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CONTENTS

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Effect of Board Size, Board Composition and Board Meetings on Financial Performance of Listed Consumer Goods in Nigeria

EL-Maude, Jibreel Gambo[1], Bawa, Ahmed Bello[1], Shamaki Aranpu Rimamshung[2]

[1]PhD., Department of Accountancy, MAUTECH Yola, Nigeria

[2]Nigeria Civil Service Union, National Headquarters, Abuja, Nigeria

Correspondence: EL-Maude, Jibreel Gambo, PhD., Department of Accountancy, MAUTECH Yola, Nigeria.

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Abstract

The central thrust of this study is to examine the effect of board size, board composition and board Meetings on the financial performance of listed consumer goods in Nigeria over the period of ten years from 2006 to 2015. The study uses expo factor research design and purposive sampling technique (filter) as research design and sampling technique. The population of the study is twenty (20) listed consumer goods companies in Nigeria and a sample size of ten (10) companies were studied. The data was analysed by means of descriptive statistics, Correlation and Regression analysis using STATA (version 11). The descriptive result reveals that return on assets has minimum and maximum values of -0.0400 and 0.4700 respectively and the mean and standard deviation of 0.1199 and 0.1038 respectively. The study made use of secondary data generated from annual report and account of the sampled companies through Nigeria Stock Exchange fact book. The findings include the following: Board size is negatively significant at 1% with T. Value of _2.70, Board composition is positively significant at 1% with T- Value of 2.15 and finally, Board meeting is negatively insignificant with T- Value of _1.45. This study concluded that smaller board size are more effective than larger board size, good proportion of board composition is a good factor to enhance ROA of listed consumer goods companies in Nigeria and frequent board meeting will have negative effect on the ROA of listed consumer goods companies in Nigeria because it will limits the chances for external directors to conduct a meaningful oversight over management. Hence the study recommends among others; That smaller board size should be used in listed consumer goods companies in Nigeria to enhance their ROA, the listed consumer goods companies should continue to maintain good proportion of independence directors. The listed consumer goods companies in Nigeria should discourage unnecessary board meetings to allow board of directors perform other oversight function on the management so as to enhance the ROA of listed consumer goods companies in Nigeria.

Keywords: board size, board composition, board meetings, ROA, consumer goods

1. Introduction

Board structure of an organisation is the organisation's core layer which is critical to the corporate survival and or otherwise of an organization. It is often referred to as board of directors - a body of elected and or appointed members who have the mandate of jointly overseeing the attainment of the predetermine goal(s) of a company via the establishment of suitable policies and programmes which are effective and efficient. The legal responsibilities of boards and board members vary with the nature of the organisation and with the jurisdiction within which it operates (Mousa & Al-manaseer, 2012). This by implication means the size and the composition of the board plays a pivotal role towards the achievement of the mandate of the board. Board size of an organisation is about the number of directors both the executive and the non executive. On the other hand, board composition is the proportion of non executive directors (independence) to total number of directors in an organisation (Adekunle & Aghedo, 2014).

Return on assets (ROA) as the researcher's proxy is determined by taking net income and dividing it by total assets. The metric is used to understand how effectively a company is using their assets to generate earnings. Managers are directly responsible for the operations of the business and therefore the utilization of the firms' assets. Thus ROA allows users to assess how well a firms' corporate governance system is with particular reference to board characteristics in securing and motivating efficient management of the firm.

In the past so many corporate organisations have been caught on getting involved in unethical practices for instance the discovery of financial scam by the Central Bank of Nigeria (CBN) after the consolidation exercise involving seven top bank executives in Nigeria which put the credibility of their corporate image under doubt which further deteriorates investors' confidence (Sanusi, 2012). It is against this background that the researcher considers the subject matter effect of board characteristics on the financial performance of listed companies in consumer goods industry as an issue worthy of study.

2. Literature Review

2.1 Conceptual Review

Board Size

Board size of an organisation is the number of directors on board of the organisation which includes executive and non-executive directors. Board size has highlighted in chapter one of this study influences the performance of an organisation. Lipton and Lorseh (1992) viewed it that small board size can improve the performance of an organisation because the benefits by larger boards of increased monitoring are outweighed by the poorer communication and decision making of larger groups and suggested an optimal board size between seven and nine directors. Mak and Kusnadi (2005) reported that small size boards are positively related to high firm value. In a Nigeria study, Sanda, Mikalu & Garba (2010) reported that value is positively correlated with small, as opposed to large boards. The argument is that large boards are less effective and are easier for a CEO to be control. The cost of coordination and processing problems is also high in large boards and this makes decision taking difficult. On the other hand, smaller boards reduce the possibility of free-riding and therefore have the tendency of enhancing value of the firm. They measured the size of the board by the number of directors serving on such boards and expect this to have a negative relationship with the value of the firm.

Board Composition

Section 359 (4) of Companies and Allied Matter Acts (2004) provides for board composition to be on equal proportion. The new Security and Exchange Commission (SEC) guideline was silent on the number. However the best international practice is having a board with more non-executive than executive directors for ensuring independence of the board. Board composition normally concerns issues related to board independence (including independence of board committees) and diversity (firm and industry experience, functional backgrounds, etc.) of board members. Board independence refers to a corporate board that has a majority of independent outside directors. Compared to an insider-dominated board, an outsider-dominated board is believed to be more vigilant in monitoring managerial behaviours and decision-making of the firm. A board that consists of directors with a diverse set of functional expertise (marketing, engineering, finance, etc.) industry experiences, educational qualifications, ethnic and gender mix might be better equipped to deal with a wide range of issues facing the firm and provide executives with advice and consultation from multiple perspectives.

2.2 Return on Assets (ROA)

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment". Return on assets (ROA) is also a measure of performance widely used in the governance literature for accounting-based measures (Finkelstein & D'Aveni 1994; Kiel & Nicholson 2003; Weir & Laing 2001). It is a measure which assesses the efficiency of assets employed (Bonn, Yoshikawa & Phan 2004) and shows investors the earnings the firm has generated from its investment in capital assets. Efficient use of a firm's assets is best reflected by its rate of return on its assets. ROA is an indicator of short-term performance which is calculated as net income divided by total assets (Finkelstein & D'Aveni 1994). Since managers are responsible for the operation of the business and utilization of the firm's assets, ROA is a measure that allows users to assess how well a firm's corporate governance system is working in securing and motivating efficiency of the firm's management (Epps & Cereola , 2008).

2.3 Board Size and Financial Performance

Studies on board size and firm performance have generated conflicting results, for example (Yermack, 1996; Kiel & Nicolson, 2003; Guest, 2009; Adams & Mehran, 2012; Wintoki, Linck & Netter, 2012). Moreover, Yermack (1996) was one of the first researcher that investigated board size and firm performance. Using a sample 452 large US firms between 1984 and 1991, found a negative relationship between board size and firm performance measured by Tobin's Q. This finding is robust with specific characteristics of a firm such as firm size, growth opportunities, board structure, director ownership and industry sector.

In particular, he indicates that corporate performance declines steadily if the board size is between four and ten directors. Beyond this limit, there is no impact between board size and corporate performance. Nigerian studies (Ujunwa, 2012; Adebayo *et al*., 2013; Dabor, Isiavive, Ajagbe & Oke., 2015) and non-Nigerian studies (Guest, 2009; O'Connell & Cramer, 2010; Guo & Kga, 2012) have mostly found consistent results with those of Yermack (1996) that board size is negatively related to firm performance. Using a sample of 30 listed firms in Nigeria, Adebayo et al., (2013), measured by ROE and EPS found a significant negative relationship between board size and organizational performance.

In contrast, other Nigerian studies (Kajola, 2008; Sanda *et al.*, 2010; Akpan & Amran, 2014; Ironkwe & Adee, 2014; Ilaboya & Obaretin, 2015) and non-Nigerian studies (Adams & Mehran, 2012; Owusu, 2012) have found a positive relationship between board size and firm performance. Using a sample of 20 Nigerian listed firms from 2000 to 2006 measured by ROE, Kajola (2008) found a positive and statistically significant relationship. Also, Ironkwe and Adee (2014) found a positive and statistically significant relationship between board size and firm performance, in sample of 40 financial firms in Nigeria. Using Time series data from 166 firms quoted on the Nigerian Stock Exchange market from 2005 to 2012 in the Food and Beverages sector, Ilaboya and Obaretin (2015) found a similar result which showed a positive relationship between board size and corporate financial performance measured by PAT. The study reports a mean board size of 9 which is consistent with (Jensen, 1993).

2.4 Board Composition and Financial Performance

Evidence on the relationship between the proportion of non-executive directors on the board and firm performance is mixed (Connelly & Limpaphayom, 2004); (Shakir, 2004); (Haniffa & Hudaib, 2006); (Ghosh, 2006); (Jacking & Johl, 2009); (Rashid *et al*., 2010); (Uwuigbe, 2011); (Al-Matari, 2013); (Ogbulu & Emeni, 2012); (Satirenjit & Oladipupo, 2014); (Adekunle & Aghedo, 2014). They are mixed in the sense that some of the study reviewed show positive relationship between board characteristics and financial performance while some shows negative relationship between the variables.

Prior Nigerian studies (Olayinka, 2010); (Ironkwe & Adee, 2014); (Shehu & Musa, 2014) and Non-Nigerian studies (El Mehdi, 2007); (Jacking & Johl, 2009); (Al-Matari, 2013) have reported a positive relationship between board composition and firm performance. In particular, El Mehdi (2007) in a sample of 24 listed companies in Tunisia from 2000 – 2005 found that the proportion of outside directors is positively associated with firm performance measured by Marginal Q. Similarly, Al-Matari (2013) also found that the proportion of non-executive directors is positively related to ROA. In Nigeria, some studies also support these empirical evidences. For example Olayinka (2010) found a positive relationship between board composition and corporate financial performance (ROE and ROCE) in sample of 30 companies for year 2007. Also, using a sample 13 listed deposit money banks for the period 2007 to 2011, Shehu and Musa (2014) found that board composition positively, strongly and significantly influence firm performance measured by ROA. These similar findings suggest that boards with higher proportion of outside directors offer higher performance.

In contrast, other Nigerian Studies (Uwuigbe, 2011; Ogbulu & Emeni, 2012; Garba & Abubakar, 2014) and non-Nigerian study (Guest, 2009) have reported that the proportion of independent non-executive directors representation on the board is negatively related to firm performance. Using a sample of 157 Zimbabwean listed firms from 2000 to 2005, Mangena et al.(2012) found that the proportion non-executive directors is significant and negatively related to firm performance measured by Tobin's Q. Similarly, Mahrous (2014) reported a statistically negative relationship between non-executive board members and ROE, in a sample of 50 Egyptian listed non-financial companies from 2006 – 2010. This evidence is also the same with those found in Nigeria. For instance Ogbulu and Emeni (2012) found a negative association between board composition and firm performance in a sample of 14 Nigerian listed banks as at December 2008. Also, Garba and Abubakar (2014), using 12 listed insurance companies for the period 2004 to 2009 found a negative and significant relationship between board composition and firm performance measured by Tobin's Q and ROE. This indicates that the benefit of board independence, objectivity and experience expected from the representation of outside directors to influence board strategic decisions appears to hold back managerial initiative through too much monitoring.

A third group of studies suggest that board composition has no effect on firm performance (Ghosh, 2006; Rashid *et al.*, 2010). For example, Ghosh (2006) found out that the proportion of outside directors has no significant impact on firm performance measured by ROA and adjusted Tobin's Q in 127 Indian listed manufacturing firms. Similarly, Using a sample of 274 Bangladeshi firm-years from 2005 – 2009, Rashid et al. (2010) found that outside (independent) directors cannot add value to the firm's economic performance measured by ROA and Tobin's Q in Bangladesh.

In Nigeria where this study is based, evidence has also shown that board composition has no relationship with firm performance (Kajola, 2008; Sanda et al., 2010; Paul, Friday & Godwin, 2011; Mansur & Ahmad, 2013). Using a sample of 20 listed firms, Kajola (2008) found no relationship between board composition and firm performance measured by ROE and Profit Margin (PM) from 2000 – 2006. Also, Sanda *et al.* (2010) reported that larger proportion of outside directors has no impact on firm performance measured by ROA, ROE, Tobin's Q and P/E ratio from 1996 – 1999.

2.5 Summary

From the above mentioned, one can maintain that the effect of board characteristics on the financial performance of firms cannot be ignored because the increase in the financial performance is necessary for any firm in order to survive in the long run. Because Board of directors play a crucial role in the company and their characteristics affect how corporate governance standards are applied and enacted. Therefore, it is important to test the effect of board characteristics on firm financial performance.

In summary, previous studies regarding the relationship between board characteristics and firm's performance across Nigeria has been conducted in the various sectors of the Nigerian economy (e.g. Ilaboya & Obaretin (2015) in the consumer goods sector between 2005 and 2012; Shehu & Musa (2014) in the banking sector between 2007 and 2011; Garba & Abubakar (2014) in the insurance sector between 2004 and 2009). However, there are none of these studies empirically examine the board characteristics in the consumer goods in Nigeria to year 2015. Empirically, this study aims to fill the gap by focusing on the listed consumer goods companies in Nigeria during the period of 2006-2015 (10years) by analyzing whether different board characteristics of different firms have an effect on the return on assets of these companies.

Also, review of different perspectives clarifies that there is need to take an integrated approach rather than a single perspective to understand the effect of corporate governance on firm performance. While agency theory places primary emphasis on shareholders' interests, stakeholder theory places emphasis on taking care of interests of all stakeholders, and not just the shareholders. In line with this, Jensen (2001) suggests enlightened value maximisation, which utilises much of enlightened stakeholder theory but accepts maximisation of the long-run value of the firm as the criterion for making the requisite trade-offs among stakeholders and therefore solves the problems that arise from multiple objectives that accompany traditional stakeholder theory. Also, stewardship theory suggests that due to their information and knowledge advantages, better financial performance is likely to be associated with greater managerial trust and powers. Finally, resource dependence theory indicates that internal corporate governance structures like the board of directors help to link the firm to critical business inputs needed for higher financial performance.

Having reviewed the above theory the researchers adopted agency theory as the underpinning theory for this study as it aided the study as far as principal agent relationship is concern, supported by stakeholder theory which take into consideration all stakeholders in the business such as investors, creditors, suppliers and employees and resource dependence theory, the company uses the experience and connections of the board of directors to raise fund for the business from outside and within the environment. This is in line with Stiles (2001) who calls for multiple theoretical perspectives and Roberts et al (2005) who suggests theoretical pluralism. The gap here is that despite the call for multiple theoretical perspective most prior studies on board characteristics and firm performance used only agency theory. In this study we adopted agency theory as the underpinning theory for this study supported by stakeholder theory and resource dependence theory.

3. Methodology

This study uses ex-post facto research design; this is because it is quantitative research based on a positivist paradigm and used deductive reasoning. The study adopted a positivist approach, because a positivist approach seeks facts or causes of social phenomena. The reasoning is deductive because the hypotheses were derived first and the data were collected later to confirm or negate the propositions. This study covered a period of 10 years i.e. from 2006 to 2015 (10 years). Data was elicited from annual financial reports and accounts of the selected listed consumer goods companies in Nigeria. The population for this study consists of all the 20 listed consumer goods companies in Nigeria as at 31st December, 2015 out of which only 10 companies who had 31st December as their financial year were selected. In analysing the data collected, regression analysis was used using *STATA* 11.0

Model Specification

In order to test the hypotheses developed in the first chapter of this study, the following regression model was used:

ROA $i_t = \beta 0 + {}_{\beta 1BSIZEit} + \beta 2BCOMP_{it} + \beta 3FS_{it} + \mu_{it}$ (1)

Where:

BSIZE: Board Size; BCOMP: Board Composition; FS: Firm Size; μ: Error Term

4. Data Presentation, Analysis and Interprentation

4.1 Descriptive Statistics

Table 4.1. Descriptive statistics

Variable	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis	Obs
ROA	-0.0400	0.4700	0.1199	0.1038	0.7961	3.7525	100
FS	10.1365	26.2557	21.5167	3.6418	-1.2361	4.5868	100
BSIZE	7.0000	16.0000	9.9800	2.2247	.8164	2.3576	100
Bcomp	0.7000	0.9000	0.5805	0.2348	-.6759	2.3960	100
BM	4.0000	0.9000	5.2800	1.3639	1.0688	3.6727	100

Source: Researcher's Analysis (2016) using STATA version 11

Table 4.1 presents the descriptive analysis of the study. The descriptive result reveals that return on assets has minimum and maximum values of -0.0400 and 0.4700 respectively and the mean and standard deviation of 0.1199 and 0.1038 respectively. Meaning within the study period the performance is low since it recorded a minimum value and a relatively higher standard deviation. The table also shows that the minimum and maximum values of firm size are 10.1365 and 26.2557 respectively and has a mean and standard deviation of 21.5167 and 3.6418 respectively which demonstrate a better performance since the standard deviation is relatively low.

Similarly, board size has a minimum of 7.0000 and a maximum of 16.0000 with an average of 9.9800 and standard deviation of 2.2247. The size of the board varies widely across the sample companies and the minimum is 7 and the maximum is 16. The important factor that explains the large disparity of the size could be as a result of wide difference of the sample companies' size as represented by their total assets. Larger firms tend to have more directors on their board, which is a reflection of the company's vast equity shareholding structure.

Finally, the skewness and kurtosis statistics revealed that the data obtained for the variables including dependent and independent variables are normally distributed. Therefore, the study is considered valid which substantiates the validity of the regression result.

4.2 Correlation Matrix

In order to establish the nature of relationship between dependent and independent variables and to determine whether multicolinearity exists among the variables of the study, the Pearson correlation analysis was used.

Table 4.2. Correlation Matrix

VAR	ROA	F size	B size	Bcomp	Bm
ROA	1.0000				
Fsize	0.0623	1.0000			
Bsize	-0.2095	0.4264	1.0000		
Bcomp	0.1093	0.4630	0.2429	1.0000	
Bm	0.0476	0.1765	-0.1346	0.1955	1.0000

Source: Researchers' Analysis (2016) using STATA version 11

=Significant at 1% (0.01) = significant at 5% (0.05) =Significant at 10% (0.10).

Table 4.2 shows the correlation between the variables. The table shows a positive significant relationship between ROA and Fsize from the co-efficient of 0.0623 which is significant at 1%. This implies that as the Fsize increase the firm performance (ROA) will also increases.

Bsize has a significant negative relationship with ROA as shown by coefficient of -0.2095 which is significant at 1%. This implies that larger board size will lead to lower return on Assets of consumer goods companies listed in Nigeria. Bcomp shows a significant positive relationship with ROA based on the correlation matrix result that has a coefficient of 0.1093 which is significant at 10%. This means that more independent directors on board will enhance firm performance.

However, the relationship between the variables themselves is not found to be significant to the extent that one can conclude that there is multicollinearity unless the variance inflation factor and tolerance values are comparatively beyond the established rule of thumb. Thus, the variance inflation factor (VIF) and tolerance value are advanced measures for assessing multicollinearity among the regressors. The variance inflation factor (VIF) and the tolerance values were determined with the use of STATA and were found to be concurrently less than ten and one respectively.

4.3 Regression Analysis (OLS)

Table 4.3. Regression Result

Variables	Coefficients	T-statistics	T-significant	VIF/Tolerance
Constant	.5001	3.61	0.000	
Fsize	0.0041	1.24	0.218	1.45/0.688
Bsize	-0.1490	-2.70	0.006	1.28/0.780
Bcomp	0.0364	2.15	0.034	1.14/0.876
Bm	-.0634	-1.45	0.1500	1.11/0.899
R^2				0.1320
Wald Chi^2				3.61
Wald – sig				0.0087

Source: Researchers' Analysis (2016) using STATA version 11

The result from table 4:3 shows that Bsize has a coefficient value of -0.1490 and T-statistics value of -2.70 while T-sig as 0.006 which is not significant at any level. The negative value of the coefficient -0.1490 signifies that Bsize and ROA are negatively related which implies that for every 1% increase in Bsize of consumer goods companies will lead to decrease in the ROA by 1.5%. This provides an evidence for accepting the Null Hypothesis one which states that Bsize has no significant impact on performance of listed consumer goods companies in Nigeria. This finding is in line with Yermack (1996) he was one of the first researcher that investigated board size and firm performance. Using a sample 452 large US firms between 1984 and 1991, found a negative relationship between board size and firm performance measured by Tobin's Q. The finding is robust with specific characteristics of a firm such as firm size, growth opportunities, board structure, director ownership and industry sector. In particular, Yermack indicates that corporate performance declines steadily if the board size is between four and ten directors. Beyond this limit, there is no impact between board size and corporate performance. The findings is also consistent with the (Ujunwa, 2012; Adebayo et al., 2013; Dabor, Isiavive, Ajagbe & Oke., 2015).

Table 4.3 also revealed that Bcomp has a coefficient value of 0.0364, T-statistics of 2.15 and revealed a T-sig of 0.034 which is significant at 10% level of significance. From the coefficient value of 0.0364 one can say that there is a positive relationship between Bcomp and ROA of consumer goods companies listed in Nigeria .This signifies that when Bcomp increase by 1% return on assets will increase by 3.6%.The result shows that the Null Hypothesis two that state that bcomp does not has significant impact on ROA does not hold water and must be rejected. This findings is in line with the findings of El mehdi (2007), Al-matari (2013) and Olayinka (2010).That means board with higher proportion of outside directors offer higher performance.

Finally, on the contrary, Bm shows a coefficient of -0.634,T-statistics of -1.45 and T-sig 0.15 which is not significant at all level of significance. The negative coefficient signifies that board meeting and firm performance of listed consumer goods companies in Nigeria are inversely related meaning that whenever Bm increase by 1% the firm performance will decrease by 63% .The result provide an evidence to accept the Null Hypothesis that state Bm has no significant impact on ROA of consumer goods companies listed in Nigeria. This finding is consistent with Jensen (1993) opines that: "daily tasks those continue most of the board's meeting time and hence this limits the chances for external directors to conduct a meaningful oversight over management". Jensen further stressed that board should not be over active as activity of board represents a reaction to adverse performance. It is also consistent to some empirical studies that found a negative impact of board meeting on the financial performance such as Danoshana and Ravivathani (2014), Garcia-Sanchez (2010), and Kamardin (2009).

The cumulative R^2 (0.1320) which is the multiple coefficient of the determination gives the proportion of the total variation in the dependent variable explained by the independent variables jointly. Hence, it signifies that 13%

of the total variation in ROA of consumer goods companies listed in Nigeria is caused by board size, board composition and board meeting. This indicates that the model is fit and the regressors are properly selected, combined and used. This further implies that for any changes in the attributes of listed consumer goods companies in Nigeria, their ROA will be directly affected.

The F-statistics or Wald chi-squared statistics are really the same thing in that, after normalization chi-squared is the limiting distribution of the F as the denominator degrees of freedom goes to infinity. Therefore, the Wald chi square of 3.61 which is significant at 1% indicates that the corporate attributes and ROA model is fit.

5. Conclusion and Recommendations

The study concludes that smaller board size are more effective than larger board size because smaller good board size with upright personal traits relevant core competences and entrepreneurial spirit knowledgeable in board matters will enhance ROA listed consumer goods companies in Nigeria. Therefore larger board size should be discouraged. Similarly, the study concludes that board composition is an important factor that can enhance Return on Assets of listed consumer goods companies in Nigeria. Therefore, number of independent (non-executive) directors on the Board is an important monitoring and control device. The non- executive directors have the ability to monitor and control the extremes of the executive directors, thereby protecting the interest of the share holders and other stake holders. They are also free from managerial influence and capable of monitoring them effectively which will enhance the Return on Assets of listed consumer goods companies in Nigeria. Finally, frequent board meeting will have negative effect on the ROA of listed consumer goods companies in Nigeria because it will limits the chances for external directors to conduct a meaningful oversight over management.

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Intention to Purchase Chapters of Online Literature: A Pilot Study in Thailand

Duangkamol Chuengprapa[1] & Nitaya Wongpinunwatana[2]

[1]Cloudforce HR Co., Ltd., Bangkok, Thailand

[2]Thammasat Business School, Thammasat University, Bangkok, Thailand

Correspondence: Nitaya Wongpinunwatana, Thammasat Business School, Thammasat University, Bangkok, Thailand.

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Abstract

The purpose of this study is to examine the factors that influence the intention to purchase chapters of online literature. This study is based on descriptive research using an online survey. The results indicate that six factors (favorable attitude from social norms, functional dependence on platform, emotional attachment to content creator, perceived benefit, perceived sacrifice, and perceived value) can be used to predict the intention to purchase online literature. The findings of this research will help practitioners by providing a guideline to improve products and services. This research combines the value intention model, status quo bias theory, and integration of attachment theory and socio-technical systems, and as far as the author knows, these theories have never before been studied together.

Keywords: chapter purchase, freemium, online literature, fee-based platform, paid-online content

1. Introduction

Online or digital literature – including novels, poetry, essays, comic series, and other works – is a genre of literature published online for digital devices (Aarseth, 1997). Online literature originated as a non-professional literary phenomenon which encouraged amateurs to share content with one another for free on the internet. The content creators are motivated by the desire for creative expression, popularity, and sense of belonging, rather than for financial benefits. These factors also are important in producing user-generated content in other areas (Shirky, 2010; Ren & Montgomery, 2012).

In 1999, a few literature websites were established with strategies for monetizing user-generated content. The changes of reader habits, from printed matter to online, influenced the increasing size and number of online communities (Ren & Montgomery, 2012). A survey in 2015 indicated that readers over the age of six years increasingly intend to change their ways of reading from books to electronic sources (National Statistical Office, 2016). Consequently, these online literature platforms have become channels for non-professional writers to build their reputations, to evaluate their popularity, and to have opportunities to step up as professional writers.

In China, online literature platforms have developed micropayment strategies with “freemium” business models which allow non-professional writers or content creators to publish their own literature and sell them online (Ren & Montgomery, 2012). Micropayments refer to electronic transactions of small amounts of money, which are usually less than one US dollar (Kotliar, 2011). With this model, the readers are permitted to read a limited amount of content for free before making a purchase. Some serialized literature can be accessed free of charge; but if it becomes popular, it will be converted to VIP content, and the readers will be required to pay for access to additional chapters (Liu, 2010; Ren & Montgomery, 2012). The readers who do not want to wait until the literature is printed or published as an e-book can obtain the privilege to read as soon as the new chapters are released. In Thailand, moreover, the strategy has recently been adopted by platforms such as Dek-D, Comico, Fictionlog, ReadAWrite, and Tunwalai.

Although the adoption of new technologies such as e-books in the publishing field have been widely accepted by Thai readers (Ngamkaiwan, 2014), a survey on reading behavior implied that the majority of readers who have read an e-book at least once, have never actually purchased an e-book (Econ Chula & SAB, 2015). In other words, the readers have received free e-books provided for advertising purposes. Nevertheless, even though the free trial may attract users to participate and contribute their resources, it becomes a double-edged sword. A study in 2001 showed that the greater the users are familiar with free content, the less they are willing to pay for content (Gallaugther et al., 2001). The belief that online content should be free persists in people's minds. Thus, this paywall has become a major obstacle for platforms in developing strategies for online literature sales.

A survey of purchasing behaviors of Thai readers in 2015 also proved that the electronic market is still small compared with the printed book market (Econ Chula & SAB, 2015). Moreover, introducing new channels to purchase online literature with a micropayment or chapter purchasing strategy on the platform might affect perception and intention of the users to pay for the content (Ren & Montgomery, 2012). According to the literature review, the purchase intention of online content, such as online music, is also supported by the value intention model and status quo bias (Lin et al., 2013; Li & Cheng, 2014). In addition, as the researchers also believed that the chapter purchasing model can tighten the relationship between authors and readers, it is essential to apply the integration of attachment theory and socio-technical systems in this research in order to improve effectiveness of business strategies; these have never before been studied together with the value intention model and status quo bias, especially in the online literature platform.

This research aims to explore and understand factors that influence consumer opinions and purchase decisions in fee-based online literature platforms. The results of this study can be utilized to improve products and services provided on the platforms, to encourage willingness of the readers to spend further, as well as creating long-term viability of online literature platforms.

2. Theoretical Background

This section provides information on important factors which predict the intention to purchase chapters of online literature. These factors extract from the value intention model, status quo bias theory, and integration of attachment theory and socio-technical systems. The value intention model assumes that perceived value directly affects the willingness to do a certain action. In other words, perceived value is a key factor in the process of a consumer's purchasing decision. The greater the perceived value, the more the customer is influenced to purchase (Dodds & Monroe, 1985; Chi et al., 2011). Status quo bias theory explains the consumer's preference in maintaining their current situations or statuses (Samuelson & Zeckhauser, 1988). The previous studies of status quo bias theory showed that social norms can significantly affect consumer's perceived benefits (Kim & Kankanhalli, 2009; Li & Cheng, 2014). Finally, the integration of attachment theory and socio-technical systems implies that both emotional attachment and functional dependence have positive relationships to the behavioral intention (Wan et al., 2016). The factors affecting intention to purchase chapters of online literature follow.

Favorable Attitude from Social Norms refers to positive opinions from others which affect individual perception in valuation and the decision-making process due to the need of social companionship. The endorsement or favorable attitude towards paid online content from influencers – such as friends, families, colleagues, classmates, and online communities – can reduce status quo bias and encourage individuals to engage in social norms (Samuelson & Zeckhauser, 1988; Kim & Kankanhalli, 2009; Li & Cheng, 2014).

Functional Dependence on Platform refers to the degree that a consumer relies on functions on a platform which are designed to support and satisfy the consumer. The functions include discussion channels, share features, follow features, display customization, and consumer recommendations. These functions have an influence on behavior and mental state of the consumer. The willingness of time and financial sacrifice to obtain an object can be encouraged by an individual's strong attached dependence. In online communities, the users should have different perceptions and behavior across different degrees of functional dependence. The greater the effectiveness of functional tools is supported, the more the users tend to engage and contribute resources on the platform. (Sohn & Leckenby, 2007; Chu & Lu, 2007; Xu et al., 2012; Lin et al., 2013; Wan et al., 2016)

Emotional Attachment to a Content Creator refers to the emotional feeling that reflects the desire to maintain a relationship with the author as the user's affective commitment. In the publishing field, users respond more strongly to a story written by their favorite authors since they realize that most authors have their own unique style of writing. The stronger attachment should lead to greater contributions of consumers' resources, such as time and energy, to strengthen their relationship with the content creators (Holmes, 2000; Fedorikhin et al., 2008; Choi, 2013; Saarinen & Vakkari, 2013; Prasert, 2014; Wan et al., 2016).

Perceived Benefit refers to the degree to which consumers expect they will gain when purchasing online content. Additional features can increase the benefit perceived by consumers, such as the privilege to read a variety of trial chapters on a platform without having to purchase the whole book, and privilege to access the latest chapter directly after being released (Zeithaml, 1988; Chu & Lu, 2007; Lin et al., 2013).

Perceived Sacrifice refers to the degree which consumers believe that they must pay to obtain the online content. The perception of sacrifice is heavier than usual when readers pay for content using a hybrid revenue model, which enables consumers, after a fee is paid, to access content for no extra cost over a period of time. The related increase in cost leads consumers to become less willing to pay or decide to switch to alternative products, such as e-books and printed books. Sacrifices, such as time, risk and unsatisfactory spending to obtain a product, increase when readers are required to purchase chapters in order to continue reading an unfinished novel, and they are not sure about timeliness and reliability of the author (Zeithaml, 1988; Chu & Lu, 2007; Kim et al., 2007; Lin et al., 2013; Li & Cheng 2014).

Perceived Value refers to an assessment of the utility of a customer for a product in respect of the willingness to exchange what they need to pay and what they expect to receive. As consumers can easily access free content from other resources, the value of platforms should be sufficiently worthwhile to encourage consumers to spend their resources such as time and money (Zeithaml, 1988; Monroe, 1991; Chu & Lu, 2007; Lin et al., 2013; Li & Cheng, 2014).

Purchase Intention on Online Literature refers to the possibility of a consumer to purchase an online content due to the valuation process of obtaining the content. A higher purchase intention can drive the consumer to actually make the purchase (Zeithaml, 1988; Chu & Lu, 2007; Kim et al., 2007; Chi et al., 2011; Lin et al., 2013).

3. Research Model and Hypotheses

The model of intention to purchase chapters of online literature in this study (Figure 1) was developed with reference to previous research. The model indicates that favorable attitude from social norms construct, functional dependence on platform construct, and emotional attachment to content creator construct directly impact perceived benefit construct. In addition, perceived value construct is a mediator among perceived benefit construct, perceived sacrifice construct and purchase intention of online literature construct.

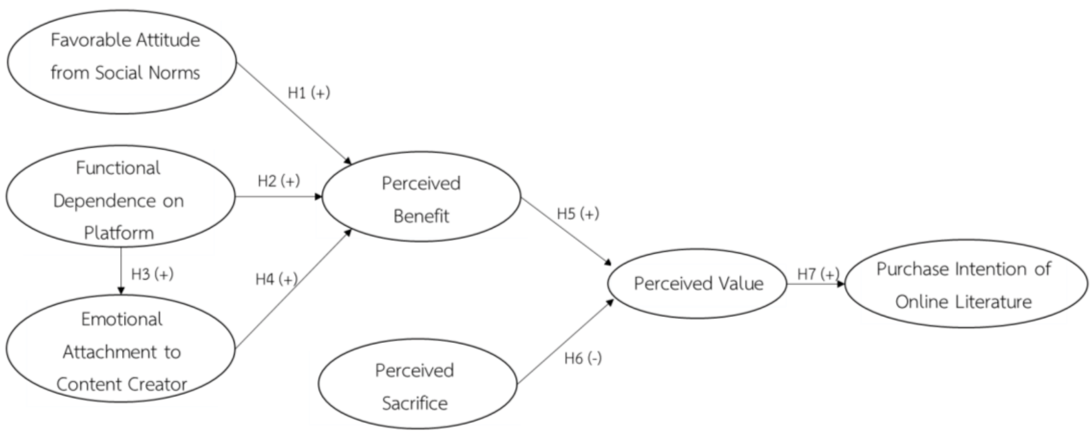

Figure 1. Model of Intention to Purchase Chapters of Online Literature

As individual choices are not always rational but may be affected by other people's opinions due to the need of social compliance (Kim & Kankanhalli, 2009), favorable opinions toward a paid content could reduce uncertain feeling over the paid content as the value of a product has been highly appraised among other consumers (Li & Cheng, 2014). Thus, this research proposes a hypothesis that:

H1: Favorable attitude from social norms has a positive relationship with perceived benefit

In the process of valuation, satisfaction of consumers relies on the quality of products and features (Chu & Lu, 2007). Functional dependence could increase the perception of convenience, added value of the products, and eventually increase the contribution to the customers (Sohn & Leckenby, 2007; Xu et al., 2012). Additionally, empirical evidence revealed that technical factors also have positive impact on perceived value (Wan et al., 2016). Thus, this research proposes a hypothesis that:

H2: Functional dependence on platform has a positive relationship with perceived benefit

Functional dependence on platforms was designed to support consumers in communication, consumption, discussion, and socialization (Wan et al., 2016). The better the features are, the more the users will engage on the platform (Sohn & Leckenby, 2007; Xu et al., 2012). As a result, this functional dependence on the platform increases the degree of emotional attachment to the content creators, as supported by research in donation behavior (Wan et al., 2016). Thus, this research proposes a hypothesis that:

H3: Functional dependence on platform has a positive relationship with emotional attachment to content creator

In the publishing field, readers tend to have greater emotional attachment to authors when they feel attached to books with the same genre. A perception of similarity between a user's personality and an author's personality can determine the degree of emotional attachment to the author (Saarinen & Vakkari, 2013; Prasert, 2014). As has been shown by prior research, emotional attachment can also increase information value not only in the publishing field, but also in increased donations and increased purchasing intention in marketing contexts (Fedorikhin et al., 2008; Choi, 2013; Wan et al., 2016). Thus, this research proposes a hypothesis that:

H4: Emotional attachment to content creator has a positive relationship with perceived benefit

Rather than allowing consumers to experience free content on the internet, which can be of questionable quality, it is essential to let them perceive the worthiness of paying for the added value of the online content (Wang et al., 2005). A positive effect of perceived benefit with the willingness to pay for online content was also empirically confirmed (Chu & Lu, 2007; Lin et al., 2013). Thus, this research proposes a hypothesis that:

H5: Perceived benefit has a positive relationship with perceived value

Unlike traditional content purchases, consumers making online purchases are unable to physically try and evaluate the real products before making a purchase decision (Li & Cheng, 2014). In online literature platforms, the majority of content is written by amateurs where the quality is difficult to judge in advance (Ren & Montgomery, 2012). The perception of sacrifice increases due to intangibility and insufficiency of trial periods and example contents (Li & Cheng, 2014). In addition, Lin et al. (2013) supported that investing in unfamiliar technology, such as fee-based online services, entails risks during the consumption process. As confirmed by past studies, both monetary and non-monetary sacrifices have significant impact on perceived value which affects purchase behavior (Kim et al., 2007; Lin et al., 2013). Thus, this research proposes a hypothesis that:

H6: Perceived sacrifice has a negative relationship with perceived value

Consumers tend to purchase an online content if they perceive that the product has high value. On the other hand, the consumer feels unwilling to purchase an online content when the perceived sacrifice is higher than the benefit (Li & Cheng, 2014). As consumers value reduction in sacrifice and increase in benefits differently (Monroe, 1991), empirical evidence supports that the greater the difference is between perceived benefit and sacrifice, the higher the consumers intention to purchase (Chu & Lu, 2007; Lin et al., 2013). Thus, this research proposes a hypothesis that:

H7: Perceived value has a positive relationship with purchase intention of online literature

4. Research Methodology

This research collected data from participants who had experiences with free-based online literature platforms through websites and mobile applications in Thailand. The questionnaires were distributed via an online survey to participants of online literature communities. A total of 154 persons participated in this survey. The questions in the questionnaire are based on previous studies i.e., Chu & Lu (2007); Li & Cheng (2014); Prasert (2014); Wan et al. (2016), and is divided into three parts. The first part contains questions regarding usage behaviors on online literature platforms. The second part contains questions about factors influencing the intention in purchasing chapters of online literature. The final part contains questions about individual characteristics.

