailers should better explore the aspects of carbon emissions and animal welfare on their communication strategies. Investigating the trade-offs between socio-environmental attributes allows a more in-depth evaluation of these attributes and contributes to the existing literature.*

**Keywords:** Sustainability; Beef; Attributes; WTP; Consumers; Choice..

### **Acknowledgments**

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

## **INTRODUCTION**

Sustainable consumption can be the result of a decision-making process that considers not only the individual needs of consumers (related to taste, price and convenience) but also attitudes towards social responsibility (environment and fair trade), sustainable labelling and sustainable food production.

The first contribution of this research is to propose an evaluation of the influence of attributes exclusively related to socioenvironmental sustainability and its intention to pay in beef. Knowing the trade-offs between the socioenvironmental attributes allows an evaluation of these attributes and contributes in the accomplishment of new research, expanding the existing literature. Thus, the specific objective in this study is to examine the Willingness to Pay (WTP) based on the valuation of the attributes of sustainability on Beef. Another contribution of this research is the fact that there are several studies on food sustainability, especially meat in developed countries, while little research is focused on emerging countries, such as Brazil, that has a different cultural relationship with the product and a higher consumption rate (kg/inhab).

In general, the literature covers some consumer behavioral aspects and their sensitivity to price at different purchase occasions, or even market segmentation for functional or hedonic goods. However, few studies were found regarding the relevance of attributes that influence food choice, in this case beef, on different occasions, functional or recreational (hedonic). In this study, we sought to fill this gap found in the literature.

## **THEORETICAL BACKGROUND**

Studies on beef attributes have focused on the discussion of the intrinsic characteristics of this product. In addition to the intrinsic attributes related to meat quality, other research included sustainability attributes in the estimation of the willingness to pay for food (STRANIERI; BANTERLE, 2015; ZANOLI et al., 2012).

Regarding the sustainability attributes that will be examined in this study, one is related to the animal itself (animal welfare - AWE); other to the production process (traceability); another to the effect on the environment (greenhouse gas emissions), and finally, one attribute refers to the sustainable brand that seeks to validate attributes of sustainability.

Animal welfare (AWE), in Brazil, is related to the good practices used during the different stages of the production process, ensuring, among other things, the absence of animal maltreatment. Animal welfare was mentioned in several studies as an attribute directly related with sustainability (BARCELLOS et al., 2009; OLIVEIRA; SPERS, 2018; CAPUTO et al., 2018).

Traceability refers to food safety issue, which is required for attribute verification, such as origin. Therefore, it is expected that traceability will be valued by the consumer (LOUREIRO; UMBERGER, 2007). Cicia and Colantuoni (2010) demonstrated that consumers from different countries give value to traced meat.

A lower greenhouse gases (GHG) emission is an attribute related to climate change and hence to global warming. GHG effects are related to "local food" (MAGISTRIS; GRACIA, 2016). "Carbon Footprint" measures the reduction of these emissions and positively influences the consumer's WTP (CAPUTO et al., 2018)

The use of a sustainable brand or label as a way to tangibilize credence attributes was discussed in the studies conducted by Ubilava et al. (2011).

## **METHODOLOGY**

Two distinct steps were taken to conduct the work in this investigation. Initially, a qualitative research (in-depth interviews with specialists and focal group) was carried out in order to identify some attributes that could represent the consumer's concern regarding socio-environmental issues. Then, a quantitative step was carried out to measure the WTP of the consumer in relation to the selected sustainable attributes. Based on a Discrete Choice Analysis Model, sixteen (16) hypothetical products were generated and eight (8) scenarios were evaluated to measure the Probability of Choice (POC) and the Willingness to Pay (WTP) regarding different socio-environmental attributes of beef.

With regard to the sustainability attributes included in the study, one is related to the animal itself (animal welfare); others are related to the production process (traceability), effects on the environment (greenhouse gas emissions - CO<sub>2</sub>) and finally to the product, as a sustainable brand. Different consumption situations were analysed to check the influence of functional versus hedonic beef choice. An online survey with 572 beef consumers was carried out including two purchase occasions (hedonic/ barbecue and functional/day-by-day occasion).