5. Research Results

One hundred and fifty-four respondents participated in this study. Responses from seven of the 154 participants (4.6%) were not included in the analysis because they included outliers that anomalously misled the statistical analysis. Deletion of this unusable data reduced the sample size to 147 participants. The descriptive statistics of the usable data show normality of all constructs in the conceptual model. Therefore, the statistical assumptions are satisfied.

Principal factors extraction with varimax rotation was performed on items in the questionnaire. Seven factors were extracted. These factors are (1) Favorable attitude from social norms, (2) Functional dependence on platform, (3) Emotional attachment to content creator, (4) Perceived benefit, (5) Perceived sacrifice, (6) Perceived value and (7) Purchase intention of online literature. Table 1 contains descriptions of the factor analysis results. The factors attained Cronbach alpha reliabilities of 0.816, 0.758, 0.789, 0.731, 0.784, 0.734, and 0.893 respectively.

Table 1. Mean, Standard Deviation, Factor Score, and Cronbach's Alpha of the Factors

Factors	**Mean**	**Standard Deviation**	**Factor Score**
Factor 1: Favorable Attitude from Social Norms (% of Variance = 73.372, Cronbach's Alpha = 0.816)			
I tend to believe the positive reviews on social media about the novels I should read	3.347	0.7994	0.749
I tend to believe the positive opinions from my friends about the novels I should read	3.755	0.8727	0.906
I tend to believe the positive opinions from my colleagues/schoolmates about the novels I should read	3.476	0.8052	0.906
Factor 2: Functional Dependence on Platform (% of Variance = 58.089, Cronbach's Alpha = 0.758)			
Online literature platforms enable me to customize features to be suitable for my style of use	3.762	0.8467	0.751
Online literature platforms enable me to follow the latest updates and notices from my favorite authors	3.878	0.8674	0.830
Online literature platforms enable me to share my favorite contents through social media	3.939	0.8672	0.754
Online literature platforms can suggest new novels which are similar to my preference	3.980	0.8619	0.709
Factor 3: Emotional Attachment to Content Creator (% of Variance = 70.634, Cronbach's Alpha = 0.789)			
I am happy to read the novels from my favorite authors	3.789	0.7958	0.808
I feel attached to my favorite authors	4.082	0.6876	0.835
I often follow works from the authors who have the style of writing suiting my preference	4.054	0.7919	0.877
Factor 4: Perceived Benefit (% of Variance = 65.251, Cronbach's Alpha = 0.731)			
Online novel chapters enable me to read the content as soon as a new chapter is released	3.830	0.9678	0.834
Online novel chapters provide me a variety of genre	3.810	0.9816	0.827
Online novel chapters enable me to try a few chapters without purchasing the whole book	4.401	0.7644	0.760
Factor 5: Perceived Sacrifice (% of Variance = 70.084, Cronbach's Alpha = 0.784)			
The price charged per chapter is expensive when it is compared with the entire book purchase (E-Book and printed book)	4.129	0.9600	0.789
Purchasing online literature incurs the risk that the author may not finish the whole story that I'm reading	4.347	0.9040	0.883

I feel that the quality of online novel chapters are uncertain due to poor literary style and misspelling	4.272	0.9257	0.837
Factor 6: Perceived Value (% of Variance = 65.535, Cronbach's Alpha = 0.734)			
Compared to the usage fee I need to pay, purchasing chapters of online content themselves is worthy	2.816	0.8915	0.713
Compared to the time I need to put in, purchasing chapters of online content is worthy	3.497	0.9094	0.872
Overall, the use of a chapter purchase platform is worthy	3.769	0.9071	0.836
Factor 7: Purchase Intention of Online Literature (% of Variance = 82.550, Cronbach's Alpha = 0.893)			
I intend to purchase online chapters in the near future	2.728	1.1004	0.922
I intend to purchase online chapters	2.714	1.1170	0.934
I intend to purchase online chapters more than entire book purchases (E-Book and printed book)	2.122	1.0590	0.869

In this study, the participants are predominantly female (86.%) and older than 30 years of age (31.3%). Only 2% of participants are 15 years of age or lower. Nearly all participants either have already received bachelor degrees (64%) or currently are undergraduate students (35%). In addition, 29% of the participants are corporate employees. Over 60% of them earn less than US $670 per month. Regarding which device is used, 46.3% and 34.4% of participants access online literature platforms via mobile phone and computers respectively. Ancient Chinese (13.1%), fantasy (12.9%), and romance (11.9%) are the most favorite genres. Interestingly, over 50% of the participants access Dek-D.com and Tunwalai.com as their primary platforms.

The data was analyzed using a software package based on hierarchical regression analysis. To investigate direct and indirect effects of the examined factors, the mean scores of each factor in Table 1 were calculated. These mean scores were analyzed using hierarchical regression analysis. This research defines a statistical significant level at 0.05 or below. The standardized score and the highlights of statistical results are shown in Figure 2 and Table 2 respectively.

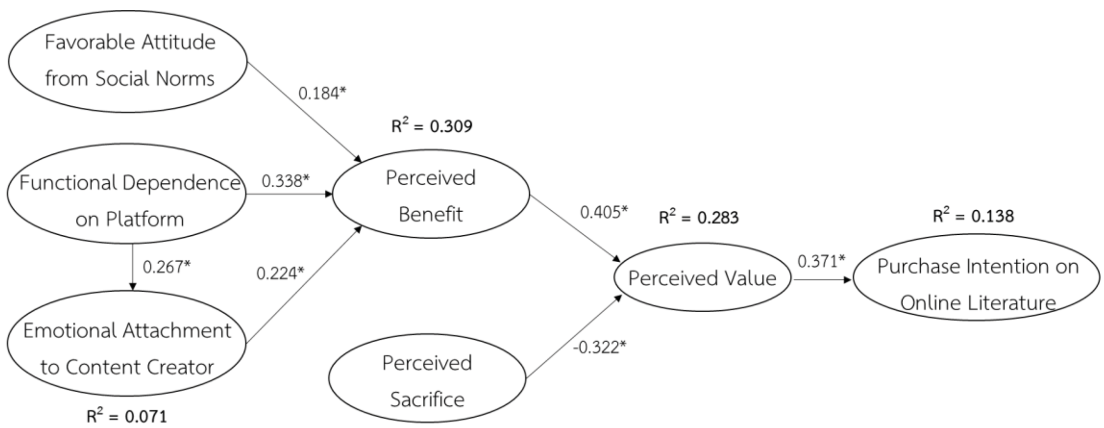

Figure 2. Structural Model Results

Table 2. Direct, Indirect, and Total Effects of Variables in the Standardized Score

Dependent Variables	R^2	Effect	Independent Variables					
			Perceived Value	Perceived Benefit	Perceived Sacrifice	Emotional Attachment to Content Creator	Favorable Attitude from Social Norms	Functional Dependence on Platform
Purchase Intention of Online Literature	0.138	Direct	0.378*	-	-	-	-	-
		Indirect	-	0.150*	-0.119*	-	-	-
		Total	0.378*	0.150*	-0.119*	-	-	-
Perceived Value	0.283	Direct	-	0.405*	-0.322*	-	-	-
		Indirect	-	-	-	0.091*	0.075*	0.137*
		Total	-	0.405*	-0.322*	0.091*	0.075*	0.137*
Perceived Benefit	0.309	Direct	-	-	-	0.224*	0.184*	0.338*
		Indirect	-	-	-	-	-	0.060*
		Total	-	-	-	0.224*	0.184*	0.398*
Emotional Attachment to Content Creator	0.071	Direct	-	-	-	-	-	0.267*
		Indirect	-	-	-	-	-	-
		Total	-	-	-	-	-	0.267*

The statistical results indicate that favorable attitude from social norms, functional dependence on platform, and emotional attachment to content creator have a significant influence on perceived benefit at an R-Square of 30.9%. A discussion of the results of each factor follows.

- Favorable attitude from social norms has a significant direct effect at 95% confidence level on perceived benefit with a coefficient of 0.184. This supports Hypothesis 1 which states that favorable attitude from social norms has a positive relationship with perceived benefit. This result is consistent with Li & Cheng (2014) who stated that favorable opinions of paid content could reduce uncertain feelings on the paid content, as the value of the product has been highly appraised by other consumers.
- Functional dependence on platform has significant direct and indirect effects, through emotional attachment to content creator on perceived benefit, at coefficients of 0.338 and 0.060 respectively. This supports Hypothesis 2 which states that functional dependence on platform has a positive relationship with perceived benefit. This result is consistent with Sohn & Leckenby (2007) and Xu et al. (2012) who stated that functional dependence could increase the perception of convenience, add value to the products, and eventually increase contribution to the consumers.
- Emotional attachment to content creator has a significant direct effect at 95% confidence level on perceived benefit with a coefficient of 0.224. This supports Hypothesis 4 which states that emotional attachment to content creator has a positive relationship with perceived benefit. This result is consistent with Wan et al. (2016), who stated that a strong attachment leads users to maintain a relationship with content creators. This enhances users' experiences, and encourages them to obtain related knowledge, innovative information, and interesting news, all of which can increase users' skill levels. Additionally, how much users engage in these activities is associated with the content creator's skill level.

The statistical results indicate that functional dependence on platform has a significant direct influence at 95% confidence level on emotional attachment to content creator with a coefficient of 0.252 and R-Square of 7.1%. This result supports Hypothesis 3 which states that functional dependence on platform has a positive relationship with emotional attachment to content creator. This result is consistent with Wan et al. (2016) who stated that the effectiveness of features provided on a platform allows users to spend more time on the topics they are interested in. While this is occurring, the users' intention to maintain long-term relationships with other users will strengthen.

The statistical results indicate that perceived benefit, perceived sacrifice, favorable attitude from social norms, functional dependence on platform, and emotional attachment to content creator have a significant influence at 95% confidence level on the perceived benefit with an R-Square of 28.3%. A discussion of the results of each factor follows.

- Perceived benefit has a significant direct effect at 95% confidence level on perceived value with a coefficient of 0.405. This supports Hypothesis 5 which states that perceived benefit has a positive relationship with perceived value. This is consistent with Wang et al. (2005), Chu & Lu (2007), and Lin et al. (2013) who stated that perception of value increases with satisfaction of consumer's experiences related to the quality of products and features. Therefore, rather than letting consumers experience mediocre content among the free content on the internet, it is essential to get them to sense the worthiness in order to pay for the added value of online content.
- Perceived sacrifice has a significant direct effect at 95% confidence level on perceived value with a coefficient of -0.322. This supports Hypothesis 6 which states that perceived sacrifice has a negative relationship with perceived value. This is consistent with Ren & Montgomery (2012), Li & Cheng (2014), and Lin et al. (2013) who stated that the majority of content on online literature platforms is written by amateurs, and the quality is difficult to judge before reading or purchasing. The perception of value decreases due to intangibility and insufficiency of given trial periods and example content.
- Emotional attachment to content creator has a significant indirect effect through perceived benefit at 95% confidence level on perceived value with a coefficient of 0.091.
- Favorable attitude from social norms has a significant indirect effect through perceived benefit at 95% confidence level on perceived value with a coefficient of 0.075.
- Functional dependence on platform has a significant indirect effect through perceived benefit at 95% confidence level on perceived value with a coefficient of 0.137.

The statistical results indicate that perceived value, perceived benefit, and perceived sacrifice have a significant influence at 95% confidence level on purchase intention of online literature with an R-Square of 13.8%. A discussion of the results of each factor follows.

- Perceived value has a significant direct effect at 95% confidence level on the purchase intention of online literature with a coefficient of 0.378. This supports Hypothesis 7 which states that perceived value has a positive relationship with purchase intention of online literature. This result is consistent with Zeithaml (1988), Chu & Lu (2007), Kim et al. (2007), and Lin et al. (2013) who stated that purchase intention comes from the perception of a consumer on the benefit and sacrifice of obtaining a product through the evaluation of their experiences, preferences, and information from the external environment.
- Perceived benefit has a significant indirect effect through perceived value at 95% confidence level on perceived value with a coefficient of 0.150.
- Perceived sacrifice has a significant indirect effect through perceived value at 95% confidence level on perceived value with a coefficient of -0.119.

6. Conclusion

This research studies factors that influence the intention to purchase chapters of online literature. Quantitative approaches using online questionnaires were applied for gathering data. In addition, the value intention model, status quo bias theory, and integration of attachment theory and socio-technical systems were applied as guidelines in developing the conceptual model. The findings suggest that functional dependence on platform has a significant positive influence on emotional attachment to content creator, while perceived benefit is mostly affected by favorable attitude from social norms, functional dependence on platform, and emotional attachment to content creator. Perceived value is mostly influenced by perceived benefit with a positive relationship, and by perceived sacrifice with negative relationship. On the other hand, perceived value itself has a significant positive effect on the purchase intention of online literature. This research is one of the first to propose the combination of the value intention model, status quo bias theory, and integration of attachment theory and socio-technical systems in understanding the purchase intention of online literature. In addition, this study extended the combination model by adding perceived sacrifice variable from previous studies to fit this study.

6.1 Practical Implications

According to the significance of functional dependence on platform and emotional attachment to content creator, first, the platform should provide convenient channels for socialization among users and content creators to tighten their relationships. This feature assists practitioners to increase perceived benefits of the users on the platform. Second, apart from the first implication, communities – where groups of users share similar interests – should be established to let users share their attitudes and discuss with each other about content. As a result, an increase in favorable attitudes from social norms should positively affect the perceived benefit of the users. Third, the practitioners should be more concerned about controlling and improving the quality of content as perceived sacrifice has a negative impact on perceived value and purchase intention. For example, the platform should provide a proofreading function for content creators. Last, the perceived benefit can be directly increased by publishing exclusive novels written by popular writers on a platform which cannot be found elsewhere.

6.2 Limitation

Practitioners should be aware of several limitations with this research. First, since most participants of the survey are female, the results may be different for male users. Second, since the survey was conducted in Thailand, this research may not be relevant to the behavior of foreign users because of cultural and social value differences. Third, this research cannot be applied to other fee-based platforms in Thailand – such as streaming movies and music – as consumers perceive value differently for each product or service. This is especially true for online literature platforms, which are perceived uniquely since they are filled with non-professional user-generated content, while most streaming products are well known nationwide.

6.3 Future Research

Even though chapter purchase platforms have been popular for years in many countries, it has only recently been adopted in Thailand. Most users haven't fully experienced fee-based online literature platforms and have never made an actual payment, as they often can access online literature free of charge, such as by using tokens from playing games and watching advertisements. As a result, present attitudes and behaviors of users might be unstable as the market is in an early stage. Thus, the users on these platforms should be resurveyed after the market becomes more stable.

Furthermore, from the results of this study, the effect from functional dependence on platform to emotional attachment to content creator was determined to have a low R-square of 7.1%. This may be due to an insufficient number of relevant factors. Therefore, future research should study additional factors and bring them into the analysis in order to improve the R-square of the model. In addition, from the results of this study, it was found that functional dependence on platform plays a significant role in determining perceived benefit in online literature platform with a coefficient of 0.338. Thus, future research should further study the factors influencing functional dependence on platform.

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Macroeconomics Effects on Project Finance Performances and Sustainability

Francesco Campanella[1], Luana Serino[1], Teresa Nelli[1], Domenico Graziano[1]

[1]Department of Economics, University of Campania "Luigi Vanvitelli", Capua (CE), Italy

Correspondence: Francesco Campanella, University of Campania "Luigi Vanvitelli", Capua (CE), Italy

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Abstract

The aim of this study is to demonstrate whether the macroeconomic variables have a significant impact on profitability, sustainability, and value creation of projects implemented with the project financing technique. The empirical analysis was developed using the performance trend from 1997 to 2014 (18 years) of 10 large infrastructure projects financed using the project financing technique in BRICS countries (Brazil, Russia, India, China, South Africa) and in PIIGS countries (Portugal, Italy, Ireland, Greece, Spain). The results show that the indicators of economic performance and financial sustainability are influenced by various macroeconomic variables. Instead, value creation indicators are affected little by exogenous factors. In the operative sense, our work suggests that in the design phase of an infrastructure it is necessary to consider that macroeconomic factors can positively or negatively impact economic and financial performance.

Keywords: project finance, public-private partnership, BRICS, PIIGS, performance, sustainability

1. Introduction

Project finance has ancient origins, but in recent years has had numerous applications in the public-private partnership (PPP) for infrastructure sector. The return of this financing model is caused by the crisis in public budgets that has reduced the available financial resources.

The scarcity of resources has undermined entire economic systems, especially in those countries that have a high public debt that needs restructuring interventions. Therefore, while some high-growth countries with sustainable debts, called BRICS (Brazil, Russia, India, China, South Africa), suffered less from the effects of the economic crisis on structural investments, others, called PIIGS (Portugal, Italy, Ireland, Greece, Spain), added to the effects of the crisis and a high public debt that has contracted public investments.

The aim of this research is to highlight the effects of macroeconomic imbalances on the economic and financial performance of investments in infrastructures financed through project financing. In fact, the project financing technique could be inefficient if used without considering the negative influence of macroeconomic imbalances in the relative countries. Therefore, in our research we have selected a sample composed of BRICS and PIIGS countries that have invested in large infrastructures using the project financing technique from 1997 to 2014.

Starting from these hypotheses and methods, the contribution of our work is to highlight the existence of a link between macroeconomic variables and profitability, sustainability, and the creation of project finance value.

Beyond the introduction, this paper is organized into four additional sections. The second section, the literature review, describes the main topic of PPP. The third section describes the sample and methods and the fourth describes the results. In the fifth section the discussion and conclusions of the empirical research are shown.

2. Literature Review

During the past two decades, an important new method of large-scale financing, called project financing, has took place in Europe.

Starting from the most accredited definition, belonging to Nevitt (2000:1), project financing is "a financing operation of a particular economic unit, in which a lender considers, from the initial state, the cash flow of the economic unit in question, as the source of funds that will allow repayment of the loan and the activities of the economic unit as collateral for the loan".

Project financing, or project finance, is a form of financing through which public administrations can use private capital for the realization of projects and infrastructures for community use.

Kensinger and Martin (1988) present several advantages of a project realized through a PPP, as its own flexibility allows the project to increase "above and beyond the possible structural rigidity of the legal environment to which it has to be adapted" (Gatti, 2013, p. 234). Among the comparative advantages, the most important is the reduction of information costs and tax liabilities. In addition to these advantages, the project financing technique makes it possible to ensure that the operational and financial risks of the project carried out using this technique do not affect the company's existing activities. In project financing, the project is managed by a separate company that is owned by a project sponsor.

The agreement between public administration and the private company can take place through the establishment of a project company (also called SPV or Special Purpose Vehicle), which is owned by a project sponsor, that usually takes an active role in the realization and/or management of the project itself. The realization of the project takes place through the preparation of a series of contracts with multiple parties, including the host government, the project's customers and suppliers, and the banking system that typically provides most of the debt financing. This contractual organization allows for the reduction of agency problems and the allocation of specific project risks to those parties best able to manage them is realized (Brealey, Cooper, & Habib, 1996).

As a consequence, the risks inherent in each economic operation are maintained, for each of the subjects involved, within acceptable levels of tolerability. This formula emphasizes the crucial role of resources complementarity in the formation of partnerships (Dinica, 2008).

The main difference between conventional financing and project financing is that the economic-financial returns of the project are mixed with those of the other existing projects, but in project financing a project is evaluated solely on the basis of its ability to generate consistent cash flows (Shah & Thankor, 1987).

Traditional financing instruments use loans to finance all of the economic activity of the financed company in general, in project financing the loan is aimed toward the realization of a certain work or activity on the basis that the economic return of such work depends on final remuneration of the lender. For this reason, in project financing it is fundamental to find a trade-off between the needs of public administration compared to the needs of the community, the needs of sustainability, and financial profitability of the investment.

Return on Investment (ROI) is used to measure the profitability of a project, that is the capacity of invested capital to generate economic returns. To evaluate the feasibility of a project, that consists of the verification of the economic convenience of the developer to promote investment, indexes such as the Net Present Value (NPV) and the Internal Rate Return (IRR) are used. However, one of the characteristic elements of project financing is the high use of leverage by the vehicle company. For this reason, the objective is to ensure that the vehicle company is able to repay the debt contracted and remunerate capital invested (Gatti, 2008) through the project's operating cash flows generated during the period in which the work is said to be hot, which is fully operational. To this end, to monitor the vehicle company's ability to repay the debt, and therefore consequently the financial sustainability of the project, that is the ability to generate sufficient cash flows to guarantee the repayment of activated loans, bankability indexes are used. In this way, the financial soundness of the project is highlighted (Falini, 2008).

For assessing the bankability of a project, realized through PPP, different indices can be calculated. The Debt Service Coverage Ratio (DSCR) is calculated because it represents the capability of the project to repay the debt service in each time period of the life of the project. In fact, in each period of time the DSCR is given by the ratio between the cash flow generated by the project and the debt repayment in the same period. The Loan Life Cover Ratio (LLCR), given by the annual report between the NPV project and the amount of debt, evaluates the SPV ability to repay an outstanding loan. The Project Life Cover Ratio is like the previous. It is obtained from the relationship between DSCR and the LLCR. In general, a project realized through the project financing formula should mitigate risk through a high degree of bankability, high debt leverage, and low level of equity capital (De Marco et al., 2016)

The practice of project financing as a financing technique has very distant origins. In Texas in the 1920s, specific contractual structures were used to mitigate the risks associated with the research and exploitation of oil fields (John & John, 1991).

During the 1920s, this practice became widely used in the United States in the energy sector, as this sector has different potential environmental and safety risks, which must be opportunely managed (Razavi, 1996).

Since the 1980s, project financing has established itself as an infrastructure financing technique to compensate for the limitation of the public funds available which exists in many countries (Grimsey & Lewis, 2002). Therefore, during the nineteenth century, increasing attention addressed the potential role of private financing through public–private partnerships (Eichengreen, 1995; Estache, Serebrisky, & Wren-Lewis, 2015).

About the relation between public and private subjects, a PPP is defined broadly as "a cooperative arrangement between the public and private sectors that involves the sharing of resources, risks, responsibilities, and rewards with others for the achievement of joint objectives" (Kwak, Chih & Ibbs, 2009, p. 52).

In addition, project financing can be seen as a driver of the economic growth process, both in developed economies and in low-income countries (Kleimeier & Versteeg, 2010). PPPs used for infrastructure services allow for the increase of value for money by providing more efficient and reliable services (Kwak et al., 2009; Nisar, 2007). For this reason, PPPs have emerged as a contractual strategy of funding infrastructure in BRIC as well as in PIIG countries.

According to World Bank's Private Participation in Infrastructure (PPI) database, in a period of two decades (1990-2010) the BRIC are the top four countries in terms of number of infrastructure projects realized through private participation. In fact, this number, about 3000, is approximately 50% of the total global projects (Kateja, 2012). However, in terms of investment, Russia lags behind the other three emerging markets, but the growth is mainly driven by China (Mwase & Yang, 2012).

In 2010, South Africa joined the group of four emerging powers, which changed its name to BRICS. The South African PPPs experience started recently. Indeed, in the late 1990s, the South African government set a framework which allows the recourse to PPPs, creating a dedicated PPP unit to increase the confidence of potential private partners. However, projects in PPP have been mainly realized in telecommunication, little progress has been made in the infrastructure sector (Akintoye & Beck, 2009).

About the PPPs experience in PIIGS countries, Portugal has been positively demonstrating its effect in rapidly developing infrastructure service and in improving their quality in terms of reliability (Monteiro, 2005). Portugal has intensively used the project financing formula to build most of the highway network. This network has increased by 700% between 1990 and 2007 and similar improvements have been made in Ireland, which recorded an increase of 900%, and in Greece with a reported increase in the highway network of 500% (Sarmento & Renneboog, 2015).

In Italy, Ireland, Greece, and Spain different PPPs in the infrastructure sector have been realized, but these countries suffer from legislative and enforcement deficiencies.

In this context, Grimsey & Lewis (2005) gave important information about projects made through project financing method in Italy, Ireland and Greece.

In Italy, the Merloni Bill[1] (enactment in 1994) set the framework to regulate the use of private capital in public works nd in 1999 a PPP task force was established. However, the use of new projects in the form of project financing is extremely discouraged because of the administrative complexity and legislative ambiguity that exists in this field.

In Ireland, major new road developments are now undertaken and funded through the project financing technique, like the M4 PPP Toll Motorway Projects which was signed in March 2003 and is the first Irish road PPP from Kinnegad to Kilcock.

In Greece, there are legal problems to be resolved, but different PPP projects have been realized and completed, such as the Spata Airport and the Athens ring road.

Regarding Spain, the situation is more serious because it is characterized by an absence of a regulatory framework and laws that do not cover concessions. However, in recent years private financing, through a PPP, of new infrastructures is growing (Benito, Montesinos, & Bastida, 2008).

In general, the principal reason that justifies the adoption of PPPs, both in BRICSs and in PIIGS countries, is that it allows for the resolution, at least partially, of the deficit of physical infrastructures of the countries, involving private participations in the projects.

Our work contributes to the existing literature, filling an empirical lack, by establishing a relationship between macroeconomic variables and the profitability and financial sustainability of the projects implemented through PPP. In fact, although there is a stream of literature that found the link between macroeconomic variables and classical project performance (Aizenman & Marion, 1993; Denizer, Kaufmann, & Kraay, 2013; Ghura & Goodwin, 2000; Kaufmann & Wang,1995; Kilby, 2000; Mlambo & Oshikoya, 2001; Schiantarelli & Sembenelli,

[1]Since 1994, the Merloni Law has been amended several times to reach a better regulation for project financing in the infrastructure sector.

1997), there is a lack regarding the influence of projects realized through PPP.

The aim of this study is to demonstrate whether the macroeconomic variables have a significant impact on profitability, sustainability, and value creation of projects implemented with the project financing technique.

3. Sample and Methods

The empirical analysis was developed using the performance trend from 1997 to 2014 (18 years) of 10 large infrastructure projects financed using the project financing technique.

In particular, five projects have been developed in the BRICS countries and five have been developed in the PIIGS countries. In total, the sample consists of 180 observations.

The values of the variables were quantified according to the information derived from Thomson Reuters (Eikon and Datastream) and the financial statements of the SPV.

The analysis was performed using the panel data regression model and adopting a random effects model.

Regarding the methodological point of view, the demonstration of the research hypothesis was carried out by adopting the following model:

$$(ROI_{1997\text{-}2014}; LLCR_{1997\text{-}2014}; NPV_{1997\text{-}2014}; IRR_{1997\text{-}2014}) = f(\text{Brics\_Piigs; Deficit\_gdp; Inflation; Monetary; Trade\_surplus; Delta\_gdp; Tax\_benefits; Rating; Banking\_Outlook}) \quad [a]$$

Where the dependent variables are:

$ROI_{1997\text{-}2014} = \frac{EBIT}{Total\ asset}$. This variable is the indicator of profitability of the project. It is an index that expresses the profitability of the total financial resources employed in the business activity, therefore it indicates if the assets are used efficiently

$LLCR_{1997\text{-}2014} = \frac{\sum_{t=s}^{s+n} \frac{Cash\ flow^t}{(1+Wacc)^t} + Debt\ Reserve}{Outstanding_t}$. This variable is the indicator of bankability during the period of debt existence. This indicator measures the project's ability to repay the debt contracted through operating cash flows.

$NPV_{1997\text{-}2014} = \sum_{t=0}^{n} \frac{Cash\ Flow_t}{(1+WACC)^t}$. This variable is the present value of expected cash flows using the opportunity cost of capital. While ROI measures project performance, the net present value measures the value created by the project for shareholders. Furthermore, ROI is influenced by accounting measures while the NPV refers to market measures.

$IRR_{1997\text{-}2014} = \sum_{t=0}^{n} \frac{Cash\ Flow_t}{(1+IRR)^t} = 0$. This variable makes the NPV of all cash flows from a particular project equal to zero. The selection of investment projects using the IRR method is simpler than the NPV method. However, the IRR method has limitations that can make the investment choice wrong.

The independent variables are:

Brics_Piigs. This variable has a value of 1 if the country in which the project financing investment was made is BRICS. If the country is a PIIGS, the variable has a value of 0. This variable is a proxy of the influence of a country's economic development with respect to the investment in the infrastructure.

Deficit_gdp = $\frac{Deficit}{Gross\ Domestic\ Product}$. This variable is a proxy for the financial solidity of a country and its potential for development. This variable is a dummy variable that has the value of 1 if it exceeds the 3% threshold, otherwise the value is 0. In our research, this threshold is established using the Maastricht Treaty or the Treaty on European Union.

Inflation. This variable is a proxy of consumers' purchasing capacity. According to ISTAT definition, inflation is measured through the construction of a consumer price index, a statistical tool that measures the variations over time of the prices of a basket of goods and services, which represents the actual household consumption in a specific year.

Monetary. This variable is a dummy variable that has a value of 1 if the country is using an expansive monetary policy, otherwise the value is 0. The proxy of the expansive monetary policy is the reduction of interest rates in the years from 1997 to 2014.

Trade_surplus. This is a variable that measures the development potential derived from the international trade of a country. In our research this variable is a dummy variable that has a value of 1 if the trade surplus exceeds 6%, otherwise the value is 0. In our research, this threshold is established using the European Union Macroeconomic Imbalance Procedure.

Delta_gdp = $\frac{GDP_t}{GDP_{t-1}} - 1$. This variable measures the annual growth rate of the Gross Domestic Product (GDP).

This variable is a proxy of the economic development rate of a country.

Tax_benefits. This variable is a dummy variable that has a value of 1 if the country has a tax law favorable to investments financed using the project financing technique, otherwise the value is 0.

Rating variable refers to the country's debt rating. Specifically, the country rating is that of Standard and Poor's Global Ratings. This alphabetic variable was converted into a numeric variable (AAA = 1; D = 10).

Banking_Outlook. This variable is a judgment expressed by Standard and Poor's Global Ratings on the future stability of a country's banking system. This variable is a dummy variable that has a value of 1 if the outlook is positive, otherwise the value is 0.

4. Results

Before commenting on the regression analysis and answering the hypothesis of research, it is necessary to make some considerations regarding the correlation analysis between the variables distributed normally using the Pearson indices correlation matrix (Table 1).

Table 1 shows that many variables in the period 1997-2014 are significantly correlated, but often Pearson's indices are low.

Table 1. Pearson correlations for variables from 1997 - 2014

	ROI	LLCR	NPV	IRR	Brics_ Piigs	Deficit/ gdp	Inflation	Monetary	Trade surplus	Delta_ PIL	Tax_ benefits	Rating	Banking Outlook
ROI	1												
LLCR	0.335***	1											
NPV	0.502***	0.193***	1										
IRR	0.023	0.062	-0.033	1									
Brics_ Piigs	-0.034	-0.016	-0.022	-0.720***	1								
Deficit/ gdp	-0.132*	-0.056	-0.137*	0.018	0.067	1							
Inflation	0.052	0.009	0.047	-0.008	-0.008	-0.026	1						
Monetary	0.182***	0.245***	0.153**	0.076	-0.138*	-0.018	0.026	1					
Trade surplus	0.022	0.055	-0.105	-0.076	0.044	0.045	-0.086	0.069	1				
Delta_ PIL	0.077	-0.044	0.044	0.151**	-0.209**	-0.149**	0.050	0.103	-0.158**	1			
Tax_ benefits	0.852***	0.266***	0.417***	-0.027	0.011	-0.061	0.067	0.198***	-0.011	0.120	1		
Rating	-0.025	-0.015	-0.002	-0.540***	0.759***	0.082	0.065	-0.052	-0.113	-0.020	0.044	1	
Banking Outlook	0.289***	0.843***	0.143**	0.023	0.000	0.036	-0.030	0.195***	-0.045	0.013	0.316***	0.030	1

***Correlation is significant at the 0.01 level

**Correlation is significant at the 0.05 level

*Correlation is significant at the 0.10 level

To investigate the cause-effect relationship between the variables under investigation and provide responses to the research hypotheses, GLS analysis was performed (Table 2).

First, we calculated both the fixed effects and random effects to decide which are the best solution using the Hausman Test. The results suggest the development of random effects because, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model. In addition, random effects assume that the entity's error term is not correlated with the predictors, which allows for time-invariant variables to play a role as explanatory variables.

With respect to the research hypothesis, the results show that:

Regarding *ROI*$_{1997\text{-}2014}$ the variable *Deficit_GDP* is negatively correlated with the *ROI index*. On the other hand, the variable *Tax_benefits* positively influences the economic performances of the project

Table 2. Panel data regression – Random effects (coefficients and z-value)

PANEL	ROI$_{1997\text{-}2014}$	LLCR$_{1997\text{-}2014}$	NPV$_{1997\text{-}2014}$	IRR$_{1997\text{-}2014}$
(Constant)	0.313(7.90)***	0.266 (6.56)***	0.483 (7.07)***	0.461 (8.73)***
Brics_Piigs	-0.006 (-0.16)	0.002 (0.04)	0.004 (0.06)	-0.400 (-8.26)***
Deficit/GDP	-0.047 (-2.10)**	-0.055 (-2.41)**	-0.062 (-1.60)	0.037 (1.24)
Inflation	0.001 (0.03)	0.043 (1.07)	0.009 (0.14)	-0.013 (0.24)
Monetary	0.004 (0.16)	0.048 (1.96)**	0.048 (1.16)	-0.012 (-0.39)
Trade surplus	0.014 (0.61)	0.047 (1.99)**	-0.061 (-1.55)	-0.025 (-0.80)
ΔPIL	-0.040 (-0.89)	-0.072 (-1.55)	-0.049 (-0.63)	0.008 (0.13)
Tax benefits	0.474 (19.96)***	-0.008 (-0.34)	0.221 (5.39)***	-0.011 (-0.36)
Rating	-0.003 (-0.73)	-0.002 (-0.38)	-0.002 (-0.22)	-0.000 (-0.04)
Banking Outlook	0.016 (0.66)	0.486 (20.01)***	0.001 (0.03)	0.016 (0.52)
Adj R^2	0.74	0.73	0.21	0.01
Wald chi^2	480.65 ***	479.59***	43.63***	188.70***

***Correlation is significant at the 0.01 level

**Correlation is significant at the 0.05 level

*Correlation is significant at the 0.10 level

About LLCR$_{1997\text{-}2014}$, the variable *deficit_GDP* is negatively correlated with the *LLCR index*. On the other hand, the variables *Monetary, Trade_surplus*, and *banking outlook* positively influence the *bankability index*.

Concerning *NPV*$_{1997\text{-}2014}$, the variable *Tax_benefits* positively influence *NPV project*. Referring to *IRR*$_{1997\text{-}2014}$, the variable *Brics_Piigs* is negatively correlated with *IRR*.

In general, the results show that the indicators of economic performance (ROI) and financial sustainability (LLCR) are influenced by various macroeconomic variables. Instead, value creation indicators (NPV and IRR) are affected little by exogenous factors.

5. Discussion and Conclusion

With respect to the research hypothesis, we have found that some macroeconomic variables influence profitability (ROI), sustainability (LLCR), and value creation (NPV and IRR) of projects financed through project finance. Therefore, the research hypothesis is partially confirmed. In fact, not all of the variables selected in this research influence the performance of project finance.

In particular, the results show that the financial and economic sustainability of project finance is more influenced by macroeconomic variables than profitability and value creation. In fact, four variables are significant with respect to the bankability of the project. We also found that the balance of the state budget is relevant to the bankability of the project. Furthermore, sustainability is positively influenced by expansive monetary policies (i.e. quantitative easing), by the surplus of the trade balance, and by a positive judgement from rating agencies concerning the soundness of the country's banking system.

In order of relevance, profitability is the second variable most influenced by macroeconomic indicators. Particularly, the balance of the state budget influences the profitability of the project. Furthermore, we have observed that a tax policy favorable to project financing has a positive effect on the economic performance of the same.

Finally, the creation of value generated by project finance, measured by NPV and IRR, is the variable less influenced by macroeconomic factors. In fact, only a favorable tax policy seems to be relevant compared to NPV. Instead, a country belonging to the BRICS group or PIIGS influences IRR. The scarce influence of the macroeconomic variables confirms a limitation of capital budgeting techniques. In fact, these evaluation techniques do not consider the potential influence of the macroeconomic context on the project. In conclusion, we found that external factors have an influence on infrastructure project financing. This is the important contribution of our empirical work.

Overall, this research has significant implications in the operative sense. Indeed, based on our findings, our work suggests that in the design phase of an infrastructure it is necessary to consider that macroeconomic factors can positively or negatively affect economic and financial performance.

In other subsequent studies it would be appropriate to deepen this research in other geographical contexts. For example, it would be appropriate to study the effects of macroeconomic variables on project finance in countries such as Africa, where some factors such as corruption can also negatively impact investment performance.

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Dynamics of Stock Prices and Market Efficiency

Antônio André Cunha Callado[1], Carla Renata Silva Leitão[2]

[1]Full Professor, Programa de Pós-Graduação em Controladoria, Departamento de Administração, Universidade Federal Rural de Pernambuco, Recife/Pernambuco, Brazil

[2]Adjunt Professor, Programa de Pós-Graduação em Controladoria, Departamento de Administração, Universidade Federal Rural de Pernambuco, Recife/Pernambuco, Brazil

Correspondence: Antônio André Cunha Callado, Programa de Pós-Graduação em Controladoria, Universidade Federal Rural de Pernambuco, Recife/PE, Brazil, Rua Estrela, 203, apto 402, Parnamirim. CEP: 52.060-160, Brazil.

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Abstract

Over the last few decades, academic research on market efficiency has taken a leading position in the field of financial theories. The objective of this paper is to present contradictions within the evidence about market efficiency and discuss efficiency measurement as an emerging approach. The paper presents the evolution of research and also the lack of convergence between evidence provided by the literature and the lack of consistent arguments for explaining them. The paper also presents a framework that illustrates intermediate levels of efficiency and the first approach designed to measuring market efficiency. Finally the paper points out that divergences amongst the empirical evidence found in the literature should be considered as a key issue and further efforts should focus on specific conceptual elements inherent to its operationalization. Therefore, econometric models should not be given the exclusive responsibility of explaining market efficiency, nor possibility of incorporating alternative epistemological perspectives into the efficient / inefficient duality should be kept outside.

Keywords: market efficiency, partial efficiency, measurement of efficiency

1. Introduction

Over the last few decades, financial research has evolved significantly from empirical studies on the efficiency of stock markets, contributing to modern portfolio theory, investment analysis, risk management, and international integration of the capital markets. However, the evidence found in both international and Brazilian literature is not convergent with each other and its causes have been attributed to the methodological procedures, the time intervals investigated, the frequency of the series and the types of series used. The objective of this paper is to present contradictions among evidence about market efficiency and discuss an emerging approach for academic research in this field.

The theoretical relevance of the studies on market efficiency is related to understanding the behavior of the stock markets, as well as to the developments generated by the expansion of the scope of research in the area of finance. The Efficient Market Hypothesis (EMH) is certainly one of the most relevant investigative strands for the modern theory of finance. Its research has been boosted by both its theoretical perspectives and its practical applications.

Due to its importance, EMH has been extensively tested over the last decades. Comments on the conceptual components of EMH can be found in Malkiel (1992). For this author, a market is considered efficient if it is able to reflect all relevant information in the process of determining stock prices. A broad review of the main theoretical and empirical aspects related to market efficiency was elaborated by Fama (1970). For this author, in an efficient market, all available information will be fully reflected in stock prices and the proper operationalization of stock market research needs to consider it to be efficient and in balance.

Comments on this theoretical-empirical review can be found in Leroy (1976), who suggests a conceptual imprecision about market efficiency in which a market should be considered efficient when all the information needed to predict future stock prices is reflected in its current prices, rather than considering all available information. Although Fama (1976) corroborated this new definition, the original one presented in 1970 has been predominantly accepted and diffused within the literature.

2. Market Efficiency

In the vast literature regarding market efficiency, early contributions to empirical studies on stock price behavior are attributed to Bachelier (1900), Cowles (1933), Working (1934), Williams (1938), Kendall (1953), Roberts (1959), Working (1960), Granger and Morgenstern (1963) and Samuelson (1965) (CAMPBELL; LO; MACKINLAY, 1997).

The EMH was mathematically formalized in the 1960s, through a model designed to represent the process by which time series of stocks prices would not present predictable patterns of behavior that could be successfully forecast considering only their past values. The contribution made by Samuelson (1965) is an important breakthrough for the theoretical notion about informational efficiency. This contribution was based on the understanding of efficiency stemming from the assertion that stock prices behave in a random manner. Comments that support this perspective can also be found in Ceretta (2001).

From this theoretical notion of efficiency, one can expect that successive changes in the prices of shares traded in an efficient stock market should behave independently from one another, and no investor could use such information (which is publicly available) to earn extraordinary future gains. Campbell, Lo and MacKinlay (1997) argue that changes in prices must be unpredictable but, in addition, prices must fully incorporate the expectations as well as the information available.

Given the assumption that any given stock market is considered efficient and in equilibrium, the expected financial returns (for a certain instant of time) arising from changes in stock prices should reflect all available relevant information up to that date. In a conceptually efficient stock market, no evidence should be found about serial relations between present and past returns, considering it would stand against unpredictability and independence and statistically significant autocorrelations could be characterized.

A detailed presentation of this conceptual expectation can be found in Cuthbertson and Nitzche (2004). If time series of stock returns have evidence of autocorrelation, EMH has been violated, since the error obtained may exert a predictive effect in relation to future returns. Fama (1991) goes even further on these matters, pointing out that market efficiency assumes that returns are unpredictable from past returns or any other past variables. If stock prices can be predictable (absolute or partially) through the use of available information, then EMH cannot be sustained because of the unequivocal inefficiency evidence found.

3. Conceptual Dimensions on Market Efficiency

A significant amount of the empirical research carried out to study EMH, as well as several theoretical constructs developed over the last three decades regarding the behavior of stock markets, has assumed that these markets can be efficient and therefore unexplored opportunities would be quickly disappearing. Market efficiency can be considered in different conceptual dimensions. Akhter and Misir (2005) and Simons and Laryea (2006) present the characteristics of the three conceptual dimensions associated with EMH as follows:

- Allocational efficiency;
- Operational efficiency;
- Informational efficiency.

The research carried out to focus on allocational efficiency seeks to analyze if the financial resources are allocated in projects that have more adjusted risk/return ratios. Operational efficiency research aims to analyze whether transactions are carried out quickly, correctly and with low acceptable cost. Research on information efficiency aims to analyze if the stock reflects all relevant available information into its prices. Informational efficiency has been the prevailing focus of research considered for empirical investigations on EMH.

Informational efficiency is characterized by Verma (2005) as the one that investigates the ability to predict future changes in stock prices based solely on information as related to the notion of efficiency. The analysis of this definition of informational market efficiency covers a judicious set of assumptions, as well as demands a sophisticated and robust methodological approach. Simons and Laryea (2006) present several considerations about the scope and diversity of topics contained in the financial literature from which it is argued that there is a tendency to choose informational efficiency when discussing market efficiency.

A contextualization of this conceptual perspective about international informational market efficiency can be found in Malliaris and Urrutia (2003). International market efficiency is presented as the one in which globally traded stock prices reflect all available information about world economic activity.

Commenting on the premises of stock price behavior in the context of an efficient stock market, Sharma (2006) points out that, among the general theoretical assumptions made, all traded shares in a given stock market should be almost perfect surrogates. The acceptance that all the shares traded in a stock market seem to be almost perfect surrogates of one another suggests that such market should present the following characteristics:

• Large number of traded shares;

• Significant amount of trade operations;

• Large number of both individual and institutional investors;

• Significant amount of financial resources;

• Ensure symmetrical disclosure of information;

• Equilibrium.

If any given individual stock traded in a stock market is to behave in a manner which is consistent with the notion of efficiency and market equilibrium, it must be uninterruptedly considered for trading over a certain period of time. It is necessary to emphasize that the presence of these characteristics is not enough to assure the acceptance of the EMH, nor to eliminate the need to carry out empirical investigation designed to corroborate it or to refute it.

4. Characteristics of Returns

Within the various research operational possibilities, the observable returns in a stock market can refer to different types of assets, namely:

• Individual stock returns;

• Market index returns;

• Portfolio returns.

The literature presents two main alternative operational methodologies for the calculation of returns. The first one is responsible for calculating simple returns. The second one operationalizes the calculation of compound returns.

The simple return calculation is operationalized through a conventional formula designed to represent its rate of change, highlighted below:

$$\mathrm{R}_{\mathrm{t}} = \frac{P_t - P_{t-1}}{P_{t-1}} \tag{1}$$

Where,

R – Return

P – Stock price

t – Index of time

The calculation of compound returns is operationalized through the representation of stock prices in logarithm. This approach can be accomplished through two different formulas, namely:

$$\mathrm{R}_{\mathrm{t}} = \log P_t - \log P_{t-1} \tag{2}$$

Or

$$R_t = \log\left(\frac{P_t}{P_{t-1}}\right) \tag{3}$$

Where,

R – Return

P – Stock price

t – Index of time

In Costa Jr. and O'Hanlon (2000) and in Dritsaki (2005) are presented several arguments that support the adoption of returns calculated through the procedure expressed in logarithm as the most likely to be normally distributed. Sharma (2006) adds emphasizing that the use of this approach reduces the bias arising from changes in stock prices due to their increasing. From this expectation, it is assumed that the various parameters calculated have robustness.

When adopting a specific methodology for the calculation of returns, it is necessary to consider some operational peculiarities inherent to the periodicity of the calculated returns or the type of financial asset investigated. In this sense, several alternative procedures for the calculation of individual stock returns and stock market indices can be pointed out in comparison to the calculation of the return regarding stock portfolios. Taylor (2005) points out that a daily return from individual stocks (similarly to daily returns on market indices), is rarely in the range of -10% to 10%, and therefore, it would be surprising if some important conclusion depended on the choice of the returns calculating method. Given the magnitude of daily returns, the results obtained tend to behave indifferently in relation to the calculation method used.

In the case of stock portfolios returns, specificities deriving from each of the alternative modalities can be found. Campbell, Lo and MacKinlay (1997) present arguments about them. For these authors, the simple return of a stock portfolio is obtained by summing the various simple returns inherent to each of the individual shares proportionally weighted, unlike the composite return of a stock portfolio that does not have this same mathematical property, since that the log of a sum is not equal to the sum of logarithms.

The acceptance of market efficiency implies that the series of returns follow a Random Walk trajectory, unlike the acceptance of the influence of exogenous factors on the process of future returns. The absence of unpredictability on a series of returns is presented by Robinson (2005) as a factor that contributes to the reduction of its amplitude and its liquidity, since investors unfamiliar with its operation will refuse to participate in operations in such markets. Another relevant problem is presented by Ojah and Karemera (1999). For these authors, the presence (or absence) of the properties of a Random Walk trajectory in the series of stock returns has important implications for trading strategies, as well as for pricing models.

The acceptance of EMH does not formally require that stock market prices be the same as the baseline values, but it does require that the discrepancies between these values are not biased. To the extent that these discrepancies are random, the traded shares may be undervalued or overvalued at any instant of time.

Another relevant construct for the understanding of the market informational efficiency is associated with future prices forecast errors. In Cuthbertson and Nitzche (2004), references are made about the prediction errors inherent characteristics (zero mean and not correlated with any information that was available at the instant of time in which the forecast was made), assuming the following representation:

$$P_{t+1} = E_t P_t + \varepsilon_{t+1} \tag{4}$$

Where,

P - Price

E - Predictability factor

ε - Error

t – Index of time

Through this model, it can be observed that the future price is presented as a function of the predicted price at the previous time instant added to the error. Ferson, Heuson, and Su (2000) present a focused discussion on predictive capacity over future returns by comparing regressions that consider daily returns relative to regressions that consider returns over longer time intervals. According to these authors, the R^2 values obtained were larger, because the expected returns are more persistent than the returns themselves.

This distinction is important because it reveals the influence of particularities inherent to returns, especially considering the presence of long-term structural factors that will exert an influence on returns more consistently than only the daily variations in the negotiation process and that may be used to predict future returns.

Regarding the possibility of using past returns to predict future returns, Costa Jr., Leal and Lemgruber (2000) point out that the predictability of future returns may be due to three distinct factors and that each of these factors has its own characteristics and should be considered as dimensions, independent of each other, but all of them being capable of causing disruption of EMH:

• Rational changes in market expectations;

• Inefficiency;

• Anomaly.

Rational changes on market expectations can be generated from abrupt paradigmatic ruptures. Inefficiency is understood as the possibility of obtaining extraordinary gains based on available information. Anomalies can also make extraordinary gains. Anomaly is defined by Neves and Leal (2004) as being the statistically significant difference between the observed average return of an asset, associated to certain specific characteristics, and the expected return through a specific pricing model for this same asset.

It should be emphasized that the distinction between inefficiency and anomaly has been no easy task to be made. The distinction between anomaly and inefficiency is presented by Robinson (2005) as an issue open to discussion among academics and that the literature still lacks clearer definitions of market imperfection and market anomaly.

Several definitions of anomalies can be found in the literature, some of which contain different terminologies. For Cuthbertson and Nitzsche (2002), anomalies are rational investors' irrationalities or inability to equate fair value with the effective price. For both Bodie, Kane and Marcus (2000), and Neves and Leal (2004), anomalies are considered as evidence inconsistent with EMH, as risk factors can affect the return of assets and be used as a basis for the development of investment strategies that generate superior returns.

Inefficiency is associated with the possibility of identifying temporary opportunities of higher gains by some investors to the detriment of the others, while anomaly refers to the identification of some characteristic (or risk factor) that can be considered for the elaboration of investment strategies that does not disappear or even has regularity.

In essence, an anomaly should be considered as market inefficiency, as it violates the notion of randomness and unpredictability about future returns, but it contains elements unrelated to the assumptions of market rationality. On the other hand, inefficiency can not be conceptually considered as an anomaly because, although it is a violation of the notion of randomness and unpredictability about future returns, it tends to disappear, based on the rational decisions of market agents.

5. Operationalizing Research Regarding Market Efficiency

The process of operationalizing the analysis of market efficiency is done through several tests designed specifically to corroborate/refute EMH, considering the different levels of information efficiency, originally classified by Fama and French (1988) and further elaborated by Fama (1991).

The operationalization considers that stock markets can be efficient in different ways, depending on the speed at which the information is incorporated into the negotiated stock prices, being efficient in all weak, semistrong and strong forms. The different levels of efficiency proposed by this classification consider different operational attributes related to their respective capacity to maintain informational efficiency.

As the classification of market efficiency levels considers the full incorporation of information from different dimensions, it is reasonable to assume that the various efficiency tests developed over the last decades are classified through this same reference. Fama (1991) emphasizes that the tests designed to analyze the different levels of efficiency have different characteristics. The market efficiency tests are grouped as follows: Efficiency tests of the weak form (predictability tests); Tests of efficiency of the semistrong form (tests of events); Strong form efficiency tests (private information tests). In order to test EMH at any of the three efficiency levels, it is necessary to consider the dynamics of the incorporation of new information by stock prices based on the specificities of each one of them.

The various tests presented in the literature are designed to evaluate specific circumstances that need to be adequately considered, under penalty of generating spurious and meaningless results. Comments on the lack of consensus on the accuracy of the various efficiency tests in terms of their ability to accurately measure the efficiency of a given stock market can be found in Akinkugbe (2005).

Weak form market efficiency tests are known as returns predictability tests. In Elton et al. (2004) references can be found by which it is emphasized that predictability tests consider historical stock price series to investigate their predictive ability on future returns.

Predictability tests analyze the ability to disseminate information within a stock market. Bodie, Kane and Marcus (2000) find it improbable that, given the possibility of significant evidence on the predictability of future prices, other investors do not have full access to this information.

The main predictability tests cited by Campbell, Lo and MacKinlay (1997) as theoretically plausible to evaluate Random Walk trajectories constructed from historical series of returns are the following: Sequence and reversals test; Tests of runs (runs test); Technical analysis test; Filter test (filter rule test); Autocorrelation coefficients test; Variance ratio test.

All of these tests that investigate EMH in its weak form consider the possibility of finding evidence that can refute the properties of a Random Walk trajectory and, therefore, reject it. Among them, the autocorrelation test has been widely used to evaluate the weak form of market efficiency. Seminal works, such as Fama (1970), Leroy (1973) and Levich (1979), French and Roll (1986), Fama and French (1988) and Lo and MacKinley (1988), report empirical evidence for autocorrelation of returns of stocks. However, its findings have not been considered significant enough to reject EMH because of its low intensity.

Lo and MacKinlay (1999) apud Malkiel (2003) state that the short-run autocorrelation relative to the time series of stock prices is different from zero and that the existence of a reasonable number of price movements in the same direction rejects the hypothesis that these price series are truly random. Laurence, Cai and Qian (1997) point out particularities about the rejection of evidence of autocorrelation as evidence contrary to EMH, emphasizing that, as the size of the time interval in which autocorrelation is found increases, this evidence will imply a violation in the market efficiency.

In Fama (1991) an analysis is presented in which the literature does not consider evidence of small autocorrelation in daily and weekly series of stock returns to be interpreted as violation of EMH, since they are of low intensity (approximately 1% for individual stocks) and that, therefore, they have not been considered sufficient to invalidate the acceptance of this hypothesis.

Assuming the notion of efficiency proposed by EMH, in which prices should reflect all available information, this test should be appropriate to assess efficiency, since future returns are unpredictable from past returns and have already incorporated variations to the other variables.

Market efficiency tests designed for semistrong form are known as event tests. The main event tests are the following: Ad tests (announcements); Tests of non-anticipated economic news.

These tests consider the possibility of finding evidence that can capture the speed at which stock prices incorporate new information, so that it is not possible to evidence extraordinary gains from ads (mergers, profits, etc.) or that they incorporate information (abrupt changes in the interest rate or exchange rate, fines received or audits).

Comments on the operationalization of efficiency tests in semifortex form can be found in Elton et al (2004). The tests of events are presented by these authors as those that aim to investigate if there is the possibility of exceptional gains, considering the speed of the incorporation of new information to the stock prices.

In Fama (1991), the application and relevance of event studies, as well as references inherent to the expansion of their scope of research (widely verified in the literature over the last 20 years) and the identification of clearer empirical evidence on the market efficiency.

Other arguments that justify the applicability of event studies for the purpose of measuring abnormal changes in publicly traded stock prices, as well as demonstrating that this is one of the most widespread techniques for examining the impact of certain facts on stock prices, may be found in Wells (2004).

Perobelli and Ness Jr. (2000) present a conceptual discussion about the central idea common to all efficiency tests in the semifortex form in which anomalous patterns on returns are sought in the days next to the disclosure of the event that may be related to it. The most common limitations are derived from the time instants of the events, the sample sizes and the measurement of the effects.

Strong form market efficiency tests are referred to as informational symmetry tests. The main tests of informational symmetry are the tests of negotiation and the tests on analysts' forecasting. Elton et al. (2004) point out that these tests consider market efficiency at the strong level and seek to investigate whether insiders can make extraordinary profits through the use of sensitive information.

In Syed, Liu and Smith (1989) references are found on the inherent expectation to market efficiency in the strong form, in which EMH assumes that all information (public or private) is disseminated so rapidly in stock prices that no investor can use them to obtain abnormal returns.

A particular dimension on strong efficiency form can be found in Laird (1995). For this author, if one makes resource allocation decisions in the stock market that are based on undisclosed information, other investors are able to identify this movement and follow it so that stock prices rapidly incorporate such events.

These tests consider the possibility of finding evidence that can capture the misuse of information that is not available to the general public (inside information), as well as tests on analysts' opinion (selection and survival bias).

Wong, Cheung and Wu (2000) present comments on the methodological procedures inherent to the market-efficiency test in its strong form. For these authors, this test consists of an event study focused on notifications of operations performed by directors and executives within the stock market in search of abnormal returns on the days immediately before and after the actual execution of the transaction. Taking into account each of the efficiency tests individually, certain aspects of the stock market are considered with more emphasis to the detriment of the others, since it is difficult to evaluate all the nuances referring to EMH through a single test.

6. Discrepancies Among Empirical Evidence

The evidence found in the literature demonstrates that there is no clear convergence between the results obtained on EMH. Sadique and Silvapulle (2001) present a systematization of the origins of these discrepancies, pointing out that the results obtained have been dependent on the following aspects: methodologies applied; period of time considered for data gathering; frequency of the time series; type of time series considered into the analysis. Frequently these factors have been pointed out as the cause of this antagonism among results, without presenting consistent arguments that are able to explain it.

Other factors may be directly associated with the causes of antagonism in empirical evidence, such as the mathematical models used, the use of market indices as proxies, the differences between structures of the various stock markets and restrictions to the dual approach (efficient market / inefficient market).

In commenting on evidence provided by the literature that point to slow adjustments in stock prices as evidence contrary to EMH, Fama (1998) points out that they are sensitive to different mathematical models and they shouldn´t be considered as sufficient to support a more consistent concept of market inefficiency. In this same sense, Kamara (1982) apud Neftci and Policano (1984) and Vives (1995) emphasize that the empirical investigations carried out have been predominantly considering the use of linear models that may not faithfully represent the behavior of the players that operate in the market.

Even considering only the previous research that adopted similar methodological procedures, still the results diverge among one another. These existing contradictions amongst the evidence presented by the international literature on EMH may be associated with structural deficiencies in the stock markets that have not been yet captured by the widely used linear econometric models.

Another key factor that may be associated with this antagonism is the use of market indexes as proxies that represent the behavior of their respective stock markets (see Abdullah and Hayworth, 1993; Laurence, Cai and Qian, 1997; Kwon, Shin and Bacon, 1997, Chen et al., 1998, and Chen, Firth and Rui, 2001, and Chen et al., 1998, Tsoulakas and Sil, 1999, Mavrides, 2000 and Dritsaki, 2005; Sharma, 2006). Despite all efforts to provide understanding of stock markets efficiency, the contribution to the literature given has been limited, since their results present significant discrepancies.

The importance of the stock markets structure is also an element which is poorly considered in this discussion. From the initial propositions postulated by the Capital Asset Pricing Model (CAPM), proposed by Sharpe (1964), as well as by the Arbitrage Pricing Theory (APT), proposed by Ross (1976), the equilibrium models have been used as methodologies to analyze the efficiency of stock markets without considering any consistent theoretical arguments that questioned the need for adjustments (or even limitations) to the applicability of these models in stock markets that have different development statuses. This same reasoning can be attributed to the time series of individual stock returns.

Conflicting evidence from undeveloped stock markets could be considered as expected. Results obtained from efficiency analysis of the Brazilian stock market have been broadly attributed to the periods of time investigated or to the samples of stocks considered. Leal and Amaral (1990) describe several key points about informational efficiency of the Brazilian stock market in comparison to the behavior that is expected from developed stock markets, particularly low liquidity, a high concentration of trading volume in a few stocks, small number of players and poor operational regulation.

Even among stock markets with the same developmental status, different evidence can be found. Results of EMH investigations carried out in the context of undeveloped markets can be found in Muradoglu, Taskin and Bigan (2000) and Doong, Yang and Wang (2005). These results are not homogeneous for all markets investigated and do not have consistencies between them. The evidences found suggest that the undeveloped markets, when compared, have specificities and react differently in relation to the explanatory variables used.

Comments on this limitation can be found in Dritsaki (2005). For this author, the contradictory results obtained in investigations carried out in the scope of the undeveloped stock markets may be due to the following factors: Periods of time investigated; Instability occurring in these markets.

Finally, another relevant aspect to be considered is associated with the limitations and questions presented in the literature that are inherent to the acceptance of the traditional dichotomy attributed to EMH (efficient/inefficient). This dichotomy can hardly be sustained, since the notion of partial efficiency seems to be more appropriate to reflect the reality of stock markets (see Fama, 1991, Fama 1998, Farmer and Lo 1999).

7. A New Focus for Market Efficiency

Over the last 20 years, discussion on intermediate states of efficiency can be found in the literature. Within it, several arguments about the practical and conceptual constraints on EMH consider as being more plausible that markets are not fully efficient or fully inefficient. Malkiel (2003) points out that the acceptance of EMH in its absolute form has been reduced due to several evidences that have supported the expectation that the prices of the shares are considered as partially predictable. Several arguments have been addressed to support the expectations inherent to accepting an intermediate notion of efficiency, termed partial market efficiency.

In Alkinkugbe (2005), the conceptual notion of partial efficiency is presented as being responsible for the contextualization of a theoretical reference that is opposed to the traditional notion of absolute efficiency (or inefficiency). Robinson (2005) emphasizes that the simple assertion that a market is partially efficient does not add significant meaning to the discussion, and it is necessary to provide clear definitions on the aspects associated with partial efficiency. He further emphasizes that these definitions should not be tied exclusively to the concept of the Random Walk trajectory.

This conceptual perspective on partial market efficiency admits the possibility of an intermediate status, between inefficient markets and efficient markets. The notion of partial efficiency is presented by Farmer and Lo (1999) as being more advantageous than the notion of absolute efficiency (or inefficiency). For these authors, partial efficiency is one of the future research perspectives on market efficiency, and they consider that the partial efficiency measurement can be used to compare the efficiency intensity of different stock markets.

In these terms, the deepening of focused discussions on both the different methodological and conceptual approaches to market efficiency is necessary to give a more consistent epistemological support to the numerous mathematical models used. However, the current efforts haven´t been enough to elucidate and sediment the research field in which market efficiency is embedded.

The literature does not yet present a specific definition of partial market efficiency. On the other hand, conjectures arising from the difficulty of accepting the absolute efficiency inherent to the classical notion of market efficiency advocated by EMH, stock markets hardly should be considered as fully efficient or completely inefficient.

Since the definition of market efficiency is broadly accepted, partial market efficiency could be approached from this starting point. Callado (2009) presents a four-step approach designed for measuring stock markets partial efficiency, considering time series from all traded individual stocks, so that each individual stocks could be ranked into five compliance levels.

These compliance levels, presented in Figure 1, represent the adherence of returns time series regarding their compliance to the notion of market efficiency through the following of four steps, based on Granger´s Causality

(1969): Length of uninterruptness; Unit root; Co-integration between returns time series and exogenous variables; Causality test between returns time series and exogenous variables.

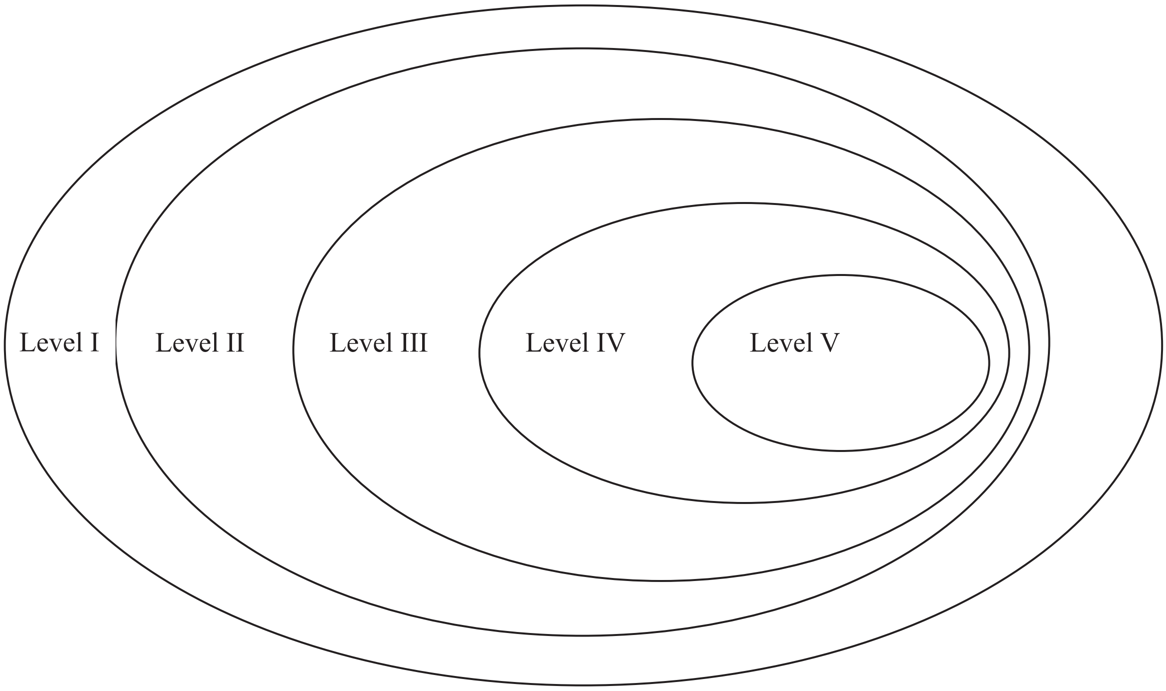

Figure 1. Level of compliance of individual stock returns time series with the notion of market efficiency

Source: Callado (2009)

The first step analyzes the composition of returns time series from all traded individual stocks in search of those that have an uninterrupted sequence of data. The second step analyzes stationarity of returns time series, as well as time series of an exogenous economic variable, such as interest rates and inflation. The third step analyzes the significance of co-integration relationships between the returns times series and the exogenous economic variable. The fourth step analyzes the significance of causality relationships between the returns times series and the exogenous economic causality variable. This step aims to investigate the presence of causal relationships between the returns times series of individual stocks and the exogenous variable considered.

This approach was considered as the basis for proposing different levels of compliance for individual stocks regarding the notion of efficiency and each step is associated with a specific level of compliance status. The greater the number of steps exceeded by a certain individual stock, the greater is its level of compliance with respect to the notion of efficiency.

8. Conclusions

In view of the numerous reflections presented on the epistemology of the prevailing investigative praxis in the field of market efficiency, it is necessary to develop efforts aimed at understanding the causes of the contradictions existing within the literature. There seems to be no doubt about the latent uncertainties inherent to the operational issues presented and discussed.

The predominant methodological approach to market efficiency, considering it as a hypothesis to be tested, has provided numerous advances in the mathematical modeling used, mainly after the emergence and improvement of computational tools, as well as of the various databases available.

On the other hand, the influence of important operational aspects, such as how the historical series of returns are generated, along with their specific aspects (individual stock returns, stock returns, market index returns) and scales of data frequency (daily, monthly, etc.), on the empirical results have been shortly discussed.

It should be noted that the divergences amongst the empirical evidence found in the literature constitute a clear signal that this field of research needs efforts focused on specific conceptual elements inherent to its operationalization.

In these terms, econometric models should not be given the exclusive responsibility of solving the problems inherent to scientific research on market efficiency, nor can we deny the possibility of incorporating alternative epistemological perspectives into the efficient / inefficient duality that underlies the hypothesis to be tested.

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Exploring Migration Economy – Understanding the Loss of the Arab World

Mohamed Buheji[1]

[1]Founder, International Institute of Inspiration Economy, Bahrain

Correspondence: Mohamed Buheji, Founder, International Institute of Inspiration Economy, Bahrain.

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Abstract

Migration economy has been getting more attention in the last two decades and specially in the last few years due to the huge migration movements around the world, but specifically from South to North. Lots work have been written about the economics of migration and how they create positive and negative impacts on the hosting countries and societies, however few literatures focused on exploring the loss of the migrants' countries of origin and quantifying the benefits for the hosting countries.

The Arab world suffered lately more than any other region in the world lots of traumas that led to make its push factors much more than its pull factors for people with the ambition of change and creating a legacy. In this study, we shall explore the level of loss that Arab world have reached and what is the foresighted migration decisions for pulling successful people in the future, especially if the same conditions and practices exist in such countries. The data collected for seventy screened successful Arab Migrants helps to clarify what type of precious human capital the future carries towards the hosting countries. A tabulation of the level of the contribution of the successful Arab migrants is evaluated and lead for sharper conclusion about the value of these precious assets.

Keywords: migration, migration economy, human capital, Arab world, future foresight, Arab Migrants, inspiration economy, innovation

1. Introduction

Recent history and specially in the last one decade has shown that despite the civilisation development of many countries, humans would always look for places where they live freely, feel safer, live with dignity and more of all feel a balanced quality of life. been on the move. Human have been migrating throughout history for new opportunities or avoiding challenging harsh conditions, however this human related phenomena still need to be explored by both academics and practitioners to observe and then understand of how it could be managed to the benefits of humanity.

The importance of this study is that it targets to address a gap of literature of why migrant are important to hosting countries and why countries of origin should care about its human capital in the coming future. The context here would on the Arab migrant due to few studies have covered their importance in migration economy specially in recent history.

The International Organization for Migration (2013) estimated 214 million migrants managed to leave their countries in that year, which is a dramatic jump of more than 40% from 150 million just over a decade ago in 2000. This number stands for 3.1% of world's population, suggesting one in every 33 persons in the world's population is a migrant (International Organization for Migration, 2013). In the Arab world specifically in the last one decade 3 in every 33 persons would be a migrant, accounting that most of the migrants was from countries as Syria, Iraq, Libya, etc. This continuous expansion of movement of Arab Human Capital bring more exciting opportunities for the hosting countries besides challenges for both the hosting and Arab countries of origin. It even sends a message for the rest of the Arab world to have plans of how to increase their pull factors, instead making their push factors be the norm.