## **RESULTS**

Table 1 presents comparative data from the WTP, considering the two "manipulated" occasions, in which the respondent indicated his choice considering a beef purchase for day to day use (functional) or to use in a BBQ (hedonic). For the HEDONIC model, we considered the analysis, the base variables, such as female gender and absence of brand, traceability and certification of Animal Welfare (AWE).

### **\*\*\*\*\* TABLE 1 ABOUT HERE \*\*\*\*\***

The willingness to pay (WTP) for certification of animal welfare is higher than for uncertified beef. These results are consistent with findings of Caracciolo et al. (2010), which show that the AWE is recognized as one of the most important credibility characteristics for consumers.

The WTP for beef that contributes to the reduction of GHG emissions was not significantly higher than that of meat that does not contribute to it.

The willingness to pay for a traceable meat is greater than for one without this attribute. Being the traceability to the slaughterhouse identified as more important than that to the farm.

For a known brand and for a sustainable brand, the willingness to pay is greater when compared to that of an unknown brand; being the WTP of the known brand greater than the sustainable one.

The attribute of sustainability linked directly to the animal (animal welfare) and to the production process (traceability) seems to be more easily understood by the consumer, while environmental attributes (GHG emissions) are hardly perceived / understood by the consumer, the which in a way may explain the non-significance of the results of the GHG emission reduction attribute. More clear and enlightening information on emissions would therefore be needed.

The findings confirm the importance of animal welfare and traceability attributes in the decision-making process of beef purchase. The study also indicates that a) frequency of consumption; b) gender, and c) the presence of a known brand influences the choice of beef in a functional (day-by-day) purchase when compared to a recreational/hedonic (barbecue) purchase.

## **CONCLUSIONS**

Results suggest that the beef industry and retailers should better explore the aspects of carbon emissions and animal welfare on their communication strategies. There is space for the development and positioning of products/brands with socio-environmental attributes as part of the benefits offered at the market. Industry can increase consumer trust by using clear labels and assurance schemes that are backed by brand values, which may ensure a greater degree of transparency and better communication of its products. The consideration of traceability aspects along the entire beef supply chain is essential. Finally, investigating the trade-offs between socio-environmental attributes allows a more in-depth evaluation of these attributes and contributes to the existing literature.

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**Table 1- Additional WTP compared with WTP base \* (R\$)**

ATTRIBUTE	Manipulated Ocasion	
	FUNCTIONAL	HEDONIC
Certified Animal Welfare (AWEC)	23,87	31,72
Traceability to Slaughterhouse (TRACSLAU)	14,97	17,07
Traceability to Farm (TRACFARM)	9,74	10,53
Known Brand (KnownBRAND)	13,53	20,15
Sustainable Brand (SustBRAND)	10,83	18,18
Male Gender	-8,75	6,86
Consumption 1 - 3 times a week	11,28	6,81
Daily consumption, <i>heavy user</i>	33,84	20,42
Education level (Low)	12,02	3,20
Educational level (High)	-16,50	15,98

\* Note: \* WTP base = female, no traceability, no brand, no animal welfare certification

Source: authors, 2018.

Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #754**

## **Farewell consumption and rituals: Processes of choice and decision of purchase in the premium funeral ceremonies of the city of São Paulo and metropolitan region**