The researcher looks at Arab migrants impact on the socio-economic development of hosting countries as USA, Europe, Canada and Australia. The impact of socio-economic development extends to contribution areas as innovation, creativity, community development, creating waves of inspiration. The focus is to see how such human capital are participating in developing more resilient economy and even renewed spirit of youth economy.

Since the last two decades USA had 47% migrants increase despite strict measures. Same happened in Europe where migrant increased by 70%. This paper shows how developed countries seen migrants as benefit not a burden. The focus here on Arab Migrant. OECD (2016).

2. Literature Review

2.1 Defining Successful Migration

Migration can be defined as the movement from one permanent place or country into another. Once people manage to enter into the targeted country or enter its boarders they are considered to be immigrants.

The reasons people leave a place are called the push factors. The reasons people are attracted to new places to live are called the pull factors. When the pull factors are much stronger than the push factors people (migrants) tend to contribute more to the host country.

Push factors might be employment conditions, socio-economic or socio-political instability, or even wars. While pull factors would be more employment opportunities and aspirational besides inspiring opportunities as better education and well fare system that ensure the quality of life. With the influence of globalization, migration mark the rhythm of contemporary societies. On-going movement and mobility across boundaries and boarders would be the norm for many of today and future generations as emphasised by Kuo (2014).

2.2 Understanding Mechanism of Successful Migrants

OECD (2014) seen that public antagonism towards migration is mainly due to not being able to see the benefits of migration to the hosting countries. This paper touch upon how migration could be good for the economy of the hosting country and a loss for the countries of migrant origin.

Successful migration for any host country means that the features of socio-economic practices are transferred along with valued knowledge. The variation of migrants' profile in reality is a source of strength for the hosting country where it would create resilient based solutions, Buheji (2018a). In developing countries Germany, France, Australia, Canada and New Zealand, management of migrants plays an important role in these countries economy. Successful migration has shown over the years to have clear impacts on societies and then its economic impact (Khasru , 2018; Glover et al, 2001). Successful migrants fill important niches both in fast-growing and declining sectors of the economy. Studies even show that young migrants can enhance the educational outcomes like the natives and would help to compensate for the high retiring work force. (OECD (2016; Cabaniss and Cameron, 2017).

Once the migrants good enough access to fair jobs, they are found to contribute with ideas, skills and participate in vibrant development of their organisations and the hosting country. Therefore, Ebmer (1994) and Hunt (2010) believes that migrants economic contribution in taxes and social contributions much exceed the social benefits they get when they or their family arrive at the hosting country. Migrants also contribute to technological progress. Understanding these impacts is important and clarify the importance of keeping the flow of controlled migration for the future of the world socio-economy and in ensuring that the countries of origin take care more about its human assets.

2.3 Contribution of Migrants to Societies

OECD (2014) seen that migrant workers make important contributions to the labour market in both high- and low-skilled occupations. Over the past ten years, immigrants represented 47% of the increase in the workforce in the United States, and 70% in Europe (OECD, 2012).

To mitigate the loss of the Arab Human Capital more essential policies are needed in the areas of like education and employment that maximise the benefits of those inspiring generations. But the fundamental question of how to maximise the benefits of migration, both for host countries and the migrants themselves, needs to be addressed by many OECD countries in coming decades, especially as rapid population ageing increases demand for migrants to make up shortfalls in the workforce. (Jauer et al, 2014; Laicak, 2018).

Contribution of migrants can be seen when we see that they represent 31% of the increase in the highly educated labour force in Canada and 21% in the United States, followed by 14% in Europe. Even though most migration is not directly driven by workforce needs, immigrants continue to lead a significant role in the most dynamic sectors of the economy. (OECD, 2016).

Migrant found to play a main role in the development of education and industries that are relevant to STEM occupations (Science, Technology, Engineering and Mathematics). At the same time, immigrants represented about a quarter of entries into the most strongly declining occupations in Europe (24%) and the United States (28%). (OECD, 2016).

In many countries as Germany, Switzerland and Luxembourg the success of migrants started to effect the % of GDP directly. In most countries, except in those with a large share of older migrants, migrants contribute to the financing of public infrastructure, even though they don't match yet the native-born (OECD, 2014).

2.4 Migrants Budget Impact

One of the most important determinant of migrants' contribution in countries with generous welfare states is employment as per OECD (2016). Migrants in Belgium, France and Sweden, have a budget impact of more than 0.5% of GDP. Such countries found to also help immigrants meet their own goals. Most immigrants, after all, do not come for social benefits, but to find work and to improve their lives and those of their families. Studies show that all the efforts to integrate migrants can be considered as investments rather than a cost. (Khasru, 2018).

Almost all countries that had managed to get the best out of its migrants, they managed to increase their innovation index and their socio-economic development. Studies of OECD shows that when migration expands the workforce, aggregate GDP can be expected to grow. However, the situation is less clear when it comes to per capita GDP growth. OECD population statistics database shows that migrant has a demographic impact on the pension system and per-capita allocation of collectively accrued revenue and expenditure items. (Glover et al, 2001; Cabaniss and Cameron, 2017).

2.5 Describing Successful Migrants

Migrants tend to be more concentrated in the younger and economically active age groups compared with natives and therefore contribute to reduce dependency ratios (Gagnon, 2014). Migrants arrive not only with skills and abilities, but with passion and ambitions to create a major life change. This stock of human capital feeds in the host country with persistence and perseverance. In countries as USA, successful killed migrants contributed to boosting innovation that came through research and technological development (Hunt, 2010).

The proportion of highly educated immigrants in OECD countries is rising sharply. The number of tertiary-educated immigrants in OECD countries showed an unprecedented increase in the past decade (up by 70%), reaching a total of almost 30 million in 2010/11. Of these, about 5 million, or 17%, arrived in the past five years. This trend is mostly driven by Asian migration – more than 2 million tertiary educated migrants originating from this region arrived in the OECD in the past five years (OECD-UNDESA, 2013).

Ebmer (1994) that the motives for migration play a major role in the development and achievement of migrants and thus lead to their influence on the economic success. Economic motivation of migrants is driven by the search for success and fear of failure.

Till today there are few empirical evidence about net migration economic growth. However, OECD (2012, 2014) did a study on the impact of migration on economic growth for OECD countries between 1986 and 2006 demonstrates how migrant have a positive impact of the human capital that helps develop the economic growth. This type of contribution if continuously empirically proven would show the importance of immigrants' success to human capital differentiation which leads to overcoming the mechanical dilution effect (i.e. the impact of population increase on capital per worker). Jean and M. Jimenez (2007).

The earlier United Nations Secretary-General Kofi Annan seen that if countries have the right policies for managing migrant all the parties could create a mutual development both of countries of origin and destination. Therefore, Anan proposed establishing a permanent forum for sharing of experiences and ideas on migration management issues. Khasru (2018).

2.6 Case of Refugees as Future Successful Migrants

Today people are moving more than ever before. There are presently around 258 million international migrants. That figure has grown rapidly since the turn of the millennium, when there were 173 million (OECD, 2015).

Many of the Arab refugees of today are highly potential future successful migrant. Some actually are already educated as doctors, lawyers, accountants and teachers in their country of origin. The refugees who plan to return home, find inspiration when comparing their country with Germany. The opportunities and the challenges associated with migration continues to evolve as long as human societies continue to develop and certain societies continue to fall far behind. Migrants from instable socio-economies entering developed hosting countries in search for a better life would have more possible alternatives of successes than those staying behind. (Cabaniss and Cameron, 2017).

From an economic perspective, the influx of migrants into Europe provides an opportunity, as the region faces the major demographic challenge of an ageing population. The EU's fertility rate is 1.5 children per woman and working age population would be shrinking if it were not for migration. The German economy is a good example, as it is creating jobs faster than natives can fill them. In the UK, the period of high immigration, which started in 1997 and peaked in 2004, had a positive impact on GDP and employment.

Immigrants bring various skills and aptitudes, catalysing the locals to improve their own. While the difference in performance in the UK between immigrants and the natives is marginal, it is significantly higher in Spain, Greece, Belgium and Sweden. Jauer et al (2014).

2.7 Arab Migration Success Stories

There are many arguments about the advantages and disadvantages of migration and specially on host countries. Arab migrants filled not only human capital gaps but also created a major change in the socio-economic development in the countries they have been accepted in. Through their efforts technical, social, political and economic development in many communities were either developed or sustained.

With Arab Successful migrants host countries are enriched by cultural diversity. This study indicates that Arab migrants not only have facilitated growth in the economy; brought benefits to the different industries through the development of new air routes. Successful Arab migrants had also a positive influence on the productivity of the host countries and contributed new ideas with fresh approach to their organisations and developed greater cultural links with developing nations.

Successful Arab migration brings social and cultural pressures that need to be taken into account in planning for future services. Arab migration also has the potential for bringing peoples together culturally but friction occurs if efforts are not made to dispel the myths held by local people. Ebmer (1994).

2.8 Arab Migrants, More than Brain Drain

'Brain drain' happens when many potential successful people who create positive change in the socio-economy leave the country to another host country or community. Due the number of obstacles that the migrant may need to overcome, he/she excel than their colleagues of host countries native citizens.

Arab migrants' success goes beyond their contribution in socio-economic development, they are participating today, directly and indirectly, in reduction of inequalities and enhancing the positive effect of the diverse societies. Despite the majority of Arab migrants live and work legally, still there are some desperate migrants who are putting their lives at risk every day to enter their targeted countries, or where still they couldn't settle effectively to start to contribute.

Zahlan (1979) examined the causes and consequences of the migration of Arab human capital who have the potential to become high-level manpower, with emphasis on the need to determine means of increasing the productivity of available human resources and developing Arab institutions. Analysis of migrants according to professional groups and country of origin is provided and was linked to causalities of not being able to control the brain drain by the Arab countries.

In another study by Zahlan (1980) seen that the total body of knowledge calculated for Arab Migrants is more than brain drain, it clearly reflects when we see the socio-economic, the technological, the knowledge development they have created. As per Zahalan there are more 50% of the reputed Medical Physicians outside the Arab world, and 23% of the successful engineers and 15% of the successful natural scientists. The numbers as per Zahlan calculation reached more than 50,000 in 1979. This number of course can be multiplied by 5 times since that last four decades carried lots of wars and instability in the Arab World which create great push factors for many high intellectual human capitals to take the decisions to migrate in countries as Iraq, Syria, Libya, Yamen and Egypt, instead of being non-effective or non-employed.

Many of these successes achieved by the migrants could have been maintained in the Arab World, if those successful Arabs were attracted by minimum facilities and pull factors. Such loss of such migrants means loss of economic development and loss of opportunities in filling gaps in fast-growing sectors the human capital of high contribution and working age. They are a type of migrants who could have paid more taxes than receive benefits. With the advances of social psychological today we are realising more today that interactional processes between push and pull factors can play even further role in the future migration and specially in instable countries as the Arab World. Cabaniss and Cameron (2017).

Today, it is more possible to encounter people who are able to trace their roots back to Arab countries in almost every nation of the "New World." That also includes approximately four million citizens of the United States, who live primarily in large metropolitan areas and in the eastern part of the country. These Arab migrants helped to leverage many opportunities in their hosting societies and helped in their prosperity and further development. Escher (2008).

2.9 Understanding Human Based Economies

The author in his previous publications in (2016), (2018a) and (2018b) shown the importance of Inspiration, Resilience and Youth Economies in replacing materialistic capital based economies in many practices and mindset.

The studies of Oleynick et al (2014) support the later work of Buheji (2016, 2018a and 2018b), where better operating capacity (comes from within and limitless). This means when we evaluate the success of any individual we can see that their differentiation in creating better return on investment, being less external resource dependent besides being able to utilise inter-disciplinary approaches would make them more capable of creating a differentiation in their socio-economies. Such people are also considered to be having unique capability for self-renewal and high learning with unique successes and high capacity to utilise failures.

3. Methodology

Seventy successful Arab migrants were studied through different documentaries that was reached from downloaded videos on YouTube of international TV channels as Al-Jazeera documentary, BBC Arabic News and CNBC Arabia. The purpose was to identify the top master criterions of those successful Arab migrants and their type of contributions in order to reflect and see how they created waves of inspiration, resilience and positive unique youth economies on the hosting countries. The objective of the study had deeper meanings as exploring how migration can create positive economy and what are the losses of the countries of origin as those of the Arab World that need to be counter-measured in the future to avoid more catastrophic loss of very precious human capital in the coming years where human mobilisation is expected to increase.

As shown in the tabulated sample used in Appendix (A) which represent 6 out of the seventy sampled successful Arab Migrant; all the seventy screened successful Arabs migrants were evaluated the presence of practices that lead to Inspiration Economy, Resilience Economy and Youth Economy. The criterions for these human intrinsic driven economies were intentional chosen to show the precious assets that both the hosting country got and the country of origin lost. These criterions were summarised from the research earlier work of Buheji (2016, 2018a, 2018b).

A summary of the bibliography of the success Arab Migrants as their countries of origin, speciality, position, current country of residence, i.e. the hosting country were collected. Then each of the seventy screened migrants were checked for the availability of the Inspiration Economy Criteria's, as per Appendix (A).

4. Results

83% of those screened mentioned that they developed over the years the capacity to observe and capture hidden opportunities utilising intrinsic powers which contributed to their hosting community socio-economic developments, directly or indirectly. 65% of the migrants claim that they managed to utilise failures and challenges through selective mindset that benefited their success outcomes. Even though the awareness or the intention of targeting to influence without power or with minimal resources could not be traced in most of the screened migrants, 9 out of the seventy Arab migrants shown that they had this intention at some time in their success journey. 40% of the migrants mentioned that solving different problems specially during education time created for them more opportunities for a differentiated change and outcome. 87% of the migrants shown adequate and even strong entrepreneurial spirits that they tried to spread in the society.

The Arab migrants were screened also for their role in creating Resilience Economy in the hosting countries. Since most of the screened are very humble in presenting their contribution to the community, only 45% given hints and evidence that they participated in pushing and/or optimising the benefits of unity and coexistence in their hosting communities. Few also (20%) shown how they participated in mitigating socio-economic risks and minimising negative impacts in their hosting countries. However, 65% of these Arab migrants shown that their success extended to optimising the opportunities that recessions and instabilities brought to them since they arrived to the hosting country through utilising all resilience economy enablers and overcoming different barriers. About 90% shown that these migrant are unique human assets in management of transformation and adaptation of change to the benefit of humanity and sustainability.

When Youth Economy parameters that represented in both spirit and energy of youth that bring renewed change to any community were projected on the successful Arab migrants, lots of amazing results found. 90% of those screened shown they contributed heavily in optimising youth energy and productivity of their community and organisations. Almost also 87% used their youth assets wisely. More than 60% integrated with their generation trends to optimise their socio-economic benefits, using the spirit and energy of youth. None have shown clear understanding of south economy and how it might have an effect on their socio-economic life strategies.

Through reviewing the videos of the successful Arab migrants we can claim that they have a type of success that came through their unique ability for self-renewal and innovation. These keywords could be seen in 60% of those screened. Only 30% shown to carry social entrepreneurship spirit and 43% shown to have the ability to attract funds from self-capacity.

Many of the successes of these Arab migrants come from their unique world class contribution that made them compete for Nobel Prizes, or similar awards or have the ability to attract funds, or get many patents or innovations. Some managed to develop new products that helped to develop humanity. About 25% of those screen shown a multi-disciplined approach for dealing with their life achievements.

5. Discussion & Conclusion

This paper targets to clarify the economies of migration through the experience of successful Arab migrants. This clarification should help countries of host to appreciate this precious human capital contribution to the countries of host and the loss of the countries of origin, especially if this is repeated in large-scale migration in the future.

Almost all the seventy screened successful Arab migrants shown unique strength in generating human based economies with great detail shown in the example Appendix (A). Literature review and results also show how much the Arab World could loss more of its intellectuals in the coming generations through migration, if such human based factors couldn't find a proper pull factors in countries of origin.

The results show that the success of such Arab migrants might encourage more youth to migrate to such developing host countries, unless many pull factors are activated in the countries of origin. The success of the Arab migrant show also that many coming ambitious youth could enrich their hosting cultures and communities with new skills and ideas, if these contributions are not well incubated in their countries of origin.

With the increasing volume of changing youth demographics, gap in advancement of technologies, un address needs in labour markets and continued challenges posed by wars and shortages of human rights environment many Arab countries could continue to be a potential source for future successful migrants. It is really a warning bill for all the Arab countries, to avoid huge loss to come.

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Appendix (A)

Table of New Economy Criteria's

"Inspiration Economy"

	Prof. Majdi Bayomi	**Prof. Mohd. Erhoma**	**Prof. Nourdeen Meleksha**	**Prof. Tariq Gazawi**	**Prof. Shukkri AlSherif**	**Prof. Muhideen Muateeq**
Bibliography Country of Origin/ Speciality/Position/Current Country of Residence (Migration)	Egypt Electrical Engineering Professor & Dean – Louisiana Univ - USA	Libya Clinical Pharmacology Professor-South Africa	Algeria Physics Professor -Kennedy Science Academy Dean-USA	Egypt Super-Computer Professor -George Washington Univ-USA	Tunisia Professor in Mechanical Engineering (Fabrics) Germany	Libya Cardiac Surgeon Cincinnati-USA
"Inspiration Economy" **Criteria**						
Observe and capture hidden opportunities utilising intrinsic powers to socio-economic developments.	√	√	√	√	√	√
Utilising failures, challenges with selective mindset that benefit better outcomes.	√	√		√	√	√
Utilising influencing without power with minimal resources to create socio-economic legacy or models.	√	√	√			√
Using advanced problems solving techniques to create more opportunities and differentiated change.	√		√	√		√
Ability to create inspiration currencies that leads to more entrepreneurial spirits within the society.	√	√	√	√	√	

"Resilience Economy"

Criteria	**Prof. Majdi Bayomi**	**Prof. Mohd. Erhoma**	**Prof. Nourdeen Meleksha**	**Prof. Tariq Gazawi**	**Prof. Shukkri AlSherif**	**Prof. Muhideen Muateeq**
Pushing and optimising the Benefits of Unity and Coexistence towards more prosperity	√		√		√	
Mitigating socio-economic risks and instabilities to minimise negative impacts to recover quickly from incidents affects.		√				
Management and Optimisations of the opportunities that Recessions and Instabilities bring.				√		
Utilising all resilience economy enablers and overcome all its barriers.			√	√	√	
Consistent Engineering, Planning, Nurturing transformation and adaptation of change to the benefit of humanity and sustainability.	√	√	√	√		

"Youth Economy"

Criteria	**Prof. Majdi Bayomi**	**Prof. Mohd. Erhoma**	**Prof. Nourdeen Meleksha**	**Prof. Tariq Gazawi**	**Prof. Shukkri Sherif**	**Prof. Muhideen Muateeq**
Optimising Youth Productivity	√	√	√		√	
Youth independence ratio through						
Appreciating Youth Assets	√					
Utilisation of Generation trends to	√	√	√	√	√	
the socio-economic benefits			√	√		
Using Spirit and Energy of Youth						
Implementation of Youth Economy and Socio-Economy Strategies						
Type of Success Created by the Arab Migrant						
Ability for Self Renewal and Innovation	√	√	√	√	√	√
Social Entrepreneurship Spirit	√	√	√	√	√	√
Ability to attract Funds from Self-Capacity	√	√	√	√	√	√
Main World Class Contribution	Patented Engineering Innovations	Development of New Pharmaceutical Drugs	Developing of Multi-Disciplined Science Labs	Developing UPC & Ugas Super Computers language	Developing Optical Fabrics Abnormal Machines	Cardiac Surgery Robotics

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The Internationalization Behavior of SMEs from a Purchase Perspective

David Iubel de Oliveira Pereira[1], Marcelo Gechele Cleto[1]

[1]Federal University of Paraná, Paraná State, Curitiba, Brazil

Correspondence: David Iubel de Oliveira Pereira, Departament of Production Engineering, Federal University of Paraná, Paraná State, Curitiba, Brazil.

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Abstract

The aim of present study was to analyze the internationalization behavior of Small and Medium Enterprises (SMEs) regarding purchases using four questions: why, what, when and where. Structured interviews were conducted at SMEs located in the city of Curitiba and Metropolitan Region, Brazil, which dealt with the machinery and equipment sector. Regarding the reasons for internationalization (why), the main results showed agreement with motivators associated with cheaper products, advanced technology, higher quality and exclusivity, as well as an expectation of increasing organizational competitiveness. Internationalization items (what) sought out by SMEs were mostly items considered strategic. Regarding internationalization period (when), younger companies tended to start their internationalization process earlier. However, both the age of the company and the year of international entry did not directly explain or influence international expansion. Finally, place of internationalization (where) showed that a variety of countries have been involved with SMEs since their creation. However, the age of the company and the age of international entry could not directly explain or influence international geographic speed (entry into new countries).

Keywords: internationalization behavior, international purchasing, small and medium enterprises

1. Introduction and Brief Literature Review

1.1 Introduce the Problem

World markets have become more integrated, technology has advanced, and tariff and non-tariff barriers have been brought down (Ståhl, 2000). These factors have gradually lowered the life cycle of products (Kotabe and Murray, 2004). Thus, the dynamics of international trade have undergone changes with the growing search of supplies in the international sphere - regardless of location, segment and size - which generates high local and international competition (Nunes, 2016).

This situation has put pressure on the operating modes of various enterprises. Thus, their actions and investments tend to be more oriented towards international markets, through involvement at different levels with the external market (Quintens et al., 2006a, 2006b; Trent and Monzcka, 2003).

This phenomenon is known as purchase internationalization, or inward internationalization. However, limited attention is still given to internationalization practices from this perspective (Aykol et al., 2013). In fact, most scientific studies focus on the internationalization of sales activities and direct investments abroad, which are also known as outward internationalization (Karlsen et al., 2003; Ligabo Junior, 2015).

Moreover, considering the context of purchase internationalization, there are still few studies that regard imports from Small and Medium Enterprises (SMEs). Unlike large multinational companies that have been more often the focus of academic studies, SMEs present specific characteristics when seeking international supply, such as lower resources to reach a more advanced internationalization stage, or higher sensitivity to external challenges (technology, policy, exchange, institutional environments of international markets, and market changes), which contribute towards greater unpredictability, making it difficult for SMEs to deal with internationalization risks (Ellegaard, 2006; Holmlund et al., 2007; Knudsen and Servais, 2007; Laufs and Schwens, 2014; Laurin and St-Pierre, 2011; Pangarkar, 2008; Quayle, 2002).

Thus, the aim of the present study was to analyze the behavior of purchase internationalization in the context of smaller companies, summarizing the process in four basic questions: why (motives), what (type of items), when (period) and where (place), following the recommendations of Carneiro and Dib (2008) and (Dib et al., 2010). The study focused on Brazilian SMEs from the machinery and equipment sector located in the city of Curitiba and Metropolitan Region.

1.2 Literature Review

1.2.1 Internationalization Motives (Why?)

A systematic literature review was performed to assess which are the main motivations for SMEs to internationalize their purchases. The database and keywords used were based on studies by Quintens et al. (2006a) and Tressin and Richter (2014), who provided reviews of scientific publications regarding international purchases between 1990 and 2005 and between 2006 and 2012, respectively.

Regarding keywords, the aforementioned authors considered the expression "motives" as the element that accelerated the decision for enterprises to embrace international purchases. Moreover, these authors searched for studies on the theme using the terms "international purchasing", "international procurement", "international sourcing", "global purchasing", "global procurement" and "global sourcing" (Quintens et al., 2006b; Tressin and Richter, 2014). Since the present study regarded SMEs, the keyword "Small and Medium Enterprise (SMEs)" was also added to the search.

The databases consulted were composed of 14 journals: The Journal of Supply Chain Management (JSCM); Journal of Purchasing and Supply Management (JPSM); Supply Chain Management: an International Journal (SCM); International Journal of Physical Distribution and Logistics Management (IJPDM); International Journal of Operations and Production Management (IJOPM); Industrial Marketing Management (IMN); European Journal of Marketing (EJM); International Marketing Review (IMR); Journal of International Marketing (JIM); Journal of Business and Industrial Marketing (JBIM); International Business Review (IBR); Management International Review (MIR); Journal of Business Research (JBR); Journal of International Business Studies (JIBS). All journals were considered of great relevance to the topic of international purchases, as reported by Quintens et al. (2006a) and Tressin and Richter (2014).

The main international purchase motivators were defined after including the keywords in the databases and excluding duplicate articles and articles that were not aligned with the research theme, based on a reading of their titles, abstracts and the complete text. Possible related articles were also analyzed. Purchase motivators were classified based on impact and ordered chronologically from oldest publication to most recent one (Table 1).

Table 1. Purchase motivators of companies based on literature review

Author	Lower price	Higher quality	Trust in delivery	Advanced technology	Exclusive product	Increase in competition	New market	Supplier diversification
(Carter and Narasimhan, 1990)	1st	2nd		3rd	4th	5th		
(Birou and Fawcett, 1993)	1st	3rd		4th		2nd		5th
(Ghymn and Jacobs, 1993)	3rd	1st	2nd					4th
(Rajagopal and Bernard, 1994)	1st	3rd	4th			2nd		5th
(Scully and Fawcett, 1994)	1st	2nd		3rd	5th	4th		
(Rexha and Miyamoto, 2000)	2nd	4th		3rd	1st			
(Lye and Hamilton, 2001)	4th	1st	3rd				2nd	5th
(Overby and Servais, 2005)	1st	2nd	3rd				4th	
(Quintens et al., 2005)	1st	2nd			3rd			
(Agndal, 2006)	1st	2nd			3rd			
(Nassimbeni, 2006)	1st	4th		3rd	2nd	5th		
(Knudsen and Servais, 2007)	3rd	1st		2nd	5th	4th		
(Lupu, 2008)	1st	3rd		5th	2nd	4th		
(Wang et al., 2011)	1st		3rd				2nd	
(Dantas et al., 2012)	2nd			3rd	1st	4th	5th	
(Nunes, 2016)			2nd	1st		4th	5th	3rd

One of the most cited motivators for internationalization from a purchase perspective was lower prices overseas (e.g. Overby and Servais, 2005; Quintens et al., 2005; Wang et al., 2011).

Other relevant motivators regarded items that are either unavailable in domestic markets (e.g. Agndal, 2006) or are found with higher levels of quality and technology overseas (e.g. Knudsen and Servais, 2007; Nunes, 2016). This type of situation can generate a competitive differential for enterprises by supplying a strategic item that is scarce in their domestic market. In addition, operating internationally allows access to new markets, possibly guaranteeing a position in future potential markets and bringing a better competitiveness position to the enterprise (e.g. Dantas et al., 2012; Nassimbeni, 2006).

Supply base was also indicated as a motivator. An increase in the number of suppliers may allow a company to obtain greater variety, increase competition among domestic suppliers and not become dependent on a single supplier. An international supplier also allows reduction of delivery time. This can improve performance and promote greater reliability of delivery, which consequently leads to greater customer satisfaction and loyalty (Lye and Hamilton, 2001; Nunes, 2016; Rajagopal and Bernard, 1994).

A *Proposition 1* was developed based on the motivators raised: *"(1) Lower prices overseas and items with (2) more advanced technology, (3) higher quality and (4) that are not found in the domestic market can (5) increase the company's competitiveness, while an (6) increase in the supply base allows the (7) possibility of obtaining greater delivery reliability, (8) non-dependence, (9) increased competition from domestic suppliers, and the (10) possibility of access and contact with potential new markets abroad, which are all motivators that lead SMEs to internationalize their purchases."*

1.2.2 Internationalization Items (What?)

A purchasing portfolio model was used as an analysis tool for the items sought overseas. Items were classified to understand their strategic importance and to analyze different supply base relationships (Ateş et al., 2015; Caniëls and Gelderman, 2005; Kraljic, 1983).

The model proposed by Kraljic (1983) was the main reference consulted. As stated by Caniëls and Gelderman (2005) and Ateş et al. (2015), this model was the first to apply a purchasing portfolio approach and is one of the most relevant studies on this subject in the literature. Items acquired by a company are classified in four categories based on two factors in this model proposed by Kraljic (1983): supply risk and purchase impact. Based on these two dimensions, the author defined four types of purchases: non-critical (low risk, low impact), bottleneck (high risk, low impact), leverage (low risk, high impact) and strategic (high risk, high impact) (Moreira, 2013; Ateş et al., 2015).

The analyses of the empirical studies by Quayle (2002), Agndal (2006), Ellegaard (2006), Lupu (2008), Pressey et al. (2009) and Moreira (2013), which regarded the relationship between international supply and strategic level of SMEs, concluded that international purchases were considered irrelevant and non-strategic, which lead to a low pursuit for foreign products. This conclusion was based on the following common characteristics that were observed in the companies analyzed: priority towards operational issues; inexistence of multidisciplinary purchasing teams; multitasking outside the scope of the objectives of purchasing functions by employees responsible for purchases; purchasing seen as operational; and companies that did not have a strategy and formalized objectives for purchases, worrying exclusively about the price and deadline of delivery. Therefore, international purchase was shown to be regarded as strictly operational and/or tactical by SMEs, which lead to the formulation of a second research proposition:

Proposition 2: "SMEs tend to search few products that are considered strategic in the international market."

1.2.3 Internationalization Period (When?)

Enterprises have the option to start their international activities either at an early stage of their development or at a later time. Moreover, after beginning overseas operations, enterprises may choose to either increase or reduce their international activities and their speed (Bartlett and Ghoshal, 2000; Oviatt and McDougall, 2005).

Thus, according to the literature, SMEs can be separated into two categories regarding the period and speed of international expansion throughout their development: Traditional SMEs and Born Global SMEs (Bell et al., 2003; Carvalho, 2009; Cavusgil and Knight, 2015; Kalinic and Forza, 2012; Knight and Liesch, 2015; Ruzzier et al., 2006). As observed by (Quintens et al., 2005), Agndal (2006), and Knudsen and Servais (2007), although these concepts originally explained outward internationalization (sales perspective), they are completely analogous and applicable to the purchase perspective of inward internationalization.

SMEs categorized as Traditional have conservative characteristics. They focus mainly on the domestic market when beginning their international activity, but usually after the decision to expand internationally they adopt an incremental pattern of internationalization, following the Uppsala Model (Bell et al., 2003; Carvalho, 2009; Cavusgil and Knight, 2015; Kalinic and Forza, 2012; Knight and Liesch, 2015; Ruzzier et al., 2006). This internationalization model proposes that international expansion can be described as a series of increments of international commitment, which means that as a firm gains experience, it becomes more willing to commit resources to international activities, which in turn generates more experiences, and so on (Johanson and Vahlne, 2009, 2003, 1990, 1977).

On the other hand, the Born Global SMEs represent companies that were established after 1990 and which tend to start international activities within the first five years of existence (Carvalho, 2009; Cortezia and de Souza, 2011; Dib et al., 2010; Ribeiro et al., 2012). Their main characteristic is precisely establishing international activities few years after their foundation, with fast expansion in international operations.

Based on these concepts there seems to be a relationship between the age of the company (date of foundation), the year of international entry, and the international expansion/commitment. Thus, the following research propositions were established:

Proposition 3: "For SMEs, the year of international entry is positively related to the age of the enterprise, or in other words, the younger an SME, the earlier the internationalization process begins."

Proposition 4: "For SMEs, the year of international entry is negatively related to the following international growth, or in the other words, the earlier an SME starts to internationalize, the higher its international growth rate will be at a later period."

Proposition 5: "For SMEs, the age of the enterprise is a moderating force that is negatively related to international growth, or in the other words, the younger an SME, the higher its international growth rate will be at a later period."

1.2.4 Internationalization Local (Where?)

The analysis of potential markets overseas was also based on the concepts of Traditional SMEs and Born Global SMEs.

Traditional SMEs, as already noted, have an incremental internationalization pattern. This behavior is also correlated to where they expand internationally. Thus, relationships are usually established first between markets that present geographic, cultural and economic proximity, and as internationalization activities mature, the company tends to expand into new markets, which are close to those already conquered, and so on until reaching international markets (Johanson and Vahlne, 2009, 2003, 1990, 1977).

In turn, geographic distances are less relevant to Born Global SMEs. When these enterprises decide to operate internationally, there is no initial limitation regarding nearer markets, and they present faster reach and expansion in the global market (Bell et al., 2003; Carvalho, 2009; Cavusgil and Knight, 2015; Kalinic and Forza, 2012; Knight and Liesch, 2015; Ruzzier et al., 2006).

Based on these concepts there seems to be a relationship between the age of the company (date of foundation), the year of international entry, and international geographic expansion (number of countries). Thus, the following research propositions were established:

Proposition 6: "For SMEs, the age of the enterprise is negatively related to the initial geographic distance, or in the other words, the younger an enterprise, the more distant is the initial international market."

Proposition 7: "For SMEs, the year of international entry is negatively related to the speed of geographic internationalization, or in the other words, the sooner an SME begins to internationalize, the greater is the pace of geographic expansion abroad (entry into new countries)."

Proposition 8: "For SMEs, the age of the enterprise is negatively related to the following international growth, or in the other words, the younger an enterprise, the greater the pace of geographic expansion abroad (entry into new countries)."

2. Method

A structured questionnaire was used to collect data. For the first proposition, the respondents scored each motivator surveyed from the literature using a five-level Likert scale. A score equal to five represented a positive and totally true opinion, while a score equal to one meant a negative and totally false situation. The intermediate situations were scores equal to four (true), three (neither true nor false), and two (false). For the second proposition, the respondents indicated among 4 possible alternatives the one that best described the type of items that are bought abroad in order of quantity, following a scale of four (highest quantity purchased) to one (lowest quantity purchased), according to Kraljic's matrix. For the third, fourth and fifth propositions, the respondents described the year of the enterprises' foundation, the year of the first international purchasing activity, and the percentage of international purchases in relation to total purchases over the first year of international activity and specifically in 2015. Finally, with regard to the sixth, seventh and eighth propositions, the respondents described the countries of their foreign suppliers in the first year of international purchasing activity and also in 2015.

The database selected to search the companies was the Industries Register of Paraná (2016 edition) elaborated by the Federation of Industries of the State of Paraná (FIEP, 2016). In total, 986 companies performed international purchasing activities. Of these 986 companies, 686 companies were SMEs. From this total of 686 SMEs, 111 companies belonged to the machinery and equipment sector, of which 70 were located in the city of Curitiba and Metropolitan Region. Thus, these 70 companies corresponded to the population for analysis.

Over the period of August to November 2016, all 70 companies were contacted by telephone and informed about the research. As a result, 17 questionnaires were answered completely (9 answered by the respondent when visited by a researcher at the company, 3 answered by telephone and 5 answered by e-mail). This total corresponded to a return rate of 24.28%, a number slightly higher than previous studies that dealt with international purchases, such as Birou and Fawcett (1993) with 14.9%, Trent and Monczka (2003) with 9%, Nassimbeni (2006) with 7.9%, and Quintens et al. (2005) with 17.8%.

3. Results

3.1 Internationalization Motives (Why?)

The respondents scored the motivators surveyed from the literature through a five-level Likert scale. Sample mean and standard deviation were calculated using the values attributed to each motivator and placed in descending order in relation to the mean (Table 2). Thus, (1) lower price, (2) access to materials with advanced technology, (3) superior quality, (4) items that do not exist in the domestic market, and (5) desire to increase competitiveness of the company presented mean value greater than four. On the other hand, (6) increase in the supply base, (7) greater reliability on delivery, (8) non-dependence, (9) increased competition from domestic suppliers, and (10) possibility of gaining access and contact with future new markets presented mean values close to two.

Table 2. Motivators scored by the respondents

Motivator (1 less relevant to 5 most relevant)	x	s
(1) Lower price abroad	4.412	0.87
(2) More advanced technology	4.353	0.70
(3) Higher quality abroad	4.235	0.90
(4) Items that are not found in the domestic market	4.176	0.80
(5) Increase in the company's competitiveness	4.059	1.08
(6) Increase in the supply base	2.765	1.14
(7) Increase in delivery reliability	2.647	1.11
(8) Non-dependence on domestic suppliers	2.353	1.32
(9) Increased competition from domestic suppliers	2.294	1.31
(10) The possibility of access and contact with possible new markets abroad	2.118	1.16

For the next step, the motivators were separated into two groups: first, those with mean value above 4 (motivators 1, 2, 3, 4 and 5), and the second of those with mean value below 3 (motivators 6, 7, 8, 9 and 10). Population mean was then assessed through null and alternative hypotheses testing.

For the first group, the null hypothesis was a mean value equal to 4 (H0: $\mu = 4$) against the alternative hypothesis that the mean value would be lower than 4 (H1: $\mu < 4$). For the second group, the null hypothesis was a mean value equal to 3 (H0: $\mu = 3$) against the alternative hypothesis that the mean value would be greater than 3 (H1: $\mu > 3$). Student's t-test was applied, since population variance was unknown, with a level of significance equal to 5%. The following formula was used to find the value of the calculated t:

$$t_{calculated} = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} \tag{1}$$

Where:

x = sample mean;

$\mu 0$ = fixed value used for comparison

s = sample standard deviation

n = sample sizer

Student's t-Table was used to find the critical t, which was then compared to the calculated t. With a confidence level of 95% and 16 degrees of freedom (n-1), critical t = 1.7459. A left one-tailed curve with critical t = -1. 7459 was used to check the first null hypothesis (H0: $\mu = 4$). In turn, a right one-tailed curve with critical t = 1.7459 was used to check the second null hypothesis (H0: $\mu = 3$), following the rule:

If t calculated < -t critical we reject the null hypothesis that $\mu = 4$

If t calculated > t critical we reject the null hypothesis that $\mu = 3$

No evidence was found to reject the null hypothesis H0:μ=4 for the first group of motivators described. This result means that it is unlikely that these motivators will obtain a mean value lower than 4 (μ<4). Similarly, no evidence was found to reject the null hypothesis H0:μ=3 for the second group of motivators described. Again, this result means that it is unlikely that these motivators will obtain a mean value higher than 3 (μ>3) (Table 3).

Table 3. Hypothesis Test Results

First Group			
Motivator	t calculated	t critical (α=0,95 one tailed)	Test result (H_1: μ < 4)
1	1.95	-1.7459	Do not reject H0:μ=4
2	2.07	-1.7459	Do not reject H0:μ=4
3	1.07	-1.7459	Do not reject H0:μ=4
4	0.89	-1.7459	Do not reject H0:μ=4
5	0.22	-1.7459	Do not reject H0:μ=4
Second Group			
Motivator	t calculated	t critical (α=0,95 one tailed)	Test result (H_1: μ > 3)
6	-4.43	1.7459	Do not reject H0:μ=3
7	-5.01	1.7459	Do not reject H0:μ=3
8	-5.14	1.7459	Do not reject H0:μ=3
9	-5.36	1.7459	Do not reject H0:μ=3
10	-6.65	1.7459	Do not reject H0:μ=3

Finally, the significance of the results found was calculated considering the statistical power of the test. This analysis measures the sensitivity of a statistical test considering the control of a type II error, which allows the identification of differences for a mean value that is considered true (Montgomey, 2012). The power of the statistical test was assessed for two different values of μ' (μ' = 3.5 / 3.4), considering that if the actual value of μ is in fact either lower than 4 or greater than 3, but limited to μ', the generated type II error would be acceptable (Table 4).

Table 4. Results of the Assessment of the Power of the Statistical Test

First Group		
Parameter	3.5	3.4
1 Lower price abroad	84%	92%
2 More advanced technology	93%	97.5%
3 Higher quality abroad	81%	90%
4 Items not found in the domestic market	87%	94%
5 Increase in the company's competitiveness	70%	81%
Second Group		
Parameter	3.4	3.5
6 Increase in the supply base	67%	78%
7 Increase in delivery reliability	68%	79%
8 Non-dependence on domestic suppliers	58%	69%
9 Increased competition from domestic suppliers	58%	69%
10 Possibility of access and contact with potential new markets abroad	66%	76%

Thus, for the first five motivators, with a confidence level of 90% and considering, for example, a value of μ'= 3.5 that should be detected, the statistical power of the test was at a mean percentage of 83% (range of 70 % to 93%). Changing the value to μ'= 3.4 resulted in an increase in the power of the statistical test to a mean percentage of 91% (range of 81% to 97.5%). This demonstrated that if the real mean value was 3.4, the test would perceive the difference and correctly reject H0 on average for 91% of cases.

In turn, considering the five last motivators, again with a confidence of 90% and considering, for example, a value of μ'= 3.4 that should be detected, the statistical power of the test was at a mean percentage of 63% (range of 58% to 68%). Changing the value to μ'= 3.5 resulted in an increase in the power of the statistical test to a mean percentage of 73% (range of 68% to 79%). This demonstrated that if the real mean value was 3.4, the test would perceive the difference and correctly reject H0 on average for 73% of cases.

3.2 Internationalization Items (What?)

Respondents indicated among 4 possible alternatives, according to Kraljic's matrix, the alternative that best described the types of items that were bought abroad by their company in order of quantity on a scale of four (highest quantity purchased) to one (lowest quantity purchased). The frequency of each category of items in relation to the quantity acquired was analyzed based on these values (Figure 1)

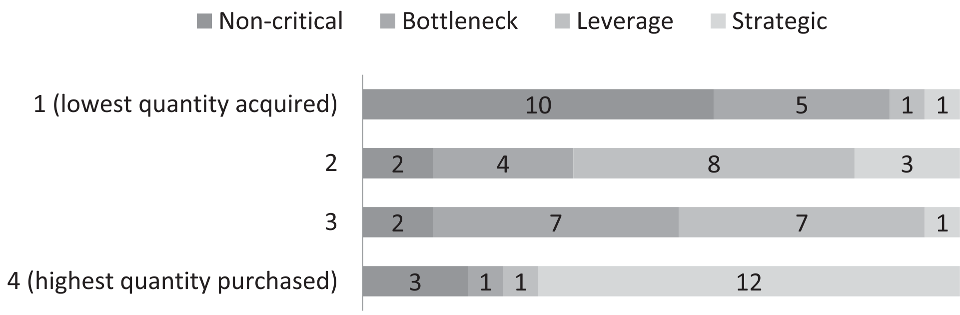

Figure 1. Frequency of items searched abroad by category

The percentage of items considered to have high participation/impact on the profit of the company increased following the quantity of items purchased. Thus, the greater the impact of the item, the greater the quantity purchased. The category of strategic items predominated as the type of item with highest quantity purchased (12 out of 17).

In turn, when assessing the items that are less internationally acquired, products that were considered of lower participation/impact to the profit of the company were less frequent in the categories of higher purchases. A total of 15 low-impact items (10 non-critical and 5 bottlenecks) out of a total of 17 items were observed as having the lowest quantity purchased.

3.3 Internationalization Period (When?)

With regard to the internationalization period, the respondents described the year of the company's foundation, the year of first international purchasing activity, and the percentage of international purchases in comparison to total purchases during the first year of international activity and in 2015.

International expansion rate, which translates the speed of internationalization of the enterprise throughout its growth and development trajectory, was calculated in descending order from the most mature enterprise to the youngest. This methodology was adapted from Carvalho (2009) and its results are presented in Table 5:

$$\%I.E. = \frac{\%\,international\ purchases\ 2015 - \%\,first\ international\ purchases}{total\ years\ of\ international\ purchases\ until\ 2015} \quad (2)$$

Table 5. Description of year of foundation, year of international entry and % I.E.

SME	Foundation year	Years until first international purchase activity	% International expansion
		Traditional	
N	1973	33	3.97%
J	1974	11	0.00%
K	1975	14	-3.22%
L	1976	25	4.34%
E	1980	15	0.81%
P	1983	7	3.43%
		Born Global	
B	1994	5	-5.23%
D	1996	2	0.51%
F	1996	0	3.09%
I	1996	4	1.08%
O	1996	5	0.00%
G	1997	5	0.83%
H	1999	0	0.00%
C	2003	1	-7.61%
Q	2004	0	0.00%
A	2005	1	7.50%
M	2005	1	4.72%

Pearson's correlation was applied to the data for (1) year of foundation and for (2) years until the first international purchase activity. The results showed strong negative correlation, with a coefficient of determination r = -0.8746 (Figure 2). This result demonstrated that the younger the company, the shorter the time period until its first international purchase activity.

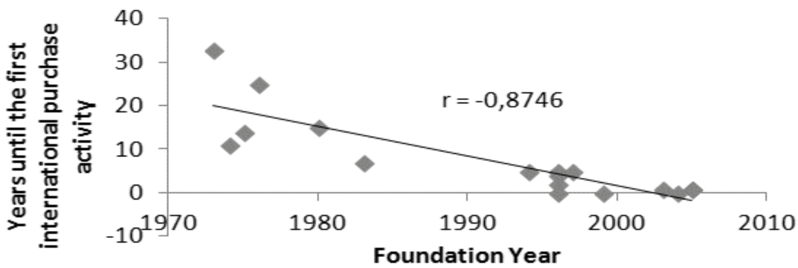

Figure 2. Correlation Graph

A correlation matrix was then created using a 95% confidence level, and as variables the (1) year of foundation, (2) years until the first international purchase activity and (3) international expansion rate (Table 6).

Table 6. Correlation Matrix

Correlation Matrix			
	Year of Foundation	Years until 1st international purchase activity	I.E.
Year of foundation	1		
Years until 1st international purchase activity	r = -0. 8746 p value = 0. 00000	1	
% I. E.	r = -0. 0303 p = value 0. 9081	r = 0. 1812 p = value 0. 4865	1

In relation to the rate of international expansion there was a weak correlation considering all variables (-0.03 with the year of foundation and 0.1812 with the number of years until the company's first international purchase activity). Moreover, p values were above 0.05, showing that there was no statistical significance between the variables. This means that it was not statistically possible, considering the sample collected, to form a relationship between international expansion rates and either the year of foundation or the number of years until the first activity of international purchases.

3.4 Internationalization Local (Where?)

Respondents described the countries of their foreign suppliers during the first year of international purchasing activity and in 2015 (Table 7).

Table 7. Description of international suppliers during the 1st year of SMEs and in 2015

SME	Place of 1st international purchase activity	2015
A	China	China
B	USA, Germany and Japan	USA, Germany and Japan
C	Italy	Italy, Netherlands and Germany
D	Germany	Germany
E	Germany and China	Germany, China, Switzerland, Taiwan, Malaysia, South Korea, Sweden and Japan
F	Italy and Germany	Italy, USA, France, Germany, Netherlands and Poland
G	USA	USA, Italy, Mexico, Sweden, Israel, Germany and China
H	USA and China	USA and China
I	Italy	Italy, USA, Argentina and China
J	Italy and Germany	Italy, Germany and China
K	Germany	Germany, Italy and USA
L	Austria	Austria, Denmark and Netherlands
M	Italy, Poland, USA and Netherlands	Italy, Poland, USA, Netherlands and China
N	USA, Spain, Italy and China	USA, Spain, Italy and China
O	Uruguay, Spain, China and South Korea	Spain, China and South Korea
P	Italy and USA	Italy, USA, China, Japan and Taiwan
Q	Italy	Italy and USA

The rate of international geographic speed was calculated in descending order from the most mature enterprise to the youngest one, as listed in Table 8. This rate corresponded to the international geographic expansion rate of the company over a certain time period after its first international purchase, a methodology adapted from Carvalho (2009):

$$\%I.G.S = \frac{\substack{the\ number\ of\ different\ countries\ in\ 2015\ in \\ relation\ to\ the\ first\ international\ purchase\ activity}}{total\ years\ of\ international\ purchases\ until\ 2015} \tag{3}$$

Table 8. Description of year of foundation, year of international entry and % I.G.S.

SME	Foundation Year	Years until the first international purchase activity	% I.G.S.
		Traditional	
N	1973	33	0.00%
J	1974	11	3.23%
K	1975	14	7.41%
L	1976	25	13.33%
E	1980	15	28.57%
P	1983	7	11.54%
		Born Global	
B	1994	5	0.00%
D	1996	2	0.00%
F	1996	0	20.00%
I	1996	4	18.75%
O	1996	5	0.00%
G	1997	5	42.86%
H	1999	0	0.00%
C	2003	1	16.67%
Q	2004	0	8.33%
A	2005	1	0.00%
M	2005	1	10.00%

A correlation matrix was then created using a 95% confidence level, and as variables the (1) year of foundation, (2) years until the first international purchase activity and (3) rate of international geographic speed (Table 9).

Table 9. Correlation Matrix

Correlation Matrix			
	Year of foundation	Years until 1st international purchase activity	% I.G.S.
Year of foundation	1		
Years until 1st international purchase activity	r -0. 8746 p value 0. 00000	1	
% I.G.S.	r 0.0294 p value 0. 9109	r -0. 0404 p value 0. 8776	1

A weak correlation was observed among all variables in relation to the rate of international geographic speed (0.0294 with the year of foundation and -0.0404 with the number of years until the company's first international purchase activity). Moreover, p values were above 0.05, showing that there was no statistical relevance between the variables. This means that it was not statistically possible, considering the sample collected, to form a relationship between rate of international geographic speed and either year of foundation or number of years until the first international purchase activity.

4. Results Analysis

Regarding the first research proposition, the results presented demonstrated that five of the ten motivators surveyed from the literature were considered relevant for the search of overseas products for SMEs. In sum, according to Nassimbeni (2006), Knudsen and Servais (2007), and Liviu Lupu (2008), SMEs use the international market mainly to search for lower costs, to address lack of technology and quality, to procure items that are not found in the domestic market, and to meet the expectation of increasing competitiveness. In turn, SMEs denied using the international market to increase their supply base, to obtain greater delivery reliability, to increase competition, to not become dependent on national suppliers, nor mainly to have the possibility of access and contact with potential new markets abroad. This could reveal that the Brazilian market often does not offer products that are advantageous to SMEs, which can be exemplified by the answers of SMEs F and M, for example, which reported facing great difficulty in finding national products with levels of quality, technology and innovation that meet market requirements. Thus, both SMEs considered that it was faster and cheaper to search for products overseas than investing in domestic suppliers.

The results for the international items (what) in the present study diverged in relation to the findings of Quayle (2002), Ellegard (2006), Agnadal (2006), Lupu (2008) and Moreira (2013). SMEs were found to use the international market to search for items that are considered strategic, which led to the rejection of the second research proposition. This finding could be correlated with the previously discussed motivators. SMEs were shown to internationalize their purchases because of the advantages of some products (price, technology, quality, exclusivity), which could consequently increase organizational competitiveness.

Internationalization period (when) was found to be in agreement with the third research proposition, i.e. younger companies tend to start their internationalization process earlier on. This result could indicate that advances in information, communication and transport technologies, allied with reductions in tariff and non-tariff barriers, have resulted in the increasingly common phenomenon of premature internationalization (Ståhl, 2000; Kotabe and Murray, 2004; Nunes, 2016). However, the fourth and fifth propositions could not be neither proven nor rejected, i.e. in principle both the age of the company and the year of international entry did not directly explain nor influence international expansion.

Finally, regarding places chosen for international expansion (where), neighboring markets were not considered attractive for the first international activities, regardless of year of foundation, which rejects the sixth proposition. The seventh and eight propositions could not be neither accepted nor rejected. Thus, the age of the company and the year of international entry could not directly explain or influence the speed of geographic internationalization.

5. Conclusions

Significant changes in international trade dynamics (integration of world markets, advances in technology and the breakdown of tariff and non-tariff barriers, as well as the gradually lower life cycle for most products) have led to a growing search for global suppliers, regardless of location, segment and size.

SMEs, with the expectation to increase their organizational competitiveness, have tended to be motivated mainly by the search for products that are considered strategic to operate earlier abroad in several countries that are not near to their local markets. However, the age of the enterprise and the year of international entry did not directly explain or influence neither international expansion nor international geographic speed.

These were the main findings of the present study, which had the objective of analyzing the purchase internationalization behavior of small and medium enterprises belonging to the machinery and equipment sector located in the city of Curitiba and Metropolitan Region, Brazil.

The list of companies consulted originated from the register of the industries of the state of Paraná (2016 edition), elaborated by the Federation of Industries of the State of Paraná (FIEP). The sample size was smaller than expected and the return rate of the questionnaires was modest. Thus, results should be seen as what could be extracted from the data collected in view of deadlines and resources available.

Sample size represented a limitation in the present study. Some statistical inferences were not possible to be drawn from the results of this study due to this limitation (i.e. finding a relationship between international expansion rate and geographic internationalization speed with the age of the company and the year of international entry). Thus, a substantially larger sample is suggested.

Another limitation of the present investigation would be the methodological choice adopted to study temporal variables. Ideally, a longitudinal study should be carried out, gathering information from companies in all their activity, not only during the first and last previously determined periods. This, of course, would allow testing the propositions with more statistical rigor.

In addition, the selection of small and medium-sized import companies of the machinery and equipment sector located in the city of Curitiba and Metropolitan Region, state of Paraná, also represented a limitation to the present study. Thus, the results presented herein might not be in agreement with those of companies from other sectors and locations, and of different sizes. Therefore, it would be highly desirable to test the propositions formulated in the present study with samples from other sectors, sizes, states, and regions.

Nevertheless, the present study brings contributions to other investigations seeking to analyze the internationalization behavior of SMEs. Moreover, the authors sincerely desire that this study will stimulate new research that will deepen the findings reported herein.

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Ownership Structure and Dividends Policy: Emerging Market Evidence

Ahmad N. Obaidat[1]

[1]Accounting Department, Business Faculty, Tafila Technical University, Jordan

Correspondence: Ahmad N. Obaidat, Accounting Department, Business Faculty, Tafila Technical University, Jordan.

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Abstract

This study investigated the effect of ownership structure on the dividend policy of the financial firms listed on Amman Stock Exchange (ASE) for the period 2014-2016. The results indicated a positive relationship between dividend and institutional, managerial, and foreign ownership, and negative relationship between dividend and ownership concentration. The result also indicated that a large portion of the ownership is in the hand of the instructions and the board of directors, and the ownership is not highly concentrated.

Keywords: ownership structure, dividend, financial firms, Amman stock exchange

1. Introduction

A continuous challenging decision disturbing firms management is to decide the amount of earnings to be distributed to shareholders as dividend and the amount that should be retained. This is considered challenging because it represents a trade-off decision between distributing earnings to satisfy shareholders' needs and retain earnings to finance growth and expansion. Both managers and shareholders are interested in such decision because managers consider the dividend as a positive indicator of their performance, and shareholders consider it as an indicator for their investment worthiness and consequently enables them to take the rational decisions concerning buying, holding, or selling shares. In this regard, Ehsan et al. (2013) and Sáez & Gutiérrez (2015) argued that dividend policy is one of the most important factors of determining the firms' value.

By reviewing some of the previous related studies (e.g., Erol & Tirtiroglu, 2011; Lace et al., 2013; Al-Nawaiseh, 2013; Al-Qahtani & Ajina, 2017), it is noticed that the word "Dividend" was accompanied by the word "Puzzle". This accompanying was due to the difficulty of controlling all possible factors that could affect dividend policy, so some of researchers consider it as a puzzle.

Although the previous studies examined the association between different factors and dividend policy, Erol & Tirtiroglu (2011) stated that there is still a lot to be done, Al-Nawaiseh (2013) argued that the issues related to why firms pay dividend is not yet resolved, Lace et al. (2013) concluded that the factors previously investigated do not fully explain the changes in the dividend payments, Al-Qahtani & Ajina (2017) asserted this when they concluded that there is no complete understanding of the factors that affect the dividend policy and the manner in which these factors interact. Among other factors investigated was the ownership structure.

Different types of ownership structures are found in firms (e.g., institutional, managerial, and foreign ownership). Ehsan et al. (2013) and Kulathunga & Azeez (2016), among others, concluded that these different structures have a variety of influences over the dividend policy.

Agency cost theory has been utilized in explaining the association between ownership structures and dividend policy. The agency cost theory highlights the impact of the conflicts of interest between managers and shareholders, due to the separation between ownership and management, on dividend policy. According to this theory, dividend can be used as a tool to mitigate this conflict by reducing the amount of free cash flow that might be expropriated by management (Setia-Atmaja, 2009; Al-Qahtani & Ajina, 2017). Different points of views existed in the previous studies regarding the effect of each type of ownership on dividend policy (which will be represented in the next section).

Two main reasons motivated the conduction of this study: first, there are very few studies that investigated the impact of ownership structure on dividend policy in the emerging markets, compared to the developed markets

(Al-Nawaiseh, 2013; Kulathunga & Azeez, 2016). Second, according to my best knowledge, all of the local studies (e.g., Warrad et al., 2012; Al-Shubiri et al., 2012; Al-Gharaibeh et al., 2013; Al-Nawaiseh, 2013) investigated the impact of ownership structure on dividend policy in the industrial and the service sectors, and none was conducted on the financial sector. So, this study aims to investigate the impact of different ownership structures (institutional, managerial, foreign and concentration) on dividend policy of the financial firms listed on Amman Stock Exchange (ASE) for the period 2014-2016.

2. Ownership Structure, Dividend Policy and Hypotheses Development

2.1 Institutional Ownership

Institutional shareholders are characterized by their ability to control the management due to their large size of investments and their professional approach to manage their investments (Lace et al., 2013), so they become the leading player in determining dividend policy (Al-Qahtani & Ajina, 2017).

Different points of views were found in the previous studies regarding the association between institutional ownership and dividend policy. On the one hand, Han et al. (1999) and Al-Najjar & Kilincarslan (2016) revealed a negative relationship between dividend payout and institutional ownership due to their ability to effectively monitor the firm's management, which in turn reduces the agency cost and the need for high dividend payouts. On the other hand, Farinha (2003) suggested that institutions may influence the firms to pay higher dividend payouts if they believe that their own direct monitoring efforts are inefficient or too costly.

Accordingly, the first hypothesis could be presented as follows:

H1: Holding all else constant, there is a negative relationship between the institutional ownership and the dividend.

2.2 Managerial Ownership

Yi-Hua et al. (2010) and Lace et al. (2013) stated that as the managerial ownership (insider ownership) increases there will be low conflicts of interest between managers and outside shareholders, consequently reducing the agency costs and the need for high dividend payout. Also, Sáez & Gutiérrez (2015) and Kulathunga & Azeez (2016) argued that when a large percentage of the shares is in the hands of insiders, they will have the incentives to reduce the dividend payout to retain the cash inside the firm to generate private benefits to themselves, such as enhancement of salaries and bonuses, at the expense of outsiders. On the other hand, Al-Qahtani & Ajina (2017) believed that the high percentage of managerial ownership leads to an opportunistic behavior among the board of directors that will result in high dividend levels to control this behavior.

Accordingly, the second hypothesis could be presented as follows:

H2: Holding all else constant, there is a negative relationship between the managerial ownership and the dividend.

2.3 Foreign Ownership

Chai (2010) found a positive association between foreign ownership and dividend payout level as the foreign shareholders overweight large and profitable firms with high dividend payout rate. In the same context, Lace et al. (2013) stated that foreign shareholders prefer investments in the emerging market firms in case of high dividend opportunity. Le & Le (2017) also stated that foreign shareholders prefer more dividend payments in the weak corporate governance context because they are disadvantageous in terms of information regarding firms performance and market changes.

On the contrary, Glen et al. (1995) believed that most shareholders in the industrial countries invest in the stocks of emerging markets for their long run growth potential they represent, not for the short-term dividend they will produce, suggesting a negative relationship. Sulong & Nor (2008) stated that foreign shareholders may prefer a low dividend policy in the case where they can play an active monitoring role to mitigate the potential managerial opportunism and control the agency costs of free cash flow. Al-Najjar & Kilincarslan (2016) asserted this by stating that foreign shareholders might be efficient in monitoring the management in emerging markets due to their experience and because the foreign ownership increases foreign analysts' interests, which in turn provide additional monitoring on the managements' activities, consequently reduce the agency costs and the need for high dividend payout.

Accordingly, the third hypothesis could be presented as follows:

H3: Holding all else constant, there is a negative relationship between the foreign ownership and the dividend.

2.4 Ownership Concentration

There is general consensus in the previous studies that large shareholders in firms with concentrated ownership structures are considered influential in the determination of dividend policy, which in turn may generate private benefits to them at the expense of the minority shareholders (e.g., Sáez & Gutiérrez, 2015; Sindhu et al., 2016; Le & Le, 2017).

Yi-Hua et al. (2010) stated that if the large shareholders fail to realize capital gains from price appreciation of shares, cash dividend becomes their sole source of income. consequently, they have the motivation to ask for large dividend. Kulathunga & Azeez (2016) also concluded that firms are forced to distribute more dividends to decrease the agency cost when they include ownership concentration.

On the other hand, Khan (2006) and Wei et al. (2017) indicated a negative relationship between ownership concentration and dividend payout. The later justified this by indicating that the large shareholders prefer to retain cash in the firms to reinvest it in more profitable projects.

Accordingly, the fourth hypothesis could be presented as follows:

H4: Holding all else constant, there is a negative relationship between ownership concentration and the dividend.

3. Literature Review

Han et al. (1999) examined the relationship between institutional ownership and dividend policy. The results showed a positive correlation between institutional ownership and dividend payout. Khan (2006) investigated the relationship between ownership structure and dividend for 330 large quoted UK firms. The results indicated a negative relationship between dividend and ownership concentration. The results also indicated that the ownership composition affected dividend, where a negative relationship was observed for shareholding by individuals and a positive relationship observed for shareholding by insurance companies. Sakinc & Gungor (2015) investigated the impact of ownership structure on dividend for 271 real and banking firms listed on Istanbul Stock Exchange between 2004-2011. The results indicated that the cash dividend was associated positively with ownership concentration and negatively with foreign ownership. Kulathunga & Azeez (2016) investigated the association between ownership structure and dividend policy of listed firms in Colombo Stock Exchange over the period 2006-2014. The results indicated a negative effect of institutional and managerial ownership on dividend, while the ownership concentration showed a positive effect. Sindhu et al. (2016) analyzed the impact of ownership structure on dividend payout ratio of 100 non-financial firms listed on Karachi Stock Exchange for the period 2011-2015. The results indicated that the institutional ownership showed a positive impact on dividend payout ratio, while the managerial ownership showed a negative one. Mossadak et al. (2016) analyzed the relationship between the ownership structure and the dividend policy in Morocco. The results indicated a positive impact of ownership concentration and foreign ownership on dividend, while the institutional ownership did not show any significant relationship with dividend policy. Al-Qahtani & Ajina (2017) examined the relationship between the ownership structure and dividend payout policy for 100 firms listed on Saudi Stock Market for the period 2012-2015. The results indicated a positive relationship between managerial ownership and dividend. Wei et al. (2017) examined the impact of ownership concentration on dividend payout of Malaysian publicly listed firms for the period 2005-2015. The results indicated that ownership concentration was associated with low dividend payout. Le & Le (2017) investigated the relationship between the identities and level of shareholdings of the largest shareholders, and cash dividend policy of 180 firms listed on Vietnam stock exchange markets for the period 2009-2013. The results indicated that the firms with foreign investors as the largest shareholders had higher dividend payout ratio than firms with domestic investors as the largest shareholders. The results also indicated that the higher the level of holdings, by the largest shareholders, is the lower the dividend payout will be.

In the local context, Warrad et al. (2012) examined the association between ownership structure and dividend policy of the industrial public shareholding firms for the period 2005-2007. The results indicated a positive relationship between foreign ownership structure and the dividend payout. Al-Shubiri et al. (2012) examined the association between ownership structure and dividend policy of the industrial firms for the period 2005-2009. The results indicated a negative relationship between the institutional ownership and dividend per share. The results also indicated that the higher the ownership of the five largest shareholders, is the higher the dividend per share will be. Al-Gharaibeh et al. (2013) investigated the effect of ownership structure on the dividend policy for 35 industrial and service firms for the period 2005-2010. The results indicated a positive association between institutional ownership and dividend, and negative association between managerial ownership and dividend. Al-Nawaiseh (2013) investigated whether ownership structure affect dividend policy of the industrial firms for the period 2000-2006. The results indicated a positive association between institutional ownership and dividend, and negative association between managerial ownership and dividend.

4. Methodology

4.1 Sample and Data Collection

The study sample consisted of (64) firms, representing all the financial firms listed on ASE for the period 2014-2016. These firms include (15) banks, (20) insurance firms, and (29) financial services firms. Dividend data and ownership information were collected from the firms' annual reports and the Security Depository Center (SDC) online database.

4.2 Measurement of Variables

Following (Al-Shubiri et al., 2012 and Kulathunga & Azeez, 2016), dividend, which represent the dependent variable, was measured by cash dividend per share and was calculated by dividing the total cash dividend distributed by the number of shares outstanding. Although dividend could be measured by the dividend yield or payout ratio, this study used the dividend per share as a measure of dividend policy to overcome the possible problems associated with the use of the other measures. On the one hand, because dividend yield is measured by dividing dividend per share by the closing market price per share, this measure is affected by factor (i.e., share market price) other than the dividend. On the other hand, because the dividend payout ratio is measured by dividing the total dividend paid by the net income, there is a probability of negative payout ratio if the earnings is negative (loss) or a probability of an overstated payout ratio if the earnings is low.

Four types of ownership structure represented the independent variables in this study (institutional, managerial, foreign and concentration). Institutional ownership was measured as the percentage of the shares held by the institutional shareholders (e.g., mutual funds, pension funds, banks), whether domestic or foreign (Kulathunga & Azeez, 2016). Managerial ownership was measured as the percentage of the shares directly held by the board of directors of the firm (Sulong & Nor, 2008). Foreign ownership was measured as the percentage of the shares held by the foreign shareholders whether individuals or institutional (Chai, 2010; Al-Najjar & Kilincarslan, 2016). Ownership concentration was measured by using the Herfindahl Index (HFI) which is equal to the sum of the square of the top five shareholders' holding percentages (Yi-Hua et al., 2010; Kulathunga & Azeez, 2016).

5. Results and Discussion

Table 1 presents the descriptive statistics for the ownership structure and dividend for the sample firms during the study period. As shown, more than half (about 51%) of the ownership is in the hands of institutions, with a range from (0. 2%) to (100%). Managerial ownership results indicate that about (46%) of the ownership is in the hands of the board of directors of these firms. These results indicated that the outside individual (minority) shareholders have a small percentage of ownership.

In the local context, Al-Gharaibeh et al. (2013) found closer percentages of the institutional and managerial ownership in the industrial and the service firms listed on ASE for the period 2005-2010; they found that about (52%) of the ownership is in the hands of institutions and about (47%) of the ownership is in the hands of the board of directors.

The results also indicate that about (28%) of the ownership is in the hands of foreign shareholders, whether individuals or institutions, (19%) of the ownership is in the hands of the largest five shareholders, whether individuals or institutions, suggesting that the share ownership in the financial firms is not highly concentrated.

The average cash dividend distributed by the sample firms is about (0.067) per share, with a minimum distribution of (zero) for the firms that did not distribute any cash dividend during the study period, and a maximum distributions of (0.455) per share, indicating huge differences between firms in terms of dividend payments. In the local context, Al-Shubiri et al. (2012) revealed that the average cash dividend distributed by the industrial firms listed on ASE is about 0.041 per share, for the period 2005-2009.

Table 1. Descriptive Statistics *

Variable (Ownership)	Mean	SD	Min	Max
Institutional	0.512	0.281	0.002	1.000
Managerial	0.461	0.244	0.003	0.964
Foreign	0.282	0.272	0.000	0.906
Concentration	0.190	0.192	0.024	0.821
Dividend **	0.067	0.095	0.000	0.455

* Values rounded to the third decimal.

** Values in US dollars.

Table 2 presents Pearson correlation matrix among the study variables. As shown, the correlation coefficients indicate the non-existence of multicollinearity problem between them. Dividend is significantly correlated positively with institutional, managerial, and foreign ownership, while the ownership concentration shows a positive but insignificant correlation with dividend. The results also indicated a positive significant correlation between all types of ownership.

Table 2. Pearson Correlations Matrix

Variable (Ownership)	Institutional	Managerial	Foreign	Concentration	Dividend
Institutional	1.000				
Managerial	0.606 **	1.000			
Foreign	0.515 **	0.294 *	1.000		
Concentration	0.621 **	0.551 **	0.629 **	1.000	
Dividend	0.332 **	0.275 *	0.333 **	0.050	1.000

* Significant at $p < 0.05$ level

** Significant at $p < 0.01$ level

The multivariate regression analysis was performed to empirically test the study hypotheses. The regression model that was performed and tested is as follows:

$$Div_i = \beta_0 + \beta_1 Ins_i + \beta_2 Man_i + \beta_3 For_i + \beta_4 Con_i + \varepsilon_i$$

Where:

Div_i : Continuous variable represents the cash dividend per share,

Ins_i : Continuous variable represents the percentage of institutional ownership,

Man_i : Continuous variable represents the percentage of managerial ownership,

For_i : Continuous variable represents the percentage of foreign ownership,

Con_i : Continuous variable represents the percentage of ownership concentration.

Table 3 presents the results of multivariate regression analysis. The adjusted R square result indicated that about (24.8%) of the variance in the dividend is explained by the model, ANOVA results indicated that this model is a statistical significant predictor of the outcome ($p<0.05$). The coefficients of the institutional, managerial, and foreign ownership are positively statistically significant, while the coefficient of the ownership concentration is negatively statistically significant ($p<0.10$). Beta results indicated that the ownership concentration followed by foreign ownership have the strongest contribution in explaining the dividend outcome. Finally, the values of Tolerance and VIF in the collinearity statistics provide additional support about the non-existence of multicollinearity problem.

Therefore, these results provide support for rejecting the first three hypotheses and accepting the fourth one, where the first three hypotheses proposed a negative relationship between the dividend and the institutional ownership, the managerial ownership, and the foreign ownership, respectively; while the fourth hypothesis proposed a negative relationship between the dividend and the ownership concentration.

The result regarding the positive relationship between institutional ownership and dividend confirms the results of Han et al. (1999) study in USA, Al-Gharaibeh et al. (2013) study in Jordan, and Sindhu et al. (2016) study in Pakistan. The result regarding the positive relationship between managerial ownership and dividend confirms the results of Al-Qahtani & Ajina (2017) in Saudi Arabia. The result regarding the positive relationship between foreign ownership and dividend confirms the results of Warrad et al. (2012) study in Jordan, Mossadak et al. (2016) study in Morocco, and Le & Le (2017) study in Vietnam. The result regarding the negative relationship between ownership concentration and dividend confirms the results of Khan (2006) study in UK and Wei et al. (2017) study in Malaysia.

Table 3. Multivariate Regression Analysis Results

	Unstandardized Coefficients							Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
Constant	-.023	.025		-.943	.350	-.072	.026		
Institutional	.091	.053	.270	1.714	.092	-.015	.197	.480	2.083
Managerial	.112	.056	.289	1.985	.052	-.001	.224	.564	1.774
Foreign	.163	.051	.468	3.204	.002	.061	.264	.560	1.786
Concentration	-.281	.082	-.571	-3.434	.001	-.445	-.117	.432	2.315
Model Summary									
	R	R Square	Adjusted R Square	Std. Error of the Estimate					
	.544	.296	.248	.082					
ANOVA									
	F	Sig.							
	6.202	.000							

6. Conclusion

This study investigated the effect of ownership structure on the dividend policy of the financial firms listed on Amman Stock Exchange (ASE) for the period 2014-2016. It particularly investigated the effect of institutional ownership, managerial ownership, foreign ownership, and ownership concentration on the dividend per share for a sample of (64) firms representing all financial firms listed on ASE.