**Ligia Prada Santos** (ESPM, Brazil)

**Fábio Mariano Borges** (ESPM, Brazil)

### **Abstract**

*This research project tries to investigate how the processes of choice and decision of purchase in the funeral ceremonies happen. To understand consumption during a funeral ceremonial, it will be essential to analyze the weight and degree of importance of the mourner's emotion versus the cost-benefit factor. The proposal is to investigate how, faced with so many options and novelties, to the detriment of the very little time it takes to reflect and execute the purchase, the consumer absorbs the information and decides. Other factors such as the disclosure of funeral products and services and the approach of the agents responsible for the sale will be investigated for a better understanding of the whole process. The theoretical basis goes through Sociology since the structure and functioning of the funeral market would be a consequence of processes widely studied by Baudrillard (1995), Debord (2006), among others. On the contemporary condition of death, the authors Ariès (2003), Morin (1997) and Maranhão (1986) represent the choices made. The methodological approach adopted was the use of qualitative research, through semi-structured interviews, to capture in-depth information from the interviewees, through the freedom proposed by the method. The study provides for interviews with two segments of subjects: the decision maker for the purchase of services and products more common (family close to the dead) and entrepreneurs of the funeral market: undertakers and entrepreneurs of the sector. The expected results include the mapping of information that guides the processes of choice and decision making, as well as the possibility of in-depth knowledge of how this market, in a frank expansion, acts to impact and communicate with its consumers.*

**Keywords:** Consumer Behavior; Premium; Death; Rituals; Funeral Market..

### **Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #755**

## **Sports sponsorship under a gender perspective**

**Sandra Maira Siqueira Naves Leite** (ESPM, Brazil)

**Cristina Helena Pinto de Mello** (ESPM, Brazil)

### **Abstract**

*The aim of this study is to examine the determinants factors that impact on sports sponsorship managers decision. Moreover, we compare if these factors are the same for the male and female category. The development of academic studies on sports sponsorship gains more relevance since the late 1990s, following the growth of this industry. This industry moves trillions of dollars a year through sponsorship, ticket sales, licensing and sale of products, broadcasting rights, royalties, events, and sports agencies. The popularity of major events is supported by continuous improvements in technology, which allows for greater coverage and better quality. In this context, opportunities are created for television broadcasters to engage social media in the engagement of fans and deliver a more intense experience to the sports consumers. Results point to that all groups interviewed showed convergence in one point: the balance in relation to the coverage of women's and men's volleyball. The choice to sponsor a specifically female mode was observed in only one company intentionally. The other companies in the women's group invested in sponsorship as an opportunity for sponsorship. It was pointed out that sports properties and sponsors should exploit the presence of passion to try to transfer it to brands and to stimulate increased consumption. Finally, the sports property manager considers a major challenge in stimulating the consumption of sports to follow the games and the championships, either by television or in the gymnasiums, given the innumerable opportunities of choice that this consumer has and the various stimuli which he receives.*

**Keywords:** Sports Sponsorship; gender; investment; consumer behavior; business intelligence;.

### **Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #756**

**Share to get: A study on the shared car consumer via traffic application in the city of São Paulo**

**Daniela Cunha Fernandes Miranda** (ESPM, Brazil)

**Suzane Strehlau** (ESPM, Brazil)

**Abstract**

*Faced with the need for locomotion and the lack of infrastructure of urban mobility in large cities, consumers are increasingly seeking alternatives and sharing roads and vehicles in traffic. Even with the growing importance of sharing either services or goods (BOSTMAN.ROGERS.2011), literature has been little explored on this subject. From this scenario, the Collaborative Economy supports and supports the studies of this dissertation that aims to identify the profiles of the users of transport by shared and private application in the city of São Paulo, listing factors that make this service relevant or not for this consumer. We applied a qualitative approach with in-depth interviews with 22 people, users of Uber and Uber Juntos applications, aged between 22 and 54 years. The results point to two user profiles; a more sharing, who has collaborative habits in his day to day and the other less sharing, that gives priority to services with more privacy and individuality. Among the most cited factors for engagement in the shared service, Trust appears more prominently and is also pointed as the main reason for the refusal to use this type of service. Factors such as price, quality, and socialization are also among the principles pointed out for engagement in shared mobility and sustainability does not appear as a potential enabler for the choice among respondents.*