The main results revealed by this study indicated a positive relationship between dividend per share and institutional, managerial, and foreign ownership, and a negative relationship with ownership concentration. Several possible justifications for these results were found in the previous studies, Farinha (2003) stated that the institutional shareholders may influence the firms to pay higher dividend if they believe that their own direct monitoring efforts are inefficient or too costly, Al-Qahtani & Ajina (2017) argued that the high percentage of managerial ownership leads to an opportunistic behavior among the board of directors that will result in high levels of dividend to control this behavior, Le & Le (2017) stated that the foreign shareholders prefer more dividend payments in the weak corporate governance context because they are disadvantageous in terms of information regarding firms performance and market changes; while Wei et al. (2017) stated that large shareholders prefer to retain cash in firms to be reinvested in more profitable projects.

The study also revealed secondary results. First, a large portion of the ownership in financial firms is in the hands of the institutions and the board of directors, confirming the results of Al-Gharaibeh et al. (2013) study that was conducted on the industrial and service firms listed on ASE. Second, the ownership in financial firms is not highly concentrated, only (19%) of the ownership is in the hand of the largest five shareholders.

In light of these findings, and in the absence of a comprehensive local study, this study recommend the conducting of a comprehensive comparative study that will cover all sectors in ASE; in addition, the investigation of other potential factors (e.g., earnings, liquidity, cash flows, and financial leverage) that may have an effect on the dividend policy.

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Influence of Real Exchange Rate and Volatility on FDI Inflow in Nigeria

Saidu D. Muhammad[1], Nnanna P. Azu[2], Ngozi F. Oko[3]

[1]School of Management, Dongbei University of Finance and Economics, Dalian, China

[2]School of International Economics and Trade, Dongbei University of Finance and Economics, Dalian, China

[3]Shenzhen Fanoc Trading Co., Ltd, Shenzhen, China

Correspondence: Nnanna P. Azu, School of International Economics and Trade, Dongbei University of Finance and Economics, Dalian, China.

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Abstract

The purpose of this research is to ascertain the effect of real exchange rate fluctuation and its volatility on inward flow of FDI with Nigeria as a focal country, between 1970 to 2014. The research applied GARCH (1,1) to ascertain the level of volatility and ARDL model was used to determine the relevant results-these techniques were adopted for their robustness in estimation. It could be revealed that the effects of exchange rate and exchange rate volatility are more of a short-run phenomenon; while devaluation would increase inflow of FDI, volatility makes foreign investors more sceptical with increasing uncertainty. Increasing uncertainty could deter inflow of FDI into the country. Having captured the effect of political regime in the model, the paper reveals that a democratic regime should be the mainstay since it attracts more foreign investment compared to the military regimes. Therefore, even though devaluation is good, it would be better under civil government regimes.

Keywords: FDI, Real exchange rate, volatility, GARCH, political regime

1. Introduction

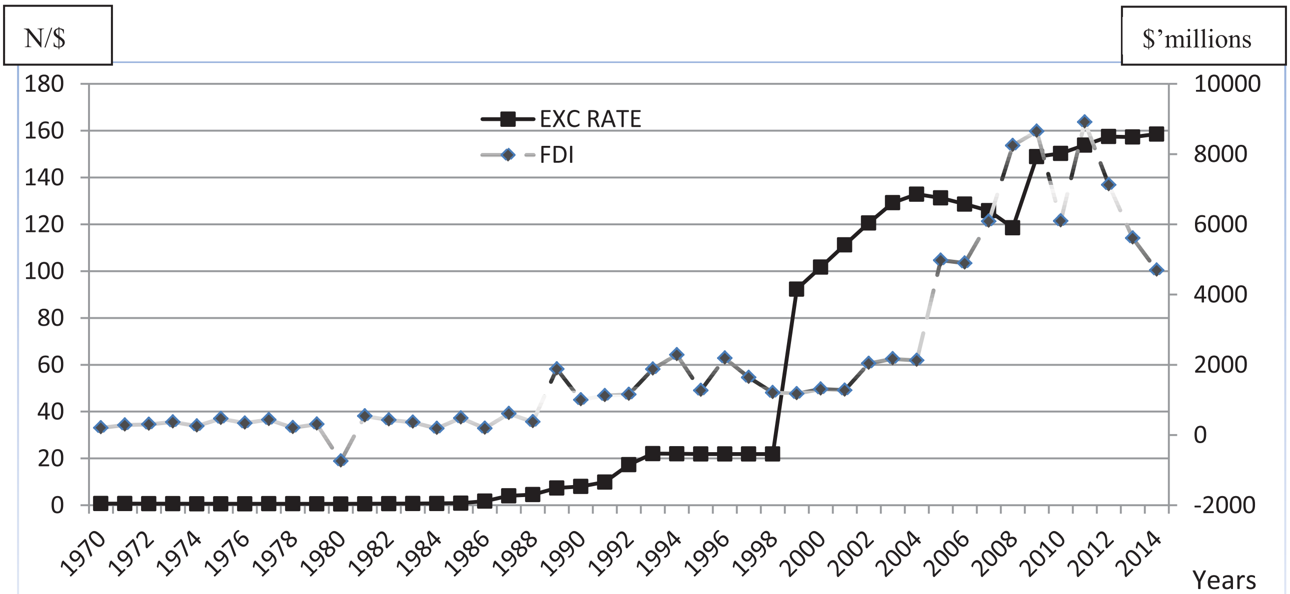
Exchange rate fluctuation and its volatility has become a topical issue among policy makers and scholars alike in that it does not only impinge on profitability of firms that operate internationally, but is also influential in determining investment by foreign firms. Massive benefits are envisaged to be accrued to recipient nations of FDI with Goldberg and Klein (1998) asserting that FDI encourages export promotion, import substitution or greater trade in intermediate input which seldom exist between parent and affiliated producer. Other scholars believe there are positive links between FDI and economic growth and development (See Cipollina et al 2012, McCloud and Kumbhakar 2011, Wang and Wong 2008, Zhao and Du 2007, Liu et al 2014, Chaudhry et al 2013 and Adegbite and Ayadi 2010) but to the disagreement of Herzer (2012) who suggested that negative relationship exists between FDI and growth in developing countries (Akinlo 2004, Rehman 2016). Kiyota and Urata (2004) would reason that both investing and host countries do benefit from FDI. While the former benefit from market share increase through locational comparative advantage, strategic assets in R&D and stabilizing economic relation, the latter will gain from transfer of financial resources, technological and managerial know-how as well as offer healthy competitiveness to local firms and other spill-over advantages. The flow of FDI will involve changes in assets value to a different currency which could be tedious due to the fluctuation of currency values. It becomes apparent that policy makers need to investigate the relationship between exchange rate and its volatility as they affect FDI, to aid formulation of workable policies.

With Vision 2020:20[1] looming and paramount to economic development in Nigeria, attracting more FDI would be a magic wand that triggers economic growth that accomplishes long term program goals. From the early 70s, FDI inflow to Nigeria was marginally stable until the policy of indigenisation/nationalization[2] which forced

[1]Nigeria's Vision 2020:20 is long term plan articulated to lunch Nigeria onto the path of sustainable social and economic growth, and targeted at making Nigeria one of the top 20 economy in the world by 2020. The benchmark is to raise per capita GDP to US$4000, thus improving the welfare of the citizenry.

[2]The Nationalisation/Indigenisation policy was geared at protecting the economy from the control of foreign

foreign investors to withdrew their investments in 1980. The consequence was a drawback in economic growth, though exchange rates remained low and more stable. This unpopular decision was made by a military regime. However, from 1999, when the naira was devalued from 21.88 per dollar to 92.3 per dollar[3], inward FDI flow fell from US$1210.11 million to US$1177.71 million, but changed enormously 3 years later with increases to US$2040.18 million in 2002 and US$2171.39 million in 2003 (see Fig 1). Again, despite the world economic crises which made international investors very cynical about emerging markets and developing economies, Nigeria's inward FDI flow significantly increased by 46.07% in 2011 but declined a bit in 2012. It could also be noted that the UNCTAD, World Investment Reports, announced a rise in global FDI by 9% with Africa sharing a rise of 4% in 2013 but FDI flow fell globally by 16% in 2014 with Africa dropping by 15%. At this point, Nigeria was earmarked as the biggest destination of FDI in Africa with US$86,671 million of stock in 2014 despite the Ebola threat that ravaged the West African sub-region.



Source of Data: UNCTAD

Figure 1. Flow of FDI and Exchange rate in Nigeria 1970-2014

A good number of authors have argued the importance of exchange rate and its volatility towards FDI inflow; among them are Froot and Stein (1991), Klein and Rosengren (1994), Goldberg and Kolstad (1995), Kiyota and Urata (2004), Xing (2006), Xing and Wan (2006), Ellahi (2011), Ullah et al (2012); some paid more attention to the development in Nigeria (Osinubi and Amaghionyeodiwe 2009, Omokorokunwa and Ikponmwosa 2014). Nevertheless, as it becomes unanimous that exchange rates play a significant role in redirecting FDI flows, there are diverse opinions as to the impacts of volatility on FDI. Writers such as Barrell et al (2003) and Ellahi (2011) would argue there are negative impacts, while others like Cushman (1985) and Goldberg and Kolstad (1995) believe there are positive relations. These distinct opinions are down to what constitutes volatility in the first place; flexibility and uncertainty. The flexibility aspect tends to aid international financial flow, as a result attracts more FDI but the uncertainty leaves the investor to the exposure of high risk which could dissuade the morale of potential foreign investors. Hence, depending on which is dominant, authors are bound to have varying results.

While these authors have made their marks in contributing to development of literature in this regard, their methodology may not be robust and most at times omitted to capture market size effect in GDP. This paper extended the framework of analysis adopted by Kiyota and Urata (2004), Klein and Rosengren (1994) and Froot and Stein (1991), but employed GARCH (1,1) model to examine the extent and nature of volatility of Nigeria's currency (Naira). This paper also captured the political regimes, with dummy variables, from 1970 to 2014. The

hands as FDI was considered as means for economic and political dominance, by converting major companies into government control where government will take up to 40-50% of the shares.

[3]Again, another decision was made by a military regime before handing over to a democratically elected civilian regime.

remaining parts of the research work will be segmented into 4 sections; literature review follows immediately, section 3 will design the methodological framework while the domino effect will be analysed in section 4. Section 5 concludes with findings.

2. Literature Review

Generally, the effects of FDI on the host country's economy are reportedly innumerable which includes but not limited to influences on economic growth, employment, production, development, prices, and improve in welfare of the host nation, (Kok and Ersoy 2009). Aside trade, one would agree that FDI is arguably a significant factor engineering globalization of the international economy, but its determinant has been a focal of discourse among scholars. In justifying why firms invest abroad as encapsulated in Dunning's eclectic Paradigm, FDI is motivated by gaining market power (Ownership-specific advantage), benefiting from location specific advantage and conducting operations directly (internalization) rather than through licensing (Dunning 1993). However, there is no consensus as to the determinants of FDI flows. While some authors will have their attention focused on socio-political and institutional reasons such as Hooper and Kim (2007) who verified how opacity index of host countries affect FDI inflow; Schneider and Frey (1985) found that political strikes, riots and regular constitutional changes greatly impede FDI. Rogoff and Reinhart (2003) discovered that institutional and political instability, towering levels of corruption, inactive markets and price volatility inhibits inflow of FDI. (See also Trevino and Mixon 2004). But, there are no appropriate or reliable proxy for political stability/instability.

Moreover, other schools of thought pointed at economic factors which comprises inflation, exchange rate and its volatility, interest rate, market size measured in GDP, and openness as core determinants. This research is partly anchored on this latter school of research, with much emphasis on exchange rate. In analysing determinants of FDI in Germany, Moore (1993) concluded that GDP and market size were key influences while economic growth and trade openness were discovered to have much impact on inward FDI (Morrisset 2000). Similar to the outcome in Asiedu (2002) while analysing 34 sub-Sahara African countries between 1980-2000. Cheng and Kwan (2000) and Zhang (2001) all focused on China and their results revealed that large economic size and better infrastructure, and economic growth, openness, cheap labour, and market size respectively tend to stimulate FDI. Onyeiwu and Shrestha (2004) pinpointed that natural resources, economic growth, openness, inflation and reserve form important motivators to inflow of foreign investment. The research was based on panel data analysis considering 29 African countries for the period of 1975-1995. Market ability could be measured by GDP or GDP per capita, therefore should be envisaged to have positive impact on FDI inflow.

2.1 FDI and Exchange Rate

There is good number of empirical research which confirmed the existence of a strong impact of exchange rate on FDI. However, as Kiyota and Urata (2004) explained that an increase in a country's exchange rate (depreciation) is reported to have two effects on FDI attraction. In the first place, it will tend to reduce the production cost of the host Nation against other countries, including the home Nation, with production becoming more efficient in the host country. Second, depreciation of currency in the host Nation would reduce the asset value in the host country, hence attracting more FDI. There seems to be consensus as to how real exchange rates impact FDI. (See Goldberg and Kolstad 1995, Xing and Wan 2006, Udo and Egwaikhide 2008, Osinubi and Amaghionyeodiwe 2009, Dhakal et al 2010, Ellahi 2011, Omokorokunwa and Ikponmwosa 2014). In it all, the failure of the law of one price is believed to prompt the behaviour of real exchange rate and its associated problems. (Rogers and Jenkins 1995, Engel 1999). To attract more foreign investments, most nation tend to devalue their national currency.

2.2 Exchange Rate Volatility and FDI

Exchange rate volatility has been examined in different methods and there are varying responses as to its impact on FDI. Exchange rate volatility becomes more controversial due to the lack of definitive conclusion to its effect. In an attempt to investigate how volatility of exchange rates affect flow of US' foreign direct investment to EU, Barrell *et al.* (2003) used data from 1982-1998 to form a panel of seven industries and employed generalized method of moments (GMM) of which they ascertained a strong negative relationship. Likewise, Brzozowski (2003) also detected negative effects on FDI by using GMM Arellano-Bond model and Fixed Effects OLS to ascertain the impact of exchange rate uncertainty on movement of FDI; considering 32 countries and measuring volatility following GARCH (1,1) method. Tokunbo and Lloyd (2009) utilized a standard deviation technique to measure volatility, while also applying error correction techniques and cointegration to empirically examine the impact of volatility of exchange rate on FDI inflow to Nigeria. Though, the result confirmed a positive relationship between depreciation of naira and inward FDI, exchange rate volatility had no deterministic effect but Udo and Egwaikhide (2008) applied GARCH model and found negative effect with FDI in Nigeria.

Contrasting opinions abound as Cushman (1985) applied standard deviation of four quarterly values to determine volatility which was applied to ascertain how it impacts on inward FDI. Cushman (1988) adopted mean of four quarterly values to measure volatility and both results indicated that exchange rate volatility positively induce FDI inflow much to the delight of Goldberg and Kolstad (1995) who got similar result as they also applied a standard deviation model to obtain exchange rate volatility-with their study based on FDI flow from Canada, Japan and UK to USA. Stokman and Vlaar (1996) also find a significant positive relationship between exchange rate volatility and Netherland's inward and outward FDI, however, in the long run. Likewise, Chowdhry and Wheeler (2008) and Dhakal et al (2010) attest to the later findings. While Chowdhry and Wheeler (2008) focused on Canada, Japan, UK and USA, the Dhakal et al (2010) study was based on China, Indonesia, Malaysia, Phillippines, South Korea and Thailand.

Osinubi and Amaghionyeodiwe (2009) also utilized a standard deviation model to determine the effect of exchange rate volatility on real inward FDI but got divergent outcomes; the over-parameterized model and the parsimonious model reveals positive and negative impacts respectively. Notwithstanding the method, different results abound from different countries of analysis. The extend of exchange rate volatility could hinge on the exchange rate regime which determines the two aspects of volatility: flexibility and uncertainty. The flexibility side will aid flow of finance across borders while the uncertainty side will deter investors' confidence due to high risk inherent.

3. Data and Methodology

3.1 The Model

The researcher adopted a model employed by Kiyota and Urata (2004), Klein and Rosengren (1994) and Froot and Stein (1991), not without some augmentations. It could be recalled that to estimate the effects of exchange rate and its volatility on FDI, these authors had expressed similar regressions as follow:

$$ln(\mathrm{FDI}_t/\mathrm{GDPt}) = \beta_1 ln(e_tP_t/P_t) + \beta_2 \mathrm{Vol}_t + \beta_3 \mathrm{Trend} + \varepsilon_t \quad (1)$$

Specifically, the regression equation included real exchange rate (e_tP_t/P_t) and exchange rate volatility (Vol_t) as explanatory variables, while Kiyota and Urata (2004) also included time Trend to capture frequency of time flows. Yet, an important factor this model gave little or no attention is the market. Despite whatever factors that entice FDI, if the host nation lacks the ability to buy, definitely, lesser FDI will be envisaged. GDP and GDP per capital has generally been use as a proxy to purchasing power of a given Nation, therefore the research reasoned that percentage increase in GDP inflow will cause some percentage increase in foreign investments. Thus, the model could be represented as follow:

$$F/Y_t = F\,(Y^R{}_t, P_t, \delta_t) \quad (2)$$

Re-written as:

$$F/Y_t = \beta_{10} + \beta_{11}D_t + \beta_{12} ln F/Y_{t-1} + \beta_{13} ln Y^R{}_t + \beta_{14} ln P_{t} + \beta_{15}\delta_t + \varepsilon_t \quad (3)$$

Note: The dependent variable is taken as FDI inflow as percentage of GDP (F/Y_t) to allow for normalization to proxy the real behaviour of FDI inflow. The independent variables include Y^R representing the real GDP growth rate which was however converted to natural logarithm as $lnY^R{}_t$, the co-efficient is expected to be > 0. P_t represents the real exchange rate at time t, which is determined using a traditional method as follows: $P_t = E_t$ x CPI_{US}/CPI_{NG}; Where P_t stands for annual Real Exchange Rate, E_t is the nominal exchange rate, CPI_{US} is the Price level in USA and CPI_{NG} is Price level in Nigeria. The value was also converted to natural logarithm and the co-efficient is expected to be > 0. δ_t represent exchange rate volatility which was determined by applying GARCH (1,1). The co-efficient here could either be > 0 or < 0 depending on how foreign investors respond to investment risk relation to exchange rate uncertainty. F/Y and Y^R were sourced from UNCTAD while P, δ and all the CPI use for data adjustment were obtained from IFS IMF database. D_t represents the political regimes which was captured with a dummy variable such that D_t equals 1 if in democratic/civilian regime and zero (0) otherwise. The research covered the period between 1970 to 2014, inclusive.

3.2 The GARCH (1,1) Model

The researchers choose to apply ARCH/GARCH model popularised by Engel (1982) because as Mckenzie (1999) put it, exchange rate is known to best follow the GARCH process. This represents a technical shift from traditional standard deviation, co-efficient of variance and ratio analysis which are said to lack robustness (Kyereboah-Coleman and Agyire-Tettey 2008). Thus, volatility is calculated as follows:

$$lnP_t = \phi + \lambda lnP_{t-1} + e_t \quad (4)$$

where, $e_t \approx (0, \delta_t)$ and:

$$\delta_t = \phi + \omega e^2_{t-1} + \gamma\delta_{t-1} + \mu_t \tag{5}$$

where, the conditional variance δ_t is dependent of three terms; viz:

(a) The mean ϕ,
(b) The square error term e^2_{t-1} in the previous lagged period otherwise known as ARCH term
(c) Previous lag of the conditional variance δ_{t-1} also known as GARCH term.

The sum of $\omega + \gamma$ measures the persistency of volatility.

3.3 Analysis Method

Auto-regressive Distributed Lag (ARDL) model for co-integration will be adopted for this paper due to its robustness in determining long- and short-run co-efficient. Unlike, the conventional co-integration methods, testing for stationarity will not be compulsory, as it will be convenient to diagnose dynamic interaction between variables when series are not definite whether *I*(1) or *I*(0), and one can even determine the parameter of long-and short-run simultaneously. Pesaran et al (2001) reveals that the F-test can be applied to test the joint significant of the lagged-levels of variables in ARDL model with basic condition for co-integration being that computed F-stat falls above the lower- and upper-bounds critical value. Moreover, Banerjee et al (1998) illustrate that a negative and significant error-correction term ec_{m-1} could be a different measure to define long-run relationship among variables.

Equation (3) could be altered to the broad form of the Auto-regressive Distributed Lag Model (ARDL) as follows:

$$\Delta lnF/Y_t = \beta_{10} + \beta_{11}D_t + \beta_{12}lnF/Y_{t-1} + \beta_{13}lnY_{t-1} + \beta_{14}lnP_{t-1} + \beta_{15}\delta_{t-1} + \sum_{i=0}^{p}\beta_{16}\Delta lnF/Y_{t-i} + \sum_{i=0}^{p}\beta_{17}\Delta lnY_{t-i} + \sum_{i=0}^{p}\beta_{18}\Delta lnP_{t-i} + \sum_{i=0}^{p}\beta_{19}\Delta\delta_{t-i} + \varepsilon_t \tag{6}$$

All variables remain as earlier described, Δ stand for the difference in respective variables and (-) is a lag sign. To satisfy the long-run relationship, ARDL bound test requires a null hypothesis for no co-integration HO: $\beta_{12} = \beta_{13} = \beta_{14} = \beta_{15} = 0$; for equation (6).

4. Analyses of Results

4.1 Measuring Volatility Index

The result of an estimated volatility index is posted in Table 1 which indicates that exchange rate adheres to procedures slated for GARCH (1,1) and is robust. From the conditional variance equation, the mean (ϕ) is statistically significant at 1% level and with a positive co-efficient (22.80938) which suggests a proper classification of conditional variance. Though the ARCH element is negative, the sum of $\omega + \gamma$ is near to 1 which demonstrates persistency of volatility.

The GARCH (1,1) model equations can be substituted for equations 7 and 8 as follows:

$$lnP_t = 1.540047 + 0.949374\lambda lnP_{t-1} \tag{7}$$

$$\delta_t = 22.80938 + -0.118601e^2_{t-1} + 1.1841\delta_{t-1} \tag{8}$$

Table 1. Estimation of volatility Index

Variable	Coefficient	Std. Error	Z-Statistic
ϕ	1.540047	3.739623	0.411819
lnP_{t-1}	0.949374***	0.018111	52.42093
Variance Equation			
ϕ	22.80938***	3.945275	5.781442
ARCH(-1)	-0.118601***	0.001396	-84.97045
GARCH(-1)	1.1841***	0.002462	480.8829
R-squared	0.963169	Akaike info criterion	9.419362
Adjusted R-squared	0.962293	Durbin-Watson stat	1.893427

Note. The asterisks *** denotes significance at 1%, Estimation was based on ML-ARCH-Normal distribution following BFGS/Marquardt steps.

4.2 Lag Selection Criteria

With the ARDL model, lag selection is very essential and according to Bahmani-Oskooee and Nasir (2004) and Baek (2014), lag selection is very sensitive such that the result of the F-statistic could be affected. This research therefore employed VAR Lag selection criteria, through which lag 4 was selected give that the asterisk falls mostly on lag 4 with all criteria except for SC. See table 2.

Table 2. VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-346.4184	NA	19.16383	17.14236	17.35133	17.21846
1	-199.4150	250.9815	0.050397	11.19097	12.44481*	11.64755
2	-179.2403	29.52385	0.067494	11.42636	13.72505	12.26342
3	-141.1733	46.42323	0.041502	10.78894	14.13250	12.00648
4	-97.85099	42.26566*	0.023303*	9.895170*	14.28359	11.49319*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

4.3 Results of Bounds Testing for Co-Integration

It was deemed necessary that dummy variable was introduced such that D takes the value of 0 for periods where Nigeria was a military regime and 1 otherwise. However, the result as posted in Table 3 fulfilled the assumptions of both Banerjee et al (1998) and Pesaran et al (2001), that the ec_{m-1} is negative (-0.200989)*** and significant-meaning that the speed of adjustment toward long run equilibrium is 20.09%, and F-statistics (3.947875) fall outside the lower (2.56) and upper bounds (3.49) respectively at 5% level of significant.

Table 3. Result of Cointegration Bound Test

F-statistics	EC_{M-1}	Significant Level	Lower Bound	Upper Bound
3.947875	-0.200989***	10%	2.2	3.09
	(-5.469985)	5%	2.56	3.49
		1%	3.29	4.37

Note. number is parenthesis denote the T-statistics and *** represent 1% level of significance. F-statistic were determined with unrestricted intercept and no trend

4.4 Determination of Short- Run and Long-Run Coefficient

The result of the short-and long-run analyses are posted in table 4 and 5 respectively. A close consideration of both tables will reveal that the effect of exchange rates and exchange rate volatility on inward foreign direct investment in Nigeria are more of a short-run phenomenon than long term. Error correction representation is entreated for short-run co-efficient. First, a percentage increase in FDI will exert a discouraging inflow of more FDIs by at least 0.6 percent, ceteris paribus. This signifies that when more FDI flows into a given sector of the economy, less FDI will be attracted in later periods. Furthermore, income growth of Nigeria as represented by GDP growth rate is a responsible factor that determines more FDI inflow in the country. As the country's GDP growth rate increases by one percent, the result shows that about 0.04 percent of FDI will be multiplied. This result is significant at 1% level. One would like to point out that GDP growth rate represent the growth in "purchasing power" of the country which means more market for various products.

Similarly, a depreciation of real exchange rates in Nigeria, is one of the determining factor which mostly tend to accelerate inward FDI flow. Currency depreciation will engineer lower assets and production costs, thereby enhancing export of output from said FDI. This goes a long way to encourage more foreign investors. Specifically, all things being equal, an increase in Nigeria's exchange rate by one percent will bring about an increase in FDI of about 1.69 percent.

Regarding volatility, it seems that the flexibility associated with exchange rate fluctuation is being overshadowed by much uncertainty surrounding it, hence, the result posted negative influence of volatility towards inward FDI.

Investors strive to avoid more risk emanating from exchange rate volatility, which may discourage the enthusiasm of potential foreign investors. Result shows 1% significant level. The dummy variable posted a positive result, which is also significant at 1% level. This will also justify that the devaluation of naira in 1999, attracted more FDI.

Table 4. Error Correction Representation for Selected ARDL Model

Variable	$\Delta lnF/Y_{t-1}$	ΔlnY^{R}_{t}	ΔlnP_{t}	$\Delta\delta_{t}$	D	ec_{m-1}
Lags	1	1	Level	Level	3	1
Co-efficient	-0.6624***	0.04224***	1.691***	-0.12***	3.405***	-0.2010***
T-statistics	-5.691	2.508	3.242	-2.617	4.486	-5.470

Note. The asterisks ***, ** and * denotes significance at 1%, 5% and 10% levels respectively, determined with unrestricted intercept and no trend

Though the above co-integration bound test indicated there are long-run relationship, however that relationship is envisaged to have little significance. Primarily, GDP growth rate and real exchange rate seems to have negative influence towards FDI inflow to Nigeria within the period under review, but these results are not significant, hence have little reliance. Unlike popular development in literature review, this suggests that GDP on its own has not much influence on foreign investment inflow in Nigeria in the long run as supported with negative coefficient. On the other hand, the negative sign attached to the co-efficient of real exchange rate illustrates that depreciation will tend to discourage foreign investment in the long-run, all things being equal. These signifies that as both variables converge in the long-run, the sign will tend to change to illustrate such negativity, however, without significance. The sign for volatility remain similar to the short-run analyses but still not significant.

Lastly, democratic dispensation brings about enabling business environment as most foreign investors view a military regime as unpopular and not trusting of foreign investment. The reason being that such regimes are mostly characterised by decrees and tyranny which are mostly not supported by the populace. Therefore, the emergence of democratic dispensation could bring a stable political atmosphere that could breed a better business environment. The result herein has proven thus but still seem to be relevant in the short run only.

Table 5. Estimated long-run co-efficient

Variable	lnY^{R}_{t}	lnP_{t}	δ_{t}	*D*	*C*
Co-efficient	-0.3763	-5.4658	-2.2169	2.78799	32.1157
T-statistics	-1.1469	-0.6657	-1.0362	1.00683	0.74673

Note. The asterisks ***, ** and * denotes significance at 1%, 5% and 10% levels respectively, determined with unrestricted intercept and no trend

As matter of necessity, stability test was conducted to determine the suitability and stability of the model applied in this research paper. Cumulative sum of recursive residuals and cumulative sum of squares of recursive residuals indicated perfect stability with no specification errors. This implies that the short run co-efficients in the ECM model are stable and therefore dependable. Jarque-Bera test for Normality, Breusch-Godfrey serial correlation Lagrange Multiplier statistics and Breusch-Pagan-Godfrey Heteroscedasticity test further indicated the model is normal with no sign of serial correlation and heteroscedasticity.

5. Conclusion

Exchange rates exert much influence and could be considered key to external transaction be it trade or investment. Therefore, most developing nations consider exchange rates a tool to control balance of payment/current account balances. The motive behind this research was to determine how real exchange rates and its volatility has affected FDI inflow in Nigeria. Recall that Nigeria made some huge decision in their exchange rate regimes which was momentously devaluation at the beginning of 1999, introducing uncertainty to the Naira mostly at that time. ARDL model was applied to determine the results and it can be concluded that the effects of exchange rate and exchange rate volatility are more of a short-run phenomenon as it has little influence in the long-run. However, devaluation would tend to increase inflow of FDI while volatility could make foreign investors more sceptical implying that they would rather invest with minimal exchange rate risk. Lastly, democratic regime also contributed to increasing FDI flow to Nigeria, just as economic growth did in the short run.

It is therefore very imperative that the country improve on the quality of her democratic regime and the authorities ensure the stability of the naira against dollar. In it all, devaluation of the Naira should be sustained with caution to encourage more inflow of FDI.

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New Procedures in the Museums: The Communication Through Immersive Technologies

Filomena Izzo[1], Domenico Graziano[1,2], Mario Mustilli[1,3]

[1]Department of Economics, University of Campania “Luigi Vanvitelli”, Capua (CE), Italy

Correspondence: Filomena Izzo, University of Campania “Luigi Vanvitelli”, Capua (CE), Italy.

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Abstract

In the relationship between technologies and museum, a particular attention is to be reserved to the role of immersive technologies in the planning of the museum experience, to the opportunities for the innovation of the museum concept in the development of the visit experience and to the effects that such innovations might have in the enhancement process of museums.

In this article a short examination of the studies on the museum experience is presented, hereafter the results of a case study The Archeologic Museum of Olbia are accounted.

Keywords: technologies, museum communication, virtual reality, museum management, museum experience

1. Introduction

The museum sector, like other sectors which provide a public service, has been undergoing considerable changes over the latest years. It has been invested by a strong push towards the adoption of management logic aimed at a major effectiveness, efficiency, economic and administrative balance.

In addition to this, there are the complexity of the reference framework, the variability and therefore the speed of changes and the excess of possibility whose it is possible to arrange. Furthermore, the public, here intended as users, spectators, visitors are different in trends, uses, perspectives and wishes.

Technologies marked the way of the development in the modern society, by changing the essence itself of many economic sectors; at the same way even the museum sector is not unresponsive to this innovative wave. (Solima, 2007; Bonacini, 2011, 2014; Solima, Minguzzi, 2012, 2014).

Nowadays, the culture consumption is also based on the interaction between man and the cultural good; under this perspective the correct use of new technologies can bring great advantages to the museums, by helping the fusion of different cultural resources in a unique service which will define the users’ experience.

An indirect confirmation of the importance of the circulation of the digital in the museum is given by the result of a recent survey made by the society Axiell on behalf of Museums and the Web’s 2016 on the strategies, which are carried out by the main museums in the world in reference to the processes of digitalization. According to Axiell’s data, the combined use of informatics applications had relevant impacts on the public: the 48,5% of the museums registered an increase in the physical visits, the 50% saw an increase in the visits to the website and the 82,3% had an increase of the visitors to its social profiles.

To better understand these aspects, it is useful to reflect in a preliminary phase on the museum experience and the application of the experience approach to the management of the cultural property by paying attention to its usefulness to the esteem of the public cultural heritage.

This study pays a close attention to the visit experience in the development of the museum services and the construction of the relation with public people. For this reason, the potentialities of the technology of the virtual reality applied to a case study are presented: Olbia’s Archeological Museum.

2. Theoretic Framework and Method

2.1 Literature Review: Museum Experience Studies

It is a widely shared opinion (Macdonald, Alsford, 1995; Kotler, 1999; Addis, 2002, 2005a, 2005b; McIntyre, 2009; Izzo, 2017a) that museums must be hybrid places able to balance learning and entertainment, by using the entertainment only from the perspective of edutainment or in the case it is addressed to an adult public, of the infotainment or as mean of learning and knowledge (Izzo, 2017b).

The studies on the consumption experience in the museums have been following each other since the half of the Nineties, which even different in the approach have the same common denominator: the attention to the visitor (Falk, Dierking, 1992, 2000; Pekarik et al., 1999; Kotler, 1999, 2001; Kotler, Kotler, 2000; Stephen, 2001; Falk, 2009).

Even the consumption experience in the museums highlights a prevailing interest in the emotional (Ferrari, Veltri, 2007, 2008), sensory (Marteaux et al., 2009; Addis, 2011), behavioural and relational (Dierking, 1994; Adams et al., 2004; Falk et al., 2004; Vom Lehn, 2005) aspect of the experience, with a particular concern in the modalities to amaze the public and promote an active participation, by paying few attention to the contents of the communication and the evaluation of their understanding from the public. The risk is of enrupting the visitors, through sensations and feelings which are induced through the promotion of behaviours stretching to the *mystic hypnosis* (Eco, 1967) instead of favouring the knowledge of the objects displayed at a museum (Giunta, 2011).

The museum studies are focused on the procedures of the innovation of the communication to the public. Besides the studies on the contribution given by the narrative (Kelly, 2010; De Fazio, 2012) techniques, the attention was laid on the possibility of updating the devices of support to the visit (Parry, 2007; Marty, 2008; Tallon, Walker, 2008) to replace the image of the museum based on the prohibitions and the “closed administration” (Dragoni, 2004: 212) with the idea of a museum which favours the active involvement of its users, by diversifying the offer consistently to the needs showed by the different public (Roncaccioli, 1995; Solima, 1998; Moretti, 1999; Montella, 2003; Monaci, 2005).

The literature on the topic is centred on the possibility of offering to the visitor a wide range of choices (Weil, 1997) through the use of the “new technologies” (as matter of fact, these technologies are not new; in fact they are already old, when we consider the new innovation wave: Internet of things, big data, artificial intelligence, additional production, neuro – bio – nanotechnologies are intended not only to change the management and the circulation of information but also the quality of the relation between the digital information, things, objects and places) for the fruition in loco which combines compactness, multimedia, hypertext, flexibility and interactivity (Galluzzi, 1997; Addis, 2002; Witcomb, 2003; Parry, 2007; Marty, 2008; Tallon, Walker, 2008; Bakhshi, Throsby, 2012); furthermore the same ones allow to exploit replicator economies, to contain a high number of different types of information (eg texts, sounds, images) in a limited space to customize the visit experience, by choosing the contents according to the requested level of in-depth analysis to make the visitor individualise the visit and reduce the “cognitive dissonance” and increase the previous knowledge (Breakwell, 1998; Rullani, 2004; Falk, Dierking, 2008; Solima, 2016a, 2016b).