**Keywords:** Consumer Behavior; Shared Economy; Shared Mobility; Transportation; Urban Mobility..

**Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #757**

## **Internationalization process of Argentinean wine companies under the capability matrix**

**Luis Eduardo Maturano Cipolla** (ESPM, Brazil)

**Ilan Avrighir** (ESPM, Brazil)

### **Abstract**

*The process of internationalization in emerging economies' companies, from the point of view of insertion in the Global Value Chain, is the object of study of several researchers. The companies seek insertion in Global Value Chain through capability for the international market, by using an array of Upgrade mechanisms, among them, improvements in product, process, or in the expansion of the technological functions in the company's activities or inter-sectorial. The objective of this paper is to analyze the upgrade mechanism, using as a case study the Argentinean winemakers. Through knowledge accumulation, the value companies add to their products as well as the interpretation of the results are presented on the Capability Matrix, developed by Sato and Fujita (2009). The empirical study has been conducted through multilevel, exploratory case study (YIN, 2005), in wine companies located in Mendoza, Argentina. The main contribution of this study is the interpretation of the results using the Capability Matrix from Sato and Fujita (2009), considering the deep knowledge acquired over the decades from 1996 to 2016 describing the evolution of companies in relation to the knowledge accumulation process. Findings were these processes are related to the performance of companies in the international market, which gradually seek to be included in the Global Value Chain in the wine sector.*

**Keywords:** Capability matrix; Global Value Chain; Upgrade.

### **Acknowledgments:**

I thank the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) Brasil, for the PROSUP scholarship, that supported and allowed the completion of the academic Masters in International Business at ESPM – Brasil, and professor Dr. Ilan Avrighir, my supervisor for the dissertation.

## **PURPOSE**

The purpose of this business case is to work with two concepts in literature: the upgrade in Global Value Chain (GVC) by Gereffi, Humphrey and Sturgeon (2005) and Technological Capability (TC) approach of firm-level learning and technological development to understand the acquiring of competence in the wine industry, when they seek the international marketing.

## **DESIGN / METHODOLOGY / APPROACH**

The paper reviews the GVC and TC literature focusing in two conceptual elements: the upgrading in GVC and the acquiring competence in TC, analyzing the combinations of these elements in the Capability matrix. The research was done in Mendoza-Argentine contacting the emerging multinationals winemaker's industry. The empiric work was collecting documents, visiting the main winemakers, interview enologists, managers.

## **FINDINGS**

The empirical work acknowledges the local factors that led Emerging-MNE to compete in the international market using the frame of GVC, by mean of upgrade in their production. Also, seeking for innovation to gain international recognition for their products, using the cycle mechanism from operative, then assimilation, after adaptation and finally to innovation, in all steps of the firm activities. Wine companies alongside the decades 1980 to 2016 work from operative process, to assimilation of foreign technologies and knowledges from foreign oenologists and then to adaptation to foreign market conditions up to innovation testing and launching varietals wines with local personality to fit international tastes.

Also, the paper acknowledges this mechanism and the changing in the companies in the main stages of wine production, from raw materials to field experiments to wine production and finally to the marketing / export / and recognition from specialized experts, magazines, contexts.

## **ORIGINALITY / VALUES**

The paper shed light how GVC and TC approaches together can explain the upgrading and success of agroindustry from emerging economy, can produce high quality goods, and to get international recognition. The main contribution of this work is the synthetization in the Capability Matrix, developed by Sato and Fujita (2009), joint these two literature approaches to interpretation the innovation path of the winemaker industry in two different decades to evaluate the development in the appropriation of the knowledge and techniques.

As a business case, we borrow the conclusions an implications for future research from Bell and Figueiredo (2012) whose recommended study the role of learning mechanisms in explain differences and similarities across latecomers firms in terms of the accumulation of non-technological capabilities, such as those for marketing, administrative, logistic and financial activities, in association with the accumulation of technological capabilities for production and innovation activities.

The Capability Matrix, as shown in the FRAME 1, is an empirical result, indicated the mechanism to engage in global chains and entering export market with upgrading of capabilities adapted for Emerging MNE in a winery industry.

To achieve a competitive position, the firm must to compromise resources in personal, financial, materials, time in a costly process in technological learning.

The challenge, in this business case, is to recognize the utility of the Capability Matrix for companies that use only partially their degrees in a specialized, but not dispendious manner. Some examples, but not limited to, are suggested in the following questions to debate:

To be an expert in the line of operational plan / pre-production / production for third part in a trajectory involving levels as assembly, OEM / ODM and OBM?