2.2 Thesis

In order to make technology represent a real added value, it has not to replace the museum nor be a simple substitute of the guided visit, but it has to be a real mean for the improvement of the communication *in loco*, which is to be used only where it allows to reach results, otherwise unreachable through the traditional means. Furthermore, the technological instruments must not to be intrusive, meaning that they do not have to interrupt the visit itinerary, to isolate the visitor, to distract him/her from the observation of the displayed items or to impede him/her to interact with other visitors (Deshayes, 2004; Vom Lehn, 2005; Pujol-Tost, Economou, 2007; Jutant et al., 2009).

On the role of the immersion in the consumption processes (Carù, Cova, 2007), in many museums the use of immersive technologies has been affirming itself (Dobrzynsky, 2013; Izzo et al., 2015; Izzo, 2017b). These technologies have bivalent effects which are able to satisfy the cognitive, emotional, recreational and functional experience of the sight (Belaen, 2005), but they cannot always satisfy the social ones; furthermore, their effectiveness depends on the quality of the informational contents which are given to the public (Collin-Lachaud, Passebois, 2008).

2.3 Methodology

It is on the immersive technologies that the case, showed in this article, is presented. In particular, it is described the application of the Virtual Reality made by Olbia’s Museum.

The app Virtual Reality is an application which can be used through specific devices: stereoscopic head-mounted display with a smartphone to be put inside. This type allows visitors not to overrun the museum area with PCs and several cables, in fact it does not consider an initial setting up nor any cable or an external processing unit. In addition to this, a well experienced staff can help visitors during their fruition.

The immersive movie of the Virtual Reality involves the visitors at the end of the exhibition, in an area which is devoted to the virtual experience. Through an immersive experience, inspired to the Nuragica experience, the visitor can experience a series of original visual and auditory activities which launch him/her inside the Nuragico world.

The exhibition is the result of a cooperation between the start-up Sardinia Experience (http://www.sardiniaexperience.it/) and the Olbia's Archeological Museum (http://www.olbiaturismo.it/Museo-1.html) .

Sardinia Express is an innovative sturt-up where word as "tourism", "culture", "technology", "emotion" and "system" are based on a new format of entertainment and cultural fruition. The staff is made up by Sardinians who are fascinated by the island, its environment, its culture and history. The deep knowledge of Sardinia is the main background of competencies. The Coperative Sardinia Express is the promoter and the producer of NURAGICA, an engaging and interactive experience able to put in contact the visitors with virtual and commemorative sceneries of the Nuragica period.

The society further than ensure the technological application the Olbia's Archeological Museum, monitored the user's evaluation of the offered service and the performances realised by the museum (eg sold tickets).

In order to evaluate the satisfaction with the technological application, a survey was distributed, whose aim was to examine:

1. The motivation for the use of technological application;
2. The level of satisfaction and the adequacy of the given information;
3. The inclination to repeat the use of an informative system based on the offered technology (Virtual Reality);
4. The general evaluation of the offered service.

The period of the collection of data was that related to the virtual exhibition, from June to November 2017.

3. Results

It appeared from the interviews (6000): a good level of general satisfaction; a good judgement on the given information; a high inclination to repeat the experience; the curiosity and desire to have access to further information in order to better understand the displayed works as the main reason which makes the visitors use the application.

The positive data stand out also from the number of visitors; the museum, in particular, before the Nuragica exhibition, counted 6000 visitor per year and the entry was free (there was no ticket to be paid); on the other hand the same numbers were realised in only 5 months of the Nuragica exhibition and the visitors paid also the 10,00 € ticket to see it.

Therefore, the studied case confirms what has been already highlighted in literature and by the Axielle data; it is possible to affirm that the experience approach is valid and useful if directed to the creation of cultural public benefits, therefore, starting from this assumption, the technologies used for experiential purposes should keep a function which is instrumental in the cultural and institutional need to communicate the displayed items and not to replace the museum by recurring to show or pure entertainment techniques.

The result of the study show the importance for the museum to offer a more well structured service, which satisfies at the same time the needs of amusement and education (edutainment).

With this aim, the use of a technological application, which is more or less sophisticated to improve the visit experience of the museum can represent one of the main elements of a differentiation strategy. This is fundamental in the current context where the competition between cultural institution and the growing use of alternatives during the free time is developing with an increasing intensity. The museums might increase their competitive advantage compared to their direct rivals by improving the quality of the visit experience. Furthermore, this choice can have a strategic importance in reference to the reputation of the museum itself in order to improve its attractiveness and more generally its ability to relate with its *stakeholders*.

A more entrepreneurial approach than the one of the past, which allows a fruitful contamination between the cultural sector and the profane one, while unifying experiences which go from the history to the marketing experts and to the multimedia designer. It is an integration of knowledge which becomes crucial to implement a new approach of the cultural heritage management that means: marketing, culture, knowledge, entertainment, personalization and satisfaction.

4. Discussion

The aim of this article is to understand the role of technology as an instrument which contributes to the fulfilment of the museum's goals, by creating value for the survival of the museum institution, its users' satisfaction and the development of the territory.

Placing at the centre of the analysis the core product that is offered by the museums and the process of creation of the value which is connected to it; the research focuses the attention on the changes that technology brings to the nature of the museum institution by transforming it in something new compared to the traditional models in terms of production, fruition and communication and revealing, above all, the new relation that can be set with the users through the immersive technologies.

The study which was carried out shows some limits, the main ones can be referred to the fact that the research activity is, in a scientific sense, a starting point for further studies.

However, it aims at giving the theoretical and empirical requirements for the innovation of the research both in a management field than in a museum marketing, with management implication for the sector workers who intend to employ the analysed devices to optimise the relation with the potential and real users and with its own stakeholders and with the aim of supporting processes of technological innovation in support of the cultural realities of its own country.

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Examining the Effect of Cultural Intelligence on the Internationalization of Swiss Small and Medium Enterprises

Hadia Fakhreldin[1]

[1]Faculty of Business, Economics and Political Science, The British University, Egypt

Correspondence: Hadia Fakhreldin, Faculty of Business, Economics and Political Science, The British University, Egypt.

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Abstract

The study examines the relationship between cultural intelligence (CI) and the internationalization of Swiss Small and Medium Enterprises (SMEs). It also evaluates the role of internationalization motivators within that relationship. A self-administered survey was sent (by email) to the managers of 640 Swiss SMEs, identified from the Swiss SME database (Switzerland Global Enterprises-ge.com). The data analysis confirms that the internationalization process and the intention to internationalize depend to a large extent on the cultural intelligence of these managers. The analysis also identified access to information on foreign markets as the main motivator that affects this relationship. The study proposes solutions and recommendations to stakeholders and policy makers to enhance and support SME internationalization through developing specific individual and organizational aspects, mainly the cultural competencies of managers and more access to detailed information on foreign markets and their differing environments.

Keywords: cultural intelligence, internationalization, motivators to internationalize, Small and Medium Enterprises (SMEs), Switzerland

JEL: M16, M13

1. Introduction

One of the outcomes of globalization is that companies and countries are increasingly dealing with the forces of internationalization in all economic spheres; public and private. This is evident in developing and developed countries. SMEs should be in a better position when it comes to internationalization, as they can better respond to changing market conditions, evolving consumer preferences and shorter product life cycles by customizing and differentiating products (OECD P. A., 2000). This means that a country like Switzerland, whose economy relies on SMEs for growth and development, should have a clear advantage (OECD, 2004). Swiss SMEs are increasingly internationalizing to compete with the advantages and dominance of large international companies stemming from the forces of globalization. However, many are struggling, and the pace of internationalization is slower than they desire. In 2015 the percentage of the revenues of SMEs stemming from exports was around 57% (Baldegger, R., Wild, P., Morel, B., 2016).

The literature identifies various difficulties that generally face SMEs targeting international markets. These range from obstacles at the level of the individual (manager/entrepreneur) – which stem from the internal environment - to impediments at the organizational level – which largely result from the external environment. The OECD report on Small and Medium-sized Enterprises emphasized that SMEs need to upgrade their management skills, their capacity to gather information and their technology base (OECD P. A., 2000) – not in refs! to be able to enter foreign markets. Internationalization would also require their governments to improve the access to financing, information infrastructures and international markets (OECD P. A., 2000) not in refs. Therefore, both the individual and the organizational aspects play a key role in SME international expansion.

This study examines the relation between individual attributes and internationalization. It analyses the different dimensions of cultural intelligence and explores how these dimensions contribute to the initiation and/or success of the internationalization of Swiss SMEs. Furthermore, it examines the organizational motivators/obstacles and considers them as environmental factors (internal and external). It attempts to identify those that are most important and whose absence may hinder internationalization the most. The paper is organized as follows:

2. Literature Review

2.1 Cultural Intelligence

Cultural intelligence is an important concept because of its positive influence on international business success (Crowne, 2008). It is one of related conceptualizations (e.g. cultural adaptability, intercultural competence and sensitivity) which are products of the interaction of various fields of research: sociology, psychology, management, organizational behavior and anthropology. They all refer to a person's motivation and skills as well as his/her behavior and strategies for dealing with people and situations influenced by cultures different from his/her own dominant culture (Fakhreldin, 2011).

A widely accepted definition of cultural intelligence (CI) is the one by Ang *et al.*, it refers to "an individual's capability to function effectively across cultures" (Ang, Livermore, & Van Dyne, 2010) (Mor, Morris, & Joh, 2013). This means that CI refers to the ability to perform effectively in situations and surroundings different to those one has been used to. Being culturally intelligent means identifying behaviors that are universal, behaviors that are cultural and distinguish other behaviors that are idiosyncratically personal to an individual in a specific situation (Van Dyne *et al.*, 2010). CI should not be confused with 'cultural adaptation', as it goes beyond this (NG & Earley, 2006). Cross cultural adaptation refers to four skills only; emotional resilience, flexibility, perceptual acuity and personal autonomy. They are all fundamental for effective and appropriate cross-cultural management (Spencer-Oatey & Franklin, 2010). CI covers more aspects and entails the skills of cross-cultural adaptability in addition to knowledge, motivation and behavior (Ang & Inkpen, 2008). According to Ang *et al.* (2010), CI focuses specifically on one's capability to effectively understand and adapt to a myriad of cultural contexts as an essential skill set needed to operate and/or lead effectively across cultures.

The CI (numerically referred to as Cultural Quotient - CQ) consists of the sum of 4 quotients reflecting 4 components (motivational, cognitive, metacognitive and behavioral). The motivational CQ describes desire and self-efficacy (NG & Earley, 2006), in situations characterized by cultural differences (NG, Dyne, & Ang, 2009). Cognitive CQ refers to knowledge about different cultures (NG & Earley, 2006), as well as awareness of different cultural settings acquired from education and personal experience (NG *et al.,* 2009). Metacognitive CQ is concerned with the cognitive strategies to acquire and develop coping strategies (NG & Earley, 2006), especially in intercultural interaction (NG *et al.,* 2009). It is argued that this dimension is the core of CI (Mor et al., 2013). Behavioral CQ describes the repertoire of culturally appropriate behaviors, words and gestures (NG & Earley, 2006), in cross-cultural interactions (NG *et al*., 2009). This four-factor model of CI has the support of different scholars and researchers (Fakhreldin, 2011; Ang *et al.*, 2010; Crowne, 2008).

There were several attempts to develop models and introduce scales to determine and measure CI. The CQ (Cultural Quotient) by Earley and Ang (2003) was shown to be both valid and reliable in different studies conducted by various scholars (FakhrEldin, 2011; Ang & Inkpen, 2008; Van Dyne *et al*., 2008; Ang, *et al*., 2007;). It consists of statements covering each of the four dimensions, which are evaluated through a Likert scale. The sum of these scores describes the individual's capability to function and manage effectively in culturally diverse settings (Ang, *et al*., 2007).

2.2 Internationalization

Internationalization takes place when enterprises cross their national borders entering different countries to offer their products/services to diverse markets (Masum & Fernandez, 2008). Therefore, internationalization is the process in which firms expand their activities abroad and increase their foreign market involvement (APEC as cited in Yuhua) (2015). This notion of expansion and increase of activities is reflected in the various definitions adopted by scholars to define internationalization.

The OECD adopts a broad definition and describes it as business expansion and growth in international markets (Kalinic & Forza, 2012). Johansson and Vahle's definition is comprehensive and is adopted in many academic studies; it is the on-going process of increasing the business's dedication and contribution in the international market arena (Mura, 2011). However, this does not necessarily mean that all firms will succeed in this endeavour. The process is dynamic and is initiated and supported by specific motivations and it is affected by many variables (Wild, 2014). Furthermore, there are specific patterns that firms follow to expand beyond their borders (Lloyd-Reason *et al*., 2009). Several theories and approaches have examined these stages starting from the Uppsala model (which is resource-based) to the market model which is behavioraly based to the network model which draws on theories of social exchange (Kamakura, Ramón-Jerónimo, & Gravel, 2012). Although these theories are based on different approaches, they all examine and highlight the motivation to internationalize and try to evaluate and explain the forces that drive this motivation. Nevertheless, there is no concrete conclusion regarding the order of importance of these factors when it comes to internationalization intention or implementation.

One of the main motivations for internationalization is advancement and development in technological and economic spheres on a global level and the increase in volume and value of international trade (Wambui, 2013), which is (hoped) will result. Also, the lowering of barriers to trade has made international markets more accessible; it also created push and pull factors (Doole & Lowe, 2008). These two motivations combine the traditional and the modern view, the former is concerned with securing basic sources and raw materials, using technological advancements and gaining competitive advantage (Wambui, 2013). The latter advocates that firms internationalize to achieve social and economic developments which are essential for businesses to survive (Acs & Terjesen, 2013). There is also agreement in the literature – regardless of the theoretical approach - that human capital, technology, and managerial ties overseas appear as key factors in the international evolution of businesses (Kamakura, Ramón-Jerónimo, & Gravel, 2012).

Much of the literature on firms' internationalization initially focused on the exporting mode of entry. Traditionally, this is the major internationalization strategy which increases firms' international expansion (Masum & Fernandez, 2008). However, in the current decade and certainly since 2001 the focus (of the firms – and consequently the literature - has been shifting to different internationalization entry mode strategies (Doole & Lowe, 2008). These include licensing, franchising, joint venture and foreign direct investment (FDI) (Wild, 2014). The advancement in technology – and within it the increasing role of the social media - made many modes of entry more accessible and less resource-consuming to initiate and monitor.

2.3 Small and Medium Enterprises (SMEs)

The European Commission defines SMEs as the category of micro, small and medium-sized enterprises (SMEs) that are made up of entities which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euros, and/or an annual balance sheet total not exceeding 43 million euros (Masum & Fernandez, 2008). The OECD adds that SMEs are diverse groups operating in different business activities and markets (OECD, 2004).

Omer *et al.* (2015) indicate that SMEs constitute the backbone of any country's economy, they create job opportunities, improve the economy and promote the effective use of regional resources which leads to economic growth and development (2015). Despite this significant role in the economy, SMEs face serious constraints in many countries, often resulting in their failure (Sha, 2006). One strategy that can be used to overcome local constraints is internationalization (Udomkit & Schreier, 2015).

2.4 Internationalization of SMEs

Since the middle of the twentieth century, the world has witnessed a rapid internationalization of markets, industries and firms, which led to an increased number of conceptual and empirical studies on international entrepreneurship (Moen & Servais, 2002). Although gradual internationalization models have been criticized for being too deterministic, the field of born-global research (SMEs that start as international entities from inception) has been largely fragmented and has provided different theoretical and methodological approaches (McDougall and Oviatt 2000).

Internationalization has become increasingly important to the competitiveness of enterprises of all sizes (Wilson, 2006). It is also significant in the case of SMEs, as they cannot always depend on the national or even local market. Despite the considerable research on the internationalization of SMEs in recent years, no comprehensive framework has yet emerged to explain and predict the factors leading to SMEs going global. SME internationalization is described as the process used by an SME to approach new markets and customers, to have access to specific resources, materials or a more expertise workforce; to protect its products from domestic competition as well as to extend and leverage its business capability internationally (Onkelinx & Sleuwaegen, 2008). Although many theoretical frameworks exist to explain internationalization the subject field still poses a critical challenge, particularly in relation to SMEs (Moen 2002).

There are several forms of SME internationalization, most typically it is exporting (Masum & Fernandez, 2008); however, firms now focus on diverse activities, such as partnering with foreign firms to develop a strong international business through knowledge and technology exchange/transfer (Kalinic & Forza, 2012). SMEs seek to internationalize to alleviate risk and to generate profit that can be further utilised to enhance research and development and expansion of operations (Yuhua, 2015). As stated by the APEC Policy Support Unit, internationalization helps in alleviating SMEs risk through being in diverse markets, generating more profits to be invested in production and technological advancements that are acquired when dealing with foreign markets.

Also, it helps in improving the efficiency of SMEs. SMEs, which do internationalize, are able to develop more than SMEs focusing only on local markets (Lakew & Chiloane-Tsoka, 2015).

The classical drivers for SMEs to internationalize are stemming from the external environment; economic, technological and political reasons, as well as globalization that helps such firms to find different opportunities (Masum & Fernandez, 2008). Czinkota (2002) proposed dividing these forces in terms of reactive and proactive reasons for an SME to internationalize. The proactive motives offer an incentive to change the strategy of the firm based on its interest in developing unique skills and market capabilities. These motives are profit benefit, technological advantage, managerial support, economies of scale and scope, access to resources and information, opportunities to grow and saving costs (OECD, 2004). On the other hand, the reactive motives indicate that firms internationalize due to pressures from local markets, e.g. overproduction, surplus capacity, competitive pressure, decline in local sales, proximity to new customers and saturation (London, 2010).

There are also barriers that impede the process of internationalisation for SMEs. Some of these are stemming from the external environment, but they are mostly internally (individually) driven. In general, SMEs – by nature - have limited resources (Udomkit & Schreier, 2015; Acs & Terjesen, 2013). This is the case with respect to physical resources as well as financial and human resources. The same applies to other factors, e.g. lack of internationalization experts, scarce information about overseas markets, especially in meeting international product standards rules are a serious barrier for some SMEs (OECD, 2009). Furthermore, the inability of local SMEs to recognize an international opportunity, failure in contacting customers and unfamiliarity in the international procedures for SMEs are barriers that impede SME internationalization (OECD, 2009). The latter demonstrates deficiencies in the competencies of the leaders and owners of the SMEs; this includes management capabilities, intercultural competencies, knowledge and relevant past experiences (Udomkit & Schreier, 2015). Thus, knowledge of foreign markets and the ability to reach and communicate with different customers in different parts of the world are important factors that affect the ability to internationalize. The Swiss International Entrepreneurship Survey of 2016 identified “international entrepreneurial orientation” (IEO), as a key factor influencing the degree and the success of internationalization of SMEs (Baldegger et Al., 2016, p. 19). The IEO is a facet of CI, as it describes the attitude of the company and its managers towards opportunities and involvement in international markets (more or less the behavioral component of CI).

The APEC stated that the internationalization of SMEs is hard to measure, as there is no single body keeping records of their activities (Yuhua, 2015). Therefore, the figures from secondary data are not accurate, as they do not represent all SMEs operating; many are not formalized and do not have records. Several attempts have been made to rectify this however, they were not successful due to poor or scarce SME records themselves. Hence, most researchers in this field use the Survey approach or the Census approach (Yuhua, 2015). However, it is not clear in the literature, which factors are more important in achieving and maintaining SME internationalization.

With respect to SME internationalization entry modes, SME’s tend mostly to adopt classic foreign market entry strategies. This includes licensing, franchising, joint ventures as well as mergers and acquisitions (Foreman-Peck & Zhou, 2015). FDI provides SMEs with entire ownership and full control of operations, but it can be costly and requires high commitment with high uncertainty and risk in the host market (Jakl & Volery, 2006). Deciding on the internationalization strategy and the entry mode strategy depends on many aspects; SMEs current state –, i.e. knowledge of foreign markets, past experiences, accessibility to resources, communication skills, networking, degree of control and commitment, stability, risk involvement and the structure of the targeted market in the foreign country (Gunnarsson, 2011). Therefore, the motivators of and the obstacles to internationalization, on both the individual and the organizational levels, are all determinants of SMEs expansion potential.

2.5 Swiss SMEs

Swiss SMEs are more than 300000 in number and they constitute 95% of the Swiss economy (Zhu et al., 2012). According to the GEM (Global Entrepreneurship Monitor) report, Switzerland’s entrepreneurial orientation is higher than the European average (Kelley, Singer, & Herrington, 2012) and (Kelley et al., 2012). Switzerland is characterized by the success of its SMEs; it has been able to secure its top position in the field of innovation consistently) (Eidgenossenschaft, 2017). Switzerland continues to hold the top position in the Global Competitiveness Ranking of the World Economic Forum (Acs, Szerb, & Autio, 2016). In addition, Switzerland successfully secured its top position in the current Global Innovation Index, which is published jointly by Cornell University, INSEAD and the UN (Dutta, Lanvin, & Wunsch-Vincent, 2015).

Nevertheless, it is not easy for the Swiss SMEs despite their advancement and success in innovation to expand into international markets. Swiss SMEs face a problem of shortage of human resources, specifically in the area internationalization (Jakl & Volery, 2006). It is reported that there is a considerable difficulty in finding employees who are willing and capable of doing business internationally (Udomkit & Schreier, 2015). Furthermore, research has shown that Swiss SMEs identified intercultural experience as the most important factor in internationalization efforts, where 90% of the respondents of the survey conducted (among 309 Swiss SMEs) confirmed that "intercultural competences help internationalize businesses" (Udomkit & Schreier, 2015, p. 33).

Based on the above, the study proposes a conceptual model which is focusing on the cultural intelligence attributes of the individuals in the SME and how they affect internationalization. The model integrates the resource-based view with the behavioral and the network view by considering the main variables identified (and empirically confirmed in the literature) in each and organizing them as "motivators to internationalize". These are: differential firm advantages, networks, production capacity, unsold inventory, additional orders, foreign country regulations, foreign market information, increased competition, value chain advantages, export promotion programs, growth opportunities, unsolicited orders (Crick, 2007).

These motivators should also affect this relation, as they are agreed-upon drivers of internationalization.

3. Conceptual Model

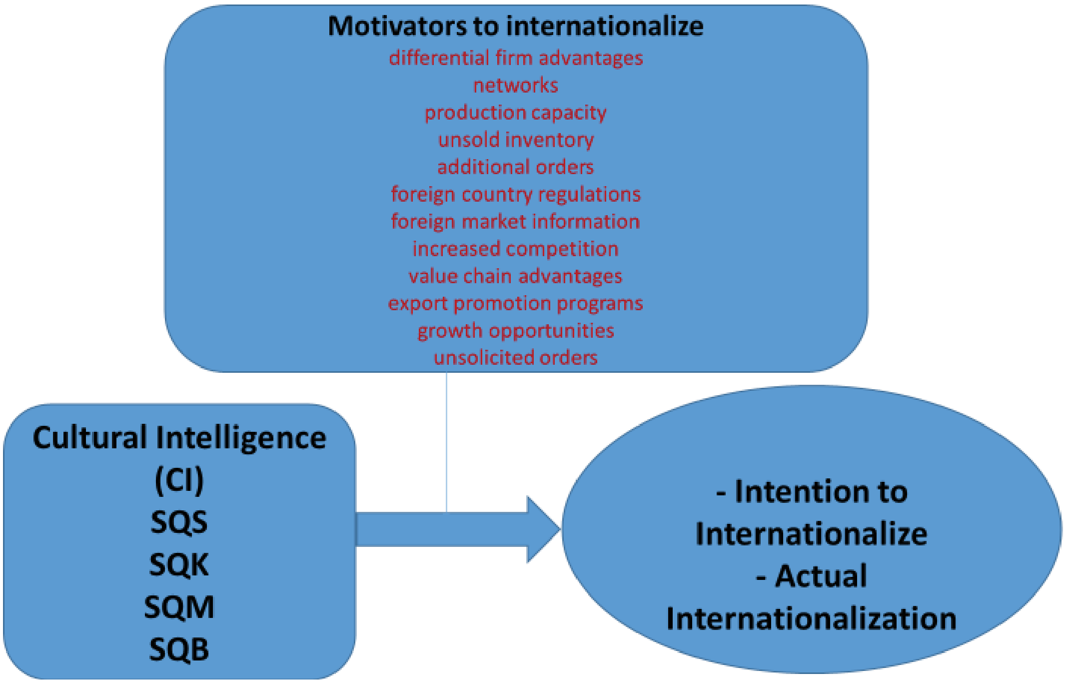

Figure 1. The Impact of Cultural Intelligence on SME Internationalization (author's own work)

Using the above conceptualisation, research questions and hypotheses can be derived as below:

4. Research Questions and Hypotheses

The study attempts to answer the following research questions to fill the gaps in the literature:

1. To what extent does Cultural Intelligence affect both the intention to internationalize and the actual internationalization of Swiss SMEs?
2. How do the internationalization motivators stemming from the internal and external environment affect the relationship between Cultural Intelligence and SME Internationalization in Switzerland?

The study tests the following hypotheses using the data collected in Switzerland in the context of the model represented in Figure (1):

H1: There is a significant relation between Cultural Intelligence and SME Internationalization intention in Switzerland.

H2: There is a significant relation between Cultural Intelligence and actual SME Internationalization in Switzerland.

H3: There is a significant relation between each dimension of Cultural Intelligence and the internationalization intention of SMEs in Switzerland.

H4: There is a significant relation between each dimension of Cultural Intelligence and the actual internationalization of SMEs in Switzerland.

H5: The Relationship between Cultural Intelligence and SME Internationalization intention is affected by the internationalization motivators in the internal and the external environments of the SMEs in Switzerland.

H6: The Relationship between Cultural Intelligence and actual SME Internationalization is affected by the internationalization motivators in the internal and the external environments of the SMEs in Switzerland.

5. Methodology and Research Design

The study uses a mixed method of quantitative and qualitative strategies. The data gathered and analysed usually give accurate statistical results that can be further verified using the personal interview approach (McCusker & Gunaydin, 2014).

5.1 Sample Characteristics

There are more than 300000 SMEs in Switzerland. Privacy is important for the Swiss and it is practically impossible to reach someone's name and contacts, if one does not already know this person. The telephone number provided in any listing was a general one that directs you to someone who only receives and transfers messages. The email contacts lead to a general inquiry form to be filled out, then a clerk from the company responds to the query. Both methods have been tried through a sample of 50 company contacts in each method. The general inquiry form did not result in any information, whereas the phone calls resulted in obtaining 8 contact names and emails.

This enabled conducting preliminary interviews with 8 SME managers who also reviewed the initial survey. Each manager also recommended certain databases to use for identifying the sample and distributing the survey. They all agreed on using the database of Switzerland Global Enterprise and the yellow pages.

5.2 Data Collection Procedure

A pilot was undertaken through conducting interviews with 8 Swiss SME managers to confirm the findings of the literature and test and update the survey instrument. The main revision suggested by one of the managers was to translate the survey to German. This was surprising, as the assumption of the researcher was that it was logical to have the survey in English, as this is the international business language. After the other 7 managers were consulted, it was agreed to convert the survey to the German language. However, they agreed that both versions should be sent out and the respondents would choose which one to complete.

All suggested revisions from the pilot study were made and the survey was translated and back-translated to ensure accuracy. It was sent by email to more than 600 Swiss SMEs, as identified from the Swiss SME database (Switzerland Global Enterprises-ge.com). They were identified based on activities that are significant in Switzerland: chemicals, mechanical? manufacturing, textiles, pharmaceuticals, technology and accessories (e.g. shoes, watches).

A total of 102 questionnaires were returned, out of which 98 were valid (8 were from the pilot study and were reached through phone and then visited in person). There were 7 responses by email stating that they are not interested to do the survey. Two said they did not have the time and one said she was on vacation and could do it after 5 weeks. Interestingly, all these apology responses were from female managers/entrepreneurs. The total response rate is 17%, which is acceptable. Excluding the 8 of the pilot, this resulted in a 15% valid response rate which is acceptable in email or on-line surveys. As Adams et al (2014, p.131) argue "…response rates from surveys—whether postal, telephonic or electronic—are rarely higher than 20 per cent." Therefore, a 15 percent valid response rate in this research is considered very good.

The characteristics of the valid sample responses are as follows:

Most of the respondents are males (93%), where 80% are University graduates, 15% have only a high school degree and 5% have a doctorate degree. With respect to specialization, half of the sample are specialized in Business or Economics, while 45% are Engineers. The sample has a representative distribution when it comes to the size of the enterprise; around 45% have less than 50 employees, 25% have between 50 and 250, and 20% have between 250 and 500 employees. Half of the enterprises are in the manufacturing industries and most of the other half are service providers.

5.3 Method

The Cultural Intelligence Scale (CQS) developed by Earley and Ang is used to measure CI of individuals; it is adopted by the author and consists of 22 items; it assesses 3 items for metacognitive CQ, seven for cognitive CQ, six for motivational CQ and six for behavioural CQ. As it is a self-rating scale, taking this test means giving oneself a mark from 1 – 7 on each of the items. One of the items was reversed to make sure that respondents are focusing while taking the survey. It is the last question in the motivational CQ. This score was then reversed when adding the total scores of SQ. This part of the survey is followed by questions regarding the motivation for SME internationalization to identify which ones are more effective in the internationalization initiation and continuation. The reliability of the scale was tested, and it proved reliable with a Cronbach alpha score of 0.88. Each of the sub-constructs also proved reliable with a Cronbach alpha score of above 0.77 (McCusker & Gunaydin, 2014).

There are 3 questions regarding the internationalization itself: action, intention and number of years. The remaining questions elicited biographical information.

6. Findings and Discussion

The statistical analysis is conducted using SPSS. The number of cases examined was 98, after eliminating invalid responses. First, Pearson correlation is calculated taking into consideration the variables. The correlation matrix is presented in Table 1 below.

Table 1. Correlation Matrix

Correlation Matrix		Internationalization	No. of years internationalized	intention to internationalize	SQS	SQK	SQM	SQB	SQ
International-alization	Pearson Correlation	1	1.000**	1.000**	-.348**	-.224*	-.291**	.019	-.234*
	Sig. (2-tailed)		0.000	0.000	.000	.027	.004	.853	.020
number of years internationalized	Pearson Correlation		1	.[a]	.203*	-.031	.049	.195	.109
	Sig. (2-tailed)			0.000	.049	.762	.639	.058	.293
intention to internationalize	Pearson Correlation			1	-.348**	-.224*	-.291**	.019	-.234*
	Sig. (2-tailed)				.000	.027	.004	.853	.020
SQS	Pearson Correlation				1	.435**	.677**	.349**	.688**
	Sig. (2-tailed)					.000	.000	.000	.000
SQK	Pearson Correlation					1	.626**	.531**	.884**
	Sig. (2-tailed)						.000	.000	.000
SQM	Pearson Correlation						1	.290**	.780**
	Sig. (2-tailed)							.004	.000
SQB	Pearson Correlation							1	.744**
	Sig. (2-tailed)								.000
SQ	Pearson Correlation								1
	Sig. (2-tailed)								

The research's dependent variables are the internationalization intention and internationalization success, which are categorical. Therefore, logistic regression is used to predict the contribution of each independent variable to the probability of the occurrence of the dependent variable. A series of logistic regressions are conducted to cover all the possible relationships between the independent (CQ with all its constructs/dimensions; SQS, SQK, SQM, SQB) and the dependent variables (internationalization intention, internationalization action, internationalization years). In addition, age, as well as the internal and external internationalization motivations were considered.

Table 2. Results of Logistic Regression

Internationalization intention as a dependent variable and all independent variables

	Wald statistic	Sig	Decision
SQS	6.975	0.008	Significant
SQK	3.873	0.049	Significant
SQM	5.507	0.019	Significant
SQB	0.035	0.98	Not Significant
SQ	3.938	0.047	Significant
Education	0.0	1	Not Significant
Specialization	1.67	0.196	Not Significant
Work years	0.0	1	Not Significant
Size	0.0	1	Not Significant
Age	0.025	0.875	Not Significant
Differential Firm Advantages	1.24	0.265	Not Significant
Networks	1.532	0.216	Not Significant
Production Capacity	2.611	0.106	Not Significant
Unsold Inventory	0.6	0.438	Not Significant
Additional Orders	0.209	0.647	Not Significant
Foreign Country Regulations	0.612	0.434	Not Significant
Foreign Market Information	4.7	0.03	Significant
Increased Competition	0.674	0.412	Not Significant
Value Chain Advantages	0.475	0.491	Not Significant
Export Promotion Programs	0.377	0.539	Not Significant
Growth Opportunities	0.618	0.432	Not Significant
Unsolicited Orders	0.338	0.561	Not Significant

The CI as a construct is significant. Looking at the individual components, we find the metacognitive SQS is most significant. The Behavioral SQ is not significant. When it comes to the motivators, there is only one aspect that is significant: the access to market information, which is proposed in the literature (Udomkit & Schreier, 2015; Acs & Terjesen, 2013; OECD, 2009). This is remarkable, but it is logical. When a firm intends to internationalize, the fundamental requirement it needs is accurate and comprehensive information about the market it wants to pursue. Otherwise, it would be operating in the dark and taking a risk for no obvious gains.

Table 3. Results of Logistic Regression

Actual internationalization as a dependent variable and all independent variables

	Wald statistic	Sig	Decision
SQS	6.975	0.008	Significant
SQK	3.87	0.048	Significant
SQM	5.507	0.019	Significant
SQB	0.035	0.98	Not Significant
SQ	3.938	0.047	Significant
Education	0.0	1	Not Significant
Specialization	1.67	0.196	Not Significant
Work years	0.0	1	Not Significant
Size	0.0	1	Not Significant
Age	31.104	0.0	Significant
Differential Firm Advantages	23.2	0.0	Significant
Networks	25.5	0.0	Significant
Production Capacity	22.3	0.0	Significant
Unsold Inventory	21.5	0.0	Significant
Additional Orders	26.6	0.0	Significant
Foreign Country Regulations	29.8	0.0	Significant
Foreign Market Information	24.1	0.0	Significant
Increased Competition	29.8	0.0	Significant
Value Chain Advantages	28.8	0.0	Significant
Export Promotion Programs	27.3	0.0	Significant
Growth Opportunities	30.4	0.0	Significant
Unsolicited Orders	26.1	0.0	Significant

The CI measured by the cultural quotient has a significant effect on the actual internationalization. All dimensions of SQ are significant, except the behavioral SQB. This means, that the culturally appropriate behavior, words and gestures are not of high importance; it is rather the strategy, the self-efficacy, the desire and the knowledge that are more important in the internationalization context. The highest significance is in the meta-cognitive dimension, which is viewed as the core of cultural intelligence (Mor et al., 2013).

It is interesting to note, that all the motivators are of high importance as they affect the relationship between CI and actual internationalization positively and significantly. Therefore, they can be considered as ongoing reasons for the continuous success of the internationalization. This implies, that even if they were not the initial reason for internationalization, they are important to continue and maintain the internationalization momentum of the SMEs. After the firm is already international, it pursues sustaining this condition which is achieved by taking all options/drivers of internationalization into account.

Based on the analysis, the following can be concluded:

1. Cultural Intelligence affects the internationalization of SMEs to a high extent. It is important for SME managers and owners to possess CI, to be ready to consider internationalisation and then engage successfully in it.
2. The internationalization motivators stemming from the internal and external environment play a significant role in already internationalized SMEs. However, when it comes to the intention to internationalize, a major contributor to this initiative is the access to foreign market information. This is the one aspect, that needs to be fulfilled in order to pursue the engagement in global markets.

With respect to the hypothesis, the following is concluded:

H1: There is a significant relation between Cultural Intelligence and SME Internationalization intention in Switzerland.

H2: There is a significant relation between Cultural Intelligence and SME actual Internationalization in Switzerland.

H3: There is a significant relation between each dimension of Cultural Intelligence and the internationalization intention of SMEs in Switzerland. This is partially accepted, as the behavioral dimension of the CI is not significant in the relation.