To become a specialized firm in the “column” Production, i.e. efficiency, cost wise effective, developing from operative to innovative in a single product?

Conversely, the organization can center their efforts in planning/ R&D / design of products, production, and marketing and leave the production for third parts, i.e. centered in non-technological activities but equally important to achieve competitive position in international market?

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #760**

## **Study of the dynamics of knowledge transfer in business networks**

**Fábio Câmara Araújo de Carvalho** (ESPM, Brazil)

**Júlio César Bastos de Figueiredo** (ESPM / FGV, Brazil)

### **Abstract**

*This research aimed to model the dynamics of knowledge production and the formation and maintenance of business networks based on the theory of the absorptive capacities, using a computational model based on an agent programming approach that allowed to analyze the behavior of network companies from the probability of collaboration between them, to comprehend the dynamics of the business network for different rates of obsolescence of knowledge and to understand the influence of internal and external absorption capacities of the companies in the formation and maintenance of business networks. As a result, among the 128 simulated scenarios, in 75% of the cases, companies establish themselves in networks that remain stable, while in 25% of the scenarios, firms disappear by combining the high obsolescence of knowledge and the time typically invested in the absorption of knowledge. As a contribution, this work advances methodologically in the understanding of the dynamics of knowledge transfer in business networks, highlighting the need for greater investment in the internal absorptive capacity for better use of external knowledge and absorption exchanges.*

**Keywords:** Business Networks; Knowledge Transfer; Absorptive Capacity; Agent-Based Modeling; Netlogo; Innovation.

### **Acknowledgments**

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #762**

**The effect of consumer self-confidence and hedonic-  
utilitarian consumption in anchored willingness-to-pay  
responses**

Joanna Carolina Guarita Douat (ESPM, Brazil)

Mateus Canniatti Ponchio (ESPM, Brazil)

**Abstract**

*Previous research on anchoring specifies that random numbers can influence human judgment and decision-making. Nevertheless, deviation results in the level of this influence suggests that in some conditions the anchoring phenomena can be increased or reduced to zero. This study advocates that anchoring effects results are not universal and predicts consumer self-confidence and product category (utilitarian vs. hedonic) as underlying factors for consumers' susceptibility to anchoring effect.*

**Keywords:** Anchoring Effects; Consumer Self-Confidence; Hedonic-Utilitarian Consumption.

**Acknowledgments**

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001.

## **EXTENDED ABSTRACT**

Previous research on anchoring specifies that random numbers can influence human judgment and decision-making. Nevertheless, the results contrast about the extent of this influence, suggesting that in some conditions the anchoring phenomena can be increased or reduced to zero. According to Sugden et al. (2013), there has been little systematic investigation of the determinants that affect the power and strength of anchoring effects. Besides, mixed results demonstrating anchoring effects opens up new room for research explaining the influence of anchoring effect, since no single mechanism can fully account for the phenomena.

The main objective is to evaluate if consumer self-confidence, a personal trait, affects the robustness of anchoring effects in the same way as product category (hedonic versus utilitarian). The fact that prior studies referring arbitrary values and consumer valuation have not reached a consensus reinforces the relevance of the paper.

Over the past forty years, theories of the anchoring-effect mechanism have risen, but unfortunately, extant theories have not fallen. According to Anchoring-and-adjustment theory, established by Tversky and Kahneman's (1979), anchor values serve as a reference for respondents to adjust the boundary of the range of plausible values for the question, even when the anchor provided does not hold any information on the estimated good.

However, considering to the current dominant view of the anchoring paradigm Theory of Selective Accessibility, individuals test out the hypothesis that the correct answer corresponds to the anchor value. In this case, it works as a confirmatory search mechanism, through which people focus more on the similarity between the target and the anchor than on differences between them. Finally, the most recent addition to the anchoring theories is the Scale-Distortion Theory. According to this theory, individuals map judgments to an underlying response scale and it proposes that the anchor informs the scale with which the judgment is made.

Despite the differences, all the above theories share the proposition that the anchor is a source of information, in one way or another, that influences judgments. Although anchoring appears to be a robust psychological phenomenon, not all individuals (nor products) are equally influenced by anchoring cues.

The identification of factors that influence how and in what ways a person is susceptible to anchoring effects is the central topic and the paper intends to investigate if (a) Consumer Self-Confidence or (b) hedonic-utilitarian consumption can be influential factors for the magnitude of the anchoring effect in consumers' willingness-to-pay.

Consumer self-confidence (CSC) refers to individual assessments of one's ability to build positive experiences as a consumer in the marketplace. According to Bearden, Hardesty, and Rose (2001, p.122), CSC is defined as "the extent to which an individual feels capable and assured with respect to his or her marketplace decisions and behaviors".

According to Khan and Dhar (2004) hedonic goods are multisensory and its consumption provides fun, pleasure and excitement. The consumption of these products enhances in emotional pleasure and evokes feelings of happiness within the consumer. Utilitarian consumption, on the other hand, consist of basic requirements of life that cannot be avoided or denied, such as food (Khan; Dhar & Wertenbroch, 2004, p.4), and is motivated by functional product aspects.

Schkage and Johnson (1989) were pioneer in developing an experimental design that is now the most widely used protocol for experiments that estimate anchoring effects. There are some

small variations, but the experimental design usually follows the same basic steps. Consumers first assess whether they are willing to buy a certain product at a specific price (with a low or high anchor), and then they indicate the highest price they would accept to pay for the product. (e.g., Ariely, Loewenstein, and Prelec 2003; Tversky and Kahneman 1979). In all the studies mentioned in this paper, the anchors were experimenter provided and followed the standard anchoring paradigm.

The conceptual framework proposed in this research connects consumer self-confidence (individual trait) and product category (hedonic-utilitarian consumption) to the power of anchoring effects on participants' willingness-to-pay valuation, both working as moderate variables.

In order to evaluate this relation, three hypotheses were formulated and graphically represented on figure 1.

*H1: There is a positive relationship between anchor and consumer's willingness-to-pay (anchoring effect)*

*H2: The anchoring effect will be greater when consumer self-confidence is higher (moderation 1)*

*H3: The anchoring effect will be greater when hedonic products are consumed (moderation 2)*

The methodological approach consisted of two 2x2 between-subjects design experiment.

350 undergraduate students, from two North-American universities, were randomly assigned to one of the four products: high-end bathtub (large *Jacuzzi*); low-end bathtub (plastic *Bathtub*); high-end pen (*Montblanc* style); low-end pen (*Bic* style) and no brands were given or shown. The product was manipulated with an anchor that could be low or high.

The respondents fulfilled a questionnaire that adopted the BHR Consumer Self-Confidence scale (2001). After this task, they have stated how much confident they considered themselves as a consumer, for manipulation check. Given the data collected, some moderation analyses were performed, considered the three previous hypotheses.

The models statistically proved that there is a relationship between hedonic-utilitarian consumption and consumer's willingness-to-pay, for both models: when considering the product category as a single moderating variable and when considering product category and consumer self-confidence as both moderating variables. Utilitarian category has lower willingness-to-pay values, while hedonic category has higher willingness-to-pay values, allowing to state that hedonic-utilitarian consumption has a significant effect on willingness-to-pay for the products tested.

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Track 22 Special Poster Session - Master's & Ph.D. Dissertations

**ID #766**

## **Determinants of subnational location of foreign direct investment in emerging economies**

**Paulo Kazuhiro Izumi** (ESPM, Brazil)

**Mario Henrique Ogasavara** (ESPM, Brazil)

### **Abstract**

*The shift in the locational pattern of foreign direct investment towards emerging economies has generated a growing interest of international business research. At the same time, the literature increasingly recognizes that the nation as a unit of analysis is rather limited and now considers subnational places as a more appropriate level for examining multinational enterprise strategies. The purpose of this thesis is to identify and estimate the determinants of the subnational location of foreign direct investment in emerging economies. Based on contributions from international business, new economic geography, and institutional theory, the research uses an integrated conceptual framework to assess the impacts of a set of firm-level, host-country and subnational-level advantages on location in global cities of emerging economies. From a sample of 982 foreign subsidiaries of Japanese multinationals established in countries in Africa, Europe, Latin America and Oceania, the results of the application of multinomial logistic regression models showed that the global cities of emerging economies have a strong attraction for investment. The size of the subsidiaries is inversely proportional to the location in the global city hierarchy. More experienced and service-based subsidiaries are prone to locate within global cities, as opposed to the less experienced manufactures, which tend to settle in peripheral cities. The main sub-national determinants are the locational advantages related to market size and potential market demand, evidencing differences between global cities of the South and their congeners in advanced economies. The ease of doing business in countries and regulatory complexity exert a centrifugal force, driving investment out of global cities. The study contributes to international business literatures, economic geography, and institutional theory by demonstrating that the city is the most relevant unit for global FDI localization strategies and subnational institutional heterogeneity has an impact on these decisions. Attributes of cities in emerging economies, even under the label of global cities, are specific and their effects on the behaviour of the multinational enterprise must be evaluated particularly. The study enriches our understanding of the locational determinants of foreign direct investment and transposes the existing literature by focusing on the subnational context in emerging economies.*

**Keywords:** Location Choices; Foreign Direct Investment; Subnational Location; Strategy; Global Cities; Subnational Institutions; Subsidiaries.

### **Acknowledgments**

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001

## **PURPOSE**

The purpose of this study is to identify and estimate the determinants of the choice of subnational location of foreign direct investment in emerging economies. From an integrated perspective, this study aims to broaden the knowledge and theory related to multinational enterprise (MNE) subnational investment decisions in cities of emerging economies.

## **RELEVANCE/CONTRIBUTION**

IB literature has traditionally focused on the country as a recipient of FDI, disregarding the subnational heterogeneity present in FDI location behaviour within countries (Arita & McCann, 2002; Chidlow, Salciuviene, & Young, 2009; Mariotti, Piscitello, & Elia, 2010). The location choice of FDI, besides being complex because it involves multidimensional aspects, is critical, since it affects strategically and operationally the success of the investments abroad. MNEs should decide not only the country where to establish their operations, but also the location within them. A combination of variables such as headquarters strategy, firm attributes, country of origin, host country, and location advantages compose important considerations for investors' decisions. In recent years, MNEs location choice has assumed renewed importance in response to a shift in the FDI location pattern from traditional value-creation centers to emerging economies. Despite the growing participation of these economies in the global flows of FDI inflows and outflows in the last two decades, as a recognized indicator of the drastic spatial reconfiguration of the global economy (Kim & Aguilera, 2015), there is a great lack of studies with an interest in a deeper understanding of the determinants of the location of FDI in emerging markets and, particularly, at the subnational level within emerging economies. Emerging economies have subnational variations regarding institutions, market size, agglomeration factors, industrial concentration, human capital qualification, among other aspects, which makes this context highly relevant to the purposes of this study. The study contributes by demonstrating theoretically and empirically that specific locational advantages of the city affect FDI location choices in emerging economies.

## **ORIGINALITY/VALUE**

Most studies on the location determinants of FDI did not recognize the specific effects that subnational variations exert on FDI location choices in emerging economies. This study, in addition to bringing important contributions to a growing literature on the subnational location of FDI is, to the best of our knowledge, the first to address the global cities of emerging economies as an empirical unit of study of MNC location choices.

## **THEORETICAL BASIS**

Based on the contributions of the IB literature, the new economic geography and institutional theory, the research evaluates the relationship between a set of subsidiary specific advantages, host country specific advantages and subnational advantages. The conceptual framework integrates theoretical constructs of three theories: (1) eclectic paradigm (Dunning 1980), with OLI elements that provide important contributions to the broad understanding of possible determinants of location choices; (2) institutional theory (DiMaggio & Powell, 1983; Scott, 2008; North, 1987) with approach to the influences of subnational institutions (Karhunen, Kosonen, & Ledyeva, 2014); and (3) global city theory (Friedmann, 1986; Sassen, 2001, 2004;

Taylor, 2001), which incorporates the concepts of network connectivity, city hierarchy, and city classification of emerging economies.

## **DESIGN/METHODOLOGY/APPROACH**

The author uses a multinomial logistic regression model to estimate the effects of a set of variables on the choice of location of FDI at the subnational level. The three dimensions explored in the empirical model - the firm (subsidiary), the country and the locality are operationalized through eleven independent variables applied to test the hypotheses about the effects of possible determinants of choice of location of the IDE in a global city or not. To identify and distinguish global cities, the study used the global city classification of 2016 from the Globalization and World Cities - GaWC (GaWC, 2018). This is a cross-sectional study for the year 2016. The sample consists of 982 observations of foreign subsidiaries of Japanese multinational companies established in countries of Africa, Europe, Latin America and Oceania published by Toyo Keizai.

## **RESULTS AND IMPLICATIONS**

MNEs are significantly prone to locate their subsidiaries within global cities by demonstrating the attractiveness of these cities to FDI location as compared to other cities within emerging economies. The "L" advantages (Dunning & Lundan, 2008) exert a strong effect on FDI location choices in emerging economies. MNEs are significantly prone to locate their subsidiaries within global cities by showing the attractiveness of these cities to FDI when compared to other cities. In relation to the "O" advantages of the firm, subsidiaries located in alpha and beta cities are smaller in size compared to subsidiaries located in third-level integration cities (gamma<sup>+</sup>, gamma and gamma<sup>-</sup> cities) or compared to cities with "evidence of global city formation" (high sufficiency cities and sufficiency cities). Service MNEs are strongly prone to locate in global cities, as opposed to labor-intensive manufacturing subsidiaries that tend to locate in peripheral cities. Human capital did not present a significant effect by showing that "emerging global cities" attract FDI more in function of market and less by "control and command" or potential of innovation. Ease of doing business at the national level and subnational regulatory complexity distract the FDI of global cities. The main sub-national determinants of FDI location in global cities of emerging economies are advantages related to size and potential market demand, two "pure economic" factors (Nielsen et al., 2017), which not only reinforces the relevance of advantage "L", but also highlights the differences between "emerging global cities" and global cities of advanced economies. The attributes of global cities in these markets are distinct from their congeners in advanced economies, and thus their effects on the behaviour of MNEs should be evaluated in a particular way, analysing the connections of a city of "bottom up", taking as its starting point the local context (Mans, 2013).

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*Track 22 Special Poster Session - Master's & Ph.D. Dissertations*

**ID #770**

**The visually impaired as a tourist: motivation, facilitators and inhibitors when choosing a touristic destination.**

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**Abstract**

*Activities connected to tourism have been gaining importance in the contemporary world. Individuals with different profile and needs have been enjoying it, including people with disabilities as the visually impaired. Presuming that traveling means providing life quality, every single citizen must have the right to products, services and destinations meeting their specific demands. Therefore, it becomes a necessity to understand motivating choice factors and purchases processes of a certain public proving them with the right options. Thus, this project objectives are to understand if the existence of accessible touristic services are determining in destination choice for the visually impaired leisure travelling; to identify if there is a hierarchy among choice factors for tourist destinations; to identify behavioural differences among the visually impaired who lost their sight along their lives, the severe visually impaired or childhood blindness and those with sight loss by answering the following research questioning: What factors influence destination choice for someone visually impaired when leisure travelling? It is intended to interview individuals for a qualitative exploratory research. The interview script was submitted, in the first half of February 2019, to a validity test. In order to achieve the proposed objectives and to answer the elaborated research questioning, we intend to carry out a content analysis, based on categories created a priori, with the help of the Atlas IT, which will function as a support tool assisting in the codification, filtering and search results. Despite the small number of interviews, some preliminary findings already stand out. Good service delivery is an important factor in choosing the destination, the condition and the time of disability influence the choice and the need or not of a travel partner and the internet is the place of information search*

**Keywords:** Consumer behaviour. Destination choice. Tourism. Visually Impaired..

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