H4: There is a significant relation between each dimension of Cultural Intelligence and the actual internationalization of SMEs in Switzerland. This is partially accepted, as the behavioral dimension of the CI is not significant in the relation.

H5: The Relationship between Cultural Intelligence and SME Internationalization intention is affected by the internationalization motivators in the internal and the external environments of the SMEs in Switzerland. This is confirmed on a limited scale, only with the access of market information.

H6: The Relationship between Cultural Intelligence and SME actual Internationalization is affected by the internationalization motivators in the internal and the external environments of the SMEs in Switzerland. This is accepted.

7. Conclusion and Recommendations

The study confirms that the internationalization intention and the actual internationalization are supported by the cultural intelligence of the managers/owners of the SMEs. Furthermore, access to information of foreign markets is identified as the main contributor to pursuing internationalization. This means that a main barrier to initiate and engage in internationalization is the lack of access to sufficient information about international markets.

Therefore, governments, policy-makers and stakeholders should focus on developing more effective tools and processes to provide the Swiss SMEs with accurate and sufficient data and information about foreign markets. In addition, Swiss SMEs should enhance the capabilities of their employees with the skills and attributes associated with Cultural Intelligence. Special attention should be given to developing the metacognitive strategizing skills and the motivational and cognitive attributes. This can be achieved through training the existing employees (Mor *et al.*, 2013). It can also be attained through the careful selection and recruitment of employees who have international experience, knowledge and inter-cultural competency (Barmeyer & Frankilin, 2016).

One of the limitations of this study is that the responses received mainly reflect the status of SMEs which are interested in internationalization. Therefore, the results do not represent all SMEs. Future studies should try to reach more SME managers. There should be an attempt to reach managers who are not pursuing internationalization and try to examine the motivations and or obstacles leading to this condition. More in-depth interviews and personal meetings while filling out the surveys will enrich the results, as more details can be added, that complement other perspectives.

Another limitation is the tendency towards emphasizing elements of the resource-based view in the conceptual framework and consequently in the analysis. Future studies might want to consider integrating the market view and the more modern network view of the internationalization. Also, it is important to examine the internationalization of SMEs' in other OECD countries and compare the results. Furthermore, SMEs in developing countries should be investigated to identify, if the same conditions/requirements apply to them. This is of high importance due to the significant role that can be played by SMEs in the economies and in societies at large, and in those of the developing countries, in particular.

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The Impact of Electronic Banking Services on Customer Satisfaction in the Sudanese Banking Sector

Adam Ahmed Musa Hamid[1], Nabil Mohamed Abdo Alabsy[2], Mohanad Abbas Mukhtar[2]

[1]Elemam Almahdi University, Sudan & Bisha University, College of Business, Saudi Arabia

[2]Bisha University, College of Business, Saudi Arabia

Correspondence: Nabil Mohamed Abdo Alabsy, Bisha University, College of Business, Saudi Arabia. E-mail: nabil8877@yahoo.com

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Abstract

This research paper aims to study the impact of electronic banking services on customer satisfaction at Sudanese banks. Questionnaires were designed by the researchers. Data and information have been collected and analyzed from the internet users in the Sudanese banks clients. The study found that there are statistical significant differences of electronic services provided by the Sudanese banks on customer satisfaction. The study attempted to explain the various means of electronic banking services which might lead to the customer satisfaction.

This paper showed that the banking services over the internet has a positive impact on customer satisfaction. This study recommended that the bank management should focus on spreading the knowledge of the electronic banking services to the customers. This study emphasized the importance of the electronic banking services and recommended that the bank management should spread the technological awareness among current and prospective customers, and develop suitable infrastructure for electronic banking services in the Sudanese banking sector.

Keywords: electronic banking services, customer satisfaction, service quality, Sudanese banks, automatic teller machine

1. Introduction

The importance of service sector has been increased in the recent years with the increase of the customers in the banking sector and its role in the development of the economic sector in Sudan.

In marketing term, customer satisfaction is described as a measure on how services or products supplied by the organizations meet customers' expectation. The awareness of customers in service industries about quality has been increased. The excellent service quality increases the productivity, market share, return on investment, and customer satisfaction. Nowadays the quality has gained more importance through the customer satisfaction.

Since the sixteenth of previous century the firms want to get superior values for their goods and services. Every organization has to serve its customers according to their wants efficiently and effectively. In recent years the banks are racing for providing the highest technology infrastructure, these lead to wide use of electronic banking services through wide spread of internet websites for fulfilling the requirements of the customers. Despite the differences of the services offered in respect of prices and types of offering electronic services, most of the banks use electronic banking services for buying, selling and exchanging services through the electronic websites which known as an electronic commerce. For this reason, the researchers adopted the idea of this research topic about electronic banking services and its impact on customer satisfaction at Sudanese banks. The study started in January, 2017 and completed in December, 2017.

2. Objectives of the Study

1. To study the concept of quality in electronic banking services.

2. To evaluate the effect of electronic banking services on customer satisfaction from customers point of view.

3. To know the extent of differences between customer's expectation about quality of electronic banking services and bank management's perception.

3. Hypothesis of the Study

1. There is a significant positive relationship between the internet websites services and customer satisfaction about services offered by the Sudanese banks.

2. There is a significant positive relationship between the Automatic Teller Machine services and customer satisfaction about services offered by the Sudanese banks.

3. There is a significant positive relationship between the phone banking services and customer satisfaction about services offered by the Sudanese banks.

4. Literature Review

Alhaliq, H. A., & AlMuhirat, A. A. (2016) examined the extent of customer satisfaction with electronic banking services in the Saudi banking sector and found that Saudi banks have succeeded in attaining significant customer satisfaction due to the better quality of the services offered and better performance and facilitating electronic transactions.

Alhori, F. (2006) clarified the importance of using of communication technology for enhancing competitive advantages in the Jordanian banking sector. The study aimed to demonstrate the importance of the adoption of competitive strategy so that the company can compete with other companies.

Al-Abed (2003) stated that electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting the bank personally. He describes electronic banking as a variety of the following platforms: Internet banking, telephone banking, TV-based banking, mobile phone banking.

Alawamelh, M. et al. (2016) studied the impact of online banking services quality dimensions on customer satisfaction at Jordanian banks. The service quality dimensions are reliability, guarantee, empathy, response and physical evidence. The result of the study proved that the customers of the bank are satisfied with the services offered. The guarantee was the most important dimension for the customers.

Ling, G. et al. (2015) emphasized the importance of application of Internet banking as a viable tool to enhance and create customer satisfaction. According to this study the main problem the large number of customers are not willing to use the Internet banking services offered. In this study the authors decided five factors which can influence customer satisfaction toward Internet banking include convenience and speed, security and privacy, web design and content, and service quality.

Navaratnaseelan, J and Elangkumaran, P. (2014) stated that there is a positive relationship between service quality and customer satisfaction through the SERVQUAL model in the commercial bank of Ceylon PLC Trincomalee district. The researchers examined the quality dimensions such as tangibility, reliability, assurance, responsiveness and empathy and found that there is a strong positive relationship between service quality and customer satisfaction.

5. Conceptual Framework

5.1 Electronic Banking Services

Internet banking is a banking channel that allows consumers to do many transaction, either financial or non-financial through a bank's websites. The technological revolution produced modern technical instruments which have been used to facilitate and improve banking services. The electronic services represent the forms of self services, so that the customer can do what he needs himself. In this regard the electronic services should be designed on the basis of the needs, wants, expectations, and experiences of the customers according to the following standards, firstly the electronic services should have the easiness to use so that the customer can perform the tasks easily, secondly the speed of electronic services should be high, and finally the electronic services should have the credibility, and there should be compatibility between these services and other technical services.

The concept of electronic banking has been defined in many ways. Daniel (1999) defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as personal computers and mobile phone with browser or desktop software, telephone or digital television.

5.2 Quality of Electronic Services

The concept of quality services and electronic services recently emerged in service industries. Parasuraman et al. (1985) provided a list of determinants of service quality in their focus group studies with service providers and customers they are: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, understanding and tangibility.

5.3 Customer Satisfaction

Customer satisfaction depends on the expectations and perceptions about the offered services. The satisfaction concept depends on several psychological and physical variables. The satisfaction of customer with electronic services based on the benefits of the customer. The satisfaction with electronic service offered by the banks translated into behavior and practice that create a positive attitude toward the bank services.

6. Data Collection and Analysis

200 questionnaires were administered and distributed by the researchers to internet users customers. Regarding the Sudanese banks were Bank of Khartoum, Fisal Islamic Bank, Omdarman National Bank and Central Bank of Sudan. The following tables show the study sample from all dimensions of the study.

Table 1. Demographic characteristics for study sample

Items	Category	]Frequency	Percentage
Sex	Male	154	77
	Female	46	23
Age	Less than 30 years	11	5.5
	30 to 40 years	164	82
	Above 40 years	25	12.5
Occupation	Employee	101	50.5
	Merchant	95	47.5
	Worker	2	1
	Others	2	1
Type of account	Current	146	73
	Saving	48	24
	Other	6	3
Date of opening an account	Since 1 year	46	23
	Since 2 years	43	21.5
	More than 2 years	111	55.5

The above table indicates that the percentage of male is 77% while the percentage of female is 23% of the study sample, also the ages of the respondents who were in the range between 30 to 40 were the majority 82% . Regarding the occupation the majority of the respondents were employees 50.5. In the account type the majority of respondents have a current account, however most of respondents opened their accounts more than two years ago 55.5%.

Table 2. Electronic banking service and automatic teller machine (ATMs)

Items	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
	Fr	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
The bank updates the electronic banking services.	87	43.5	101	50.5	8	4	3	1.5	1	0.5
ATMs improve the reputation of the bank.	45	22.5	124	62	8	4	15	7.5	8	4
Geographical spread of the ATMs increases the number of customers.	25	12.5	139	69.5	22	11	13	6.5	1	0.5
ATMs increase the trust of customers.	58	29	94	47	11	5.5	29	14.5	8	4
24 hours business hours for ATMs increase the loyalty of customers.	77	38.5	63	31.5	12	6	25	12.5	23	1.5
ATMs improve the banking services of the customers.	57	28.5	128	64	7	3.5	3	1.5	5	2.5
ATMs offer high quality services.	59	29.5	101	50.5	28	14	11	5.5	1	0.5
Geographical distribution of ATMs leads to the decrease of the time of waiting for the customer.	45	22.5	131	65.5	14	7	8	4	2	1
The customers become less dependent on the official working hours in the bank by using ATMs.	105	52.5	59	29.5	22	11	13	6.5	1	0.5
The money transfer becomes more easier through using ATMs.	57	28.5	118	59	17	8.5	6	3	2	1

The table shows that most of the respondents agreed that the bank has updated the electronic banking services 94%, while 2% of the respondents disagreed with that statement, while 4% of the respondents did not decide their opinions. Regarding the statement that ATMs have increased the reputation of the bank most of the respondents 84.5% agreed with this statement, while 11.5% disagreed and 4% did not decide. 82.5% of the respondents agreed that the geographical spread for the ATMs increased the number of customers, while 7% disagreed and 11% did not decide. 76% from the respondents agreed with the statement ATMs increased the trust of customers, while 18.5% disagreed and 5.5 did not decide. Most of the respondents agreed that 24 hours business hours for ATMs increased the loyalty of customers with 70%, while 24% disagreed and 6% did not decide. Regarding the statement that ATMs improve the banking services of the customers with 92.5 % agreed with this statement, while 4% disagreed and 3.5% did not decide. For the statement ATMs offered high quality services, 80% of respondents agreed with this statement, while 6% disagreed and 14% did not decide. In the statement of geographical distribution for ATMs leads to the decrease of the time of waiting for the customers 80% agreed, while 5% disagreed and 7% were undecided. For the statement customers become less dependence on the official working hours in the bank by using ATMs 82% of the respondents agreed and 7% disagreed while 11% undecided. In the statement that the money transfer become more easier through using ATMs 87.5% agreed with this opinion and 4% disagreed, while 8.5% did not decide.

Table 3. The electronic banking services and the internet

Items	Strongly agree		Agree		Neither agree nor Nor disagree		Disagree		Strongly disagree	
	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
Readiness of the bank to serve the customer becomes higher through using the internet.	116	58	31	15.5	25	12.5	23	11.5	5	2.5
The customer becomes more satisfied through the transaction with internet banking.	70	35	72	36	3	1.5	40		15	7.5
Privacy, secrecy and safety have increased the trust of the customer's transaction with internet banking.	55	27.5	95	47.5	18	9	29	14.5	3	1.5
Payment of the bills (telephone, water, electricity...etc.)through the internet banking has increased customer satisfaction.	69	34.5	117	58.5	3	1.5	5	2.5	6	3
Providing the electronic banking services in time and in suitable place has increased the customer satisfaction.	43	21.5	113	56.5	6	3	20	10	18	9
Providing electronic channel between the bank and the customer has increased the customer satisfaction.	38	19	106	53	16	8	31	15.5	9	4.5
Electronic reply to the customers' inquiries has increased the customers' satisfaction.	28	14	130	65	26	13	5	2.5	11	5.5
Display of bank account and balance electronically has increased the customer satisfaction.	79	39.5	76	38	30	15	10	5	5	2.5
Electronic deposit and money transfer have increased customer satisfaction.	77	38.5	69	34.5	28	14	24	14	2	1
Providing electronic banking services has increased the stability of electronic services.	49	24.5	123	61.5	6	3	16	8	6	3
Continuous communication with bank account holder has increased customer's loyalty.	86	43	103	51.5	3	1.5	6	3	4	1

The first statement shows that 73.5% of the respondents have agreed that readiness of the bank to serve the customer becomes higher through using the internet, while 14% disagreed and 12.5% did not decide. Regarding the statement the customer becomes more satisfied through the transaction with internet banking it is found that 71% of the respondents agreed with the above statement, while 27.5% disagreed and 1.5% did not decide. According to the statement privacy, secrecy and safety increased the trust of the customer's transaction with internet banking it is found 75% agreed with this statement, while 16% disagreed and 9% were undecided. In the statement payment of the bills (telephone, water, electricity...etc.) through the internet to the bank increased customer satisfaction, it is found that 83% agreed, while 5.5% disagreed and 1.5% did not decide. For the statement providing the electronic banking services in time and in suitable place increases the customer satisfaction 78% of the respondents agreed, while 19% disagreed and 3% did not decide. About the statement of providing electronic channel between the bank and the customer increased the customer satisfaction, it is found that 72% agreed with the statement, while 20% disagreed, while 8% did not decide. In the statement of providing electronic channel between the bank and the customer increases the customer satisfaction, it is found 79% agreed with this statement, and 8% disagreed, while 13% did not decide. 77.5% agreed with the statement of electronic reply to the customers' inquiries increased the customers satisfaction, while 7.5% disagreed with this statement, while 15% were undecided. 77.5% agreed with the statement that display of bank account and balance electronically increases the customer satisfaction, while 7.5% disagreed, while 15% did not decide. 73% of the respondents agreed that electronic deposit and money transfer increases customer satisfaction, while 13% disagreed, where as 14% did not decide. Regarding the statement of providing electronic banking services increases the stability of electronic services, it is found 86% agreed with this statement, while 11% disagreed with this statement and 11% did not decide. Finally in the statement continuous communication with bank account holder has increased customer's loyalty, it is found that 94.5% agreed with this statement, while 4% were disagreed and 1.5% did not decide.

Table 4. Electronic banking services and telephone banking

Items	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
I feel secure when I receive the messages from the bank after financial transaction.	86	43	103	51.5	1	0.5	9	4.5	1	0.5
Sending exchange rate and interest rate through the phone boost of customer trust.	81	40.5	102	51	5	2.5	5	2.5	7	3.5
Sending marketing programs for the bank through the phone increases the competitive advantage of the bank.	102	51	88	44	2	1	5	2.5	3	1.5
Using the bank phone as a tool for promotion of the banking services increases the loyalty of the customer.	53	26.5	122	61	4	2	17	8.5	4	2
Sending financial services through the phone to the customer increases the customer trust on the bank.	39	19.5	107	53.5	22	11	25	12.5	7	3.5
Sending financial services through the phone to the customer increases the customer satisfaction.	37	18.5	123	61.5	12	6	22	11	6	3

The first statement that I feel secure when I receive the messages from a bank after financial transaction, It is found that 94.5% agreed with the statement, 5% disagreed with this statement, while 0.5% did not decide. Regarding the statement of sending exchange rate and interest rate through the phone boosts of customer trust, it was found 91.5% of the respondents agreed with the statement, 9% were disagreed, and 2.5% did not decide. 95% of the respondents agreed with the statement of sending marketing programs for the bank through the phone increases the competitive advantage of the bank, 4% were disagreed, and 1% did not decide. In the statement of the bank using the phone as a tool for promotion of the banking services increases the loyalty of the customer, it was found 87.5% agreed with the statement, 10.5% disagreed with the statement, while 2% did not decide. 80% of the respondents agreed with the statement that sending financial services through the phone to the customer increases the customer trust on the bank, 14% were disagreed, while 6% did not decide. In the last statement sending financial services through the phone to the customer increases the customer satisfaction, it was found that 77.5% f the respondents agreed, 16% disagreed, while 6.5 did not decide.

Table 5. Electronic banking service and automatic teller machines (ATMs)

Items	Standard Deviation	Average
The bank has updated the electronic banking services.	1.008	4.11
ATMs improve the reputation of the bank.	1.178	3.60
Geographical spread for the ATMs increases the number of customers.	1.185	3.46
ATMs have increased the trust of customers.	1.070	3.81
24 hours business hours for ATMs have increased the loyalty of customers.	1.111	3.47
ATMs improve the banking services of the customers.	0.996	3.58
ATMs offer high quality services.	1.141	3.09
Geographical distribution for ATMs leads to the decrease of the time of waiting for the customer.	0.930	3.97
The customers become less dependent on the official working hours in the bank by using ATMs.	0.900	3.98
The money transfer becomes more easier through using ATMs.	1.062	3.80

The above table shows that all the averages for the all statements were above 3, which means that there is a positive relationship between electronic banking service and using automatic teller machines.

Table 6. The electronic banking services and the Internet

Items	Standard Deviation	Average
Readiness of the bank to serve the customers become higher through using the internet.	1.194	3.8
The customer becomes more satisfied through the transaction with internet banking.	1.122	3.8
Privacy, secrecy and safety increased the trust of the customer's transaction with internet banking.	0.900	4.32
Payment of the bills (telephone, water, electricity...etc.)	.951	3.88
through the internet banking increased customer satisfaction.		
Providing the electronic banking services in time and in suitable place increased the customer satisfaction.	1.023	3.79
Providing electronic channel between the bank and the customer increased the customer satisfaction.	1.048	3.93
Electronic reply to the customers' inquiries increased the customers' satisfaction.	0.938	3.97
Display of bank account and balance electronically increased the customer satisfaction.	1.237	3.45
Electronic deposit and money transfer increased customer satisfaction.	1.008	3.96
Providing electronic banking services has increased the stability of electronic services.	1.097	4.14
Continuous communication with bank account holder has increased customer's loyalty.	0.969	4.18

Table 6 shows that all the averages for the all statements were above 3, which means that there is a positive relationship between the electronic banking services and using the Internet.

Table 7. The electronic banking services and telephone banking

Items	Standard Deviation	Average
I feel secure when I receive the messages from bank after financial transaction.	0.778	4.48
Sending exchange rate and interest rate through the phone boosts the customer trust.	1.005	4.22
Sending marketing program for the bank through the phone has increased the competitive advantage of the bank.	1.097	4.14
Using the bank phone as a tool for promotion of the banking services have increased the loyalty of the customer.	0.969	4.18
Sending financial services through the phone to the customer has increased the customer trust on the bank.	1.092	4.08
Sending financial services through the phone to the customer has increased the customer satisfaction.	1.040	4.04

Table 7 shows that all the averages for the all statements are above 4, which means that there is a positive relationship between the electronic banking services and using telephone banking .

7. Conclusion

This study concluded that there are statistical significant differences between the electronic banking services which have been offered by Sudanese banks and customer satisfaction. Besides that, there are statistical significant differences between customer expectation to the dimensions of quality of electronic banking services and actual performance to electronic banking services. Furthermore, the customers become more satisfied with the quality of electronic banking service such as; web-services, automatic teller machines and phone banking services. The result of the study showed that all hypothesis of the study are accepted. Further studies, could be expanded to other banks in Sudan, and other factors could be addressed such as ease of use, information reliability, speed of transactions and security of the transactions in the Sudanese banking sector.

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TMT Cognition, First Mover Advantages and Firm Entreprenuerial Performance: A Review of Literature

Rahab W Ngugi[1] & James M. Kilika[2]

[1]Doctoral Student, Department of Business Administration, School of Business, Kenyatta University, Kenya

[2]Lecturer, Department of Business Administration, Kenyatta University, Kenya

Correspondence: James M. Kilika, Department of Business Administration, School of Business, Kenyatta University. Kenya.

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Abstract

Top Management Teams (TMT) cognition play a strategic role in the decision making process in any firm. It is critical for firms to integrate managerial strategic thinking, which is rooted in managerial cognition, into the strategic process. Hence TMT cognition can be seen to be a key intangible resource of the firm. The speed and efficiency of the firm's response to the rapidly changing environment is vital to firm performance. Firm's can integrate corporate entrepreneurship as a corporate strategy to achieve competitiveness in the market. This paper presents a review of extant theoretical and empirical literature on two constructs, TMT cognition and first mover advantages and their link to firm entrepreneurial performance. Relevant theories have been reviewed, constructs and operational indicators have also been identified, comparison against empirical studies and the emergent knowledge gap is identified. This paper proposes a theoretical model for guiding future scholarship in strategic management.

Keywords*:* top management teams cognition, first mover advantages, firm entrepreneurial performance

1. Introduction

Strategy is a process that is found at the organisation level, which includes activities that firms engage in in order to formulate and enact the strategic missions and goals ((Li, Zhang, & Chan, 2005) which involve analysing, planning, decision making and strategy implementation (Hart,1992). The fast-paced and rapid changing competitive environment of the firm brings both opportunities and threats for firms, and they have to interpret the opportunities and threats when making key strategic decisions (Dess, Lumpkin, & Covin, 1997); Su, Xie, Wang, & Li, 2011). Entrepreneurial strategy making (ESM), an end result of the opportunities and threats analysis will hence reflect the commitment of a firm to innovativeness, risk-taking and pro-activeness in the development and implementation of strategy, which is significant in the success of a firm (Shirokova, Bogatyreva, Beliaeva, & Puffer, 2016); Su Xie Wang &Li, 2011). The Top Management Teams (TMTs) are the principal decision makers in the development of the corporate strategy at the corporate level of strategy.

The construct of Top Management Teams (TMT) has been found to determine the speed, efficiency and effectiveness in the decision making process in organisations in a way that can influence firm performance. The effectiveness and nature of firm responses differ in part with the composition and characteristics of the top management teams (Neilsen, 2009). The managerial teams effects on firm performance has been a subject of interest to scholars in strategy (Neilsen, 2009; Michel & Hambrick,1992). The Upper Echelon Theory (Hambrick & Mason, 1984) identified and broadly clustered TMT characteristics into two categories: the observable characteristics of functional tracks, age, career experiences, financial position, socio-economic roots and group characteristics and the psychological characteristics such as cognitive base values.

Due to the nature of the external environment faced by organisations, strategic management emphasizes the role of adaptation in order to fit into the environment. The adaptability or strategic renewal stresses the important task of managerial cognition (Kaplan, 2011). Cognitive structures involving top management teams beliefs about the environment and strategy and also the cognitive process of scanning, sense making and interpretation is what is referred to as managerial cognition (Buyl, Boone, & Paul, 2011). The behavioural theory of the firm (Cyert & March, 1963), emphasizes the importance of the managerial cognitive process as an important characteristic of firm's strategic behaviour. The cognitive process represents the initial step in TMT-driven, deliberate change in the firm's strategy and behaviour (Tripsas & Gavetti, 2002), raising the need to gain insight into the connection between the managerial composition and managerial cognition. Organization's adaptability normally is driven by TMT's cognitive process which is in turn driven by the TMT composition.

TMTs possess a cognitive framework that determines an organisations strategic choice as well as the timing of the execution of the strategic choice. The timing of the execution of strategic choice has seen scholars distinguish firms into two main categories: first movers and late movers. A first mover is a firm that identifies an opportunity in the environment and by acting first relative to the competitors is able to gain positive economic profits. First movers are also referred to as pioneers. First Mover Advantage (FMA) arises from three primary sources namely technological knowledge, pre-emption of assets and buyer switching cost. Technological leadership mechanism is either a learning curve advantage also known as experience curve and success in patent or research and development races. Learning curve advantage is achieved through unit production costs that falls with cumulative output, however this can only provide sustainable cost advantage for early entrants if kept proprietary and market share leadership is maintained (Lieberman & Montgomery', 1987). For Technological advantage which is a function of experience achieved from research and development, pioneers can maintain it if it is patented or maintained as a trade secret. Firms can achieve advantages by pre-empting rivals in the acquisition of scarce assets that already exist rather than those developed by new technology. First mover advantages through buyer switching costs arise from initial transaction buyers make in adapting to the sellers products or services. Proponents of the FM construct have pointed that two factors will determine an organization's decisions on the timing of entry into the market: internal factors revolving around the state of resources (Lieberman & Montgomery, 1998) and the industry clock speed (Fines, 1998)

The role of the TMT in this process has been associated with the nature of strategic management process that requires decision makers to analyse both the internal and external environment so as to bring out the set of opportunities and threats and identify the firms internal preparedness through resource capabilities. Various researchers have all agreed that firms operating in an environment that is rapidly changing need to embrace entrepreneurial activities in order to remain competitive. Companies can exploit the competitive advantages they own currently, while they at the same time make decisions to shape the advantages they have intentions to possess in future, increase probability of long-term survival, growth and financial success (Kuratko, Ireland, & Hornsby, 2001). When firms base their entrepreneurial action on their strategy, then that firm is said to have a corporate entrepreneurship strategy. According to Kuratko, Ireland, and Hornsby (2001), in the 1980s to 1990s the virtual revolution of entrepreneurial actions were contributors to firm performance. Companies redefine the business, considering ways that most effectively use human resource and learning to compete in the global economy. This alters the firm's culture, infusing entrepreneurial spirit in their operations.

1.1 Statement of the Problem

The role of strategic management is to formulate and implement strategy at the corporate, business and functional levels. TMT's role in this process is very critical and hence the success or performance of the firm. TMT cognition is a relatively new area of interest in strategic management, especially with its focus on the role of making decisions at the corporate level. Building from studies conducted earlier, there seems to be conceptual, empirical and theoretical gaps when understanding the construct of TMT cognition, first mover advantages and firm entrepreneurial performance.

To further enhance the understanding of the distinction between pioneer and late entrants and the link to entrepreneurial performance, there is need to research more on the link between TMT cognition, external environment and strategic flexibility. Even though some studies provide some understanding on the difference in perception between early entrants and late entrants, they do not explain why an entrepreneur may chose to be a pioneer as opposed to a late entrant, or if the distinction matters. Fines(1998), Lieberman and Montgomery (1998) suggest that two sets of factors both within and without the firm are responsible for determining the timing of entry and raise implications for the conceptual modelling of the firm strategic behaviour that involves TM Cognition and strategic moves for attaining anticipated pioneer advantages. Various scholars (Amit & Zott, 2001; Hitt & Ireland, 2000; Hitt, Ireland, Camp & Sexton, 2001, 2002) are in agreement that strategic management and entrepreneurship are two areas that are concerned with wealth creation in firms. Further the strategic role of TMT in decision making in the integration of entrepreneurship in strategy has not been clearly linked. There is need to propose a theory that integrates strategic management with entrepreneurship. This has emanated from empirical studies on firm entrepreneurial activities and firm performance.

For this reason, this study will propose a theoretical framework to address this gap. This study will apply a multiplicity of theories in order to understand the constructs that underlie the phenomenon involving TMT Cognition, pioneer advantage and firm entrepreneurial performance in relevant contexts that typify those of interest in applying strategic management processes and concepts. The purpose of the study is to review the extant theoretical and empirical literatures with a view to identifying the linkage between the TMT cognition, first mover advantage and firm entrepreneurial performance. The study is guided by the following objectives: first, the study reviews extant theoretical and empirical literature on TMT cognition, first mover advantages and firm entrepreneurial performance. Secondly, the study reviews emerging theoretical and empirical gaps that form a basis for further research on TMT cognition, first mover advantage and firm entrepreneurial performance. Lastly, the study proposes a theoretical model responding to the theoretical and empirical gaps on TMT cognition, first mover advantage and firm entrepreneurial performance that can contribute to the body of knowledge by linking TMT cognition, first mover advantages and firm entrepreneurial performance.

In undertaking this study, the authors add to the extant literature in strategic management to enrich the current understanding of TMTs and the intermediate and ultimate outcomes of the decision making process in a strategic management context. In addition, in attempting to explore the nature of the constructs, the study applies a diversity of theories drawn from not only strategic management but also from Enterpreneurship theory and the behavioural sciences as we point at areas of complimentarity between the two disciplines of study, strategic management and Enterpreneurship. Lastly the study proposes a theoretical model that stands to guide future research in suggesting constructs, their operational indicators and proposed theoretical relationships that can be tested in empirical work.

2. Review of Conceptual Literature

As indicated in the objectives of the study, the paper is a presentation of summarized conceptual review on the constructs of TMT cognition, first mover advantage and firm entrepreneurial performance. Further a literature review of the same is conducted.

2.1 The Construct TMT Cognition

The construct of TMT cognition is a recent development in strategic management. It however seems to have its roots in some of the theoretical underpinnings of strategic thinking, traced from the work of Mintzberg, (1987). Mintzberg, (1987) used the concept of 5P's of strategy so as to capture the various dimensions of the concept of strategy. Considering the nature of the 5Ps, one is able to trace the origin of the construct of TMT cognition in this early work. The 5Ps are ; ploy, plan, position, pattern and perspective. To expound further, plan is a consciously intended course of action,, that is a deliberate strategy developed decisively and intentionally. Ploy is a specific manoeuvre intended to outwit a competitor. Pattern are the stream of actions taken by members of an organisation, consistency in behaviour, can be deliberate strategies or emergent strategies. Position is the place an organisation in positioned within the environment, strategy acts as mediator between the firm and the environment both internally and externally. And lastly, perspective is the ingrained way of perceiving the world. The last dimension of perspective as described by Mintzberg appears to lay the ground for the role of cognitions in the concept of strategy. As captured by Mintzberg, (1998), strategic planning would entail a systematic programming of pre-defined strategies from which an action plan is developed.

A model developed by Biggadike, (1981) used the concept of choice to place the construct of cognition in the heart of strategic thinking. According to the model, a firm's strategic choice is developed from the organisational capabilities, firm's environment and its current competitive position. And according to Lieberman and Montgomery, (1998) capabilities and resources have an influence on the entry timing as a strategic action. Extant literature argues that for any firm to successfully implement strategy, then there is need for strategic thinking to be incorporated. Strategic thinking is injected into the strategic management process at the early stages of the strategic planning process whereby strategy is developed from the continuous analysis of alternatives. However according to Liedkta's model, strategic thinking is an individual initiative where an individual can be influenced by the organisational context in which he operates (Graetz, 2002). While Bonn, (2001) argues that strategic thinking at individual level is composed of three main elements namely: holistic understanding of the organisation and its environment, degree of creativity, innovative solutions to issues that challenge existing approaches and thinking and lastly the vision of the future, inspiring and uniting people in the achievement of the corporate goals (O'Regan, Hughes, Collins, & Tucker, 2010).

Nadkrani and Barr, (2008) in adressing the question on what drives strategic action offered an explanation based on two views: the managerial cognition view and industry structure view. Under the industry structure perspective, strategic decision makers are completely rational and contend that industry structure may impact on the effectiveness and timing of strategic actions Extant research on mangerial cogntion argues that different manager's perceive the same business environment differently (Nadkrani & Barr, 2008; Gary & Wood, 2010; Tripsas & Gavetti, 2000). Bogner and Barr, (2000) and Walsh,(1995) in their research on managerial cognition and strategic action defined knowledge structure as a mental template where a person assumes the information available in the environment and finds meaning, the manager is provided with a basis that forms a biased representation of the environment that is used to inform the strategic action (Shepherd, MCullen, & Ocasio, 2016). Recent studies in strategic action indicate that the intergration of managerial cogntion and industry structure leads to a better understanding of strategic action concept, (Johnson & Hoopes, 2003). Buyl, Boone, and Paul, (2011) in defining TMT cognition, refer to the dimension of managerial cognition as TMT beliefs on environment and strategy and TMT cognitive processes.

Hurzschenreuter and Horstkotte, (2013), further in dissecting the aspect of cognition adopted the concept of faultline, which refers to a conceptual divide that seperates a managerial team into subgroups. They identified two types of faultlines, that is task-related faultlines and bio-demographic tenure. Task-related faultlines refer to the educational background and the length of organisational tenure while the bio-demographic faultlines are the age and nationality differences. Task-related faultlines are hence based on characteristics that have been acquired which are indicators of knowledge and perspectives relevant to a particluar task. These dimensions assist managerial teams to successfully handle addition of new products in a given time period resulting in improved firm performance.

2.2 First Mover Advantage

The ultimate purpose of strategic management is to build sustainable competitive advantage in a firm. CEO's and TMT's role is to set direction for the firm by choosing the market the firm will participate and identify the resources it will nurture and deploy. For instance, product diversification can be used as a strategic action in a way that firms benefit by exploiting new market power among other benefits. However, it is worth noting that this move can have a strain on managerial resources, complexity on the task of management while addition of the product scope adds to the complexity. For a successful coordination of strategy, managers with experience and a deep knowledge of the firm as a bundle of resources is critical. The resource based view (RBV) has conceptualized the firm as a bundle of resources. The resources are managed and reconfigured by the managers who are motivated to exploit perceived market opportunities (Castanias & Helfat,1991, 2001). The first mover advantages represent a critical concept in strategic management literature and in business practice (Carow, Heron, & Saxton, 2004). Pioneer advantage implies that by acting earlier relative to peers, a pioneer can achieve a competitive advantage which enables a firm acquire economic profits (Lieberman & Montgomery, 1988).

Pioneer advantages depend on information asymmetry concept, whereby a first mover capitalizes on superior information to recognize and respond upon some initiative to gain a head start over peer firms (Lieberman & Montgomery', 1987). It can hence be argued that, TMT interpretation of the opportunities presented in the environment is key in first mover as a strategic choice. This is confirmed in Carow, Heron, and Saxton, (2004) paper on acquisitions, where an acquirer is able to process superior information which allows it to recognise and purchase an underpriced asset, that is, the acquirer knows more about the target's value before other investors, thus exploiting its information advantage.

Lieberman and Montgomery, (1998) article answered two questions that link FMA with RBV literature. First, the conditions under which an early entrant can enhance the organisations accumulation of superior resources and capabilities. Second, is whether capabilities and resources influence entry timing. Resources are the roganisational tangible and intangible assets, that iclude employee individual skills. Capabilities or competencies are organisation's collection for understaking a specific type of activity within the environment. Early entrants may be able to preempt resources ; superior geographical space, technological space, or customer perceptual space, blocking product space with a broadening product line, preemption of superior human resource . Pioneer entrants are able to define cost structures either through initial customer perception, accumulated positive customer experience that leads to switching costs and user influence through product perceived to be the industry standard. Early entrants can also develop organisational capabilities that are crucial to product or service such as manufacturing, marketing, which is also known as learning or experience curve advantage. Lieberman and Montgomery (1987)'s study showed that optimal timing of new entry into an new market depends on the resources and capabilities of an organisation whose strength is in the development of new products, while organisations whose strength is in marketing and manufacturing should enter as a late entrant. However, recent survey suggests that an organisation's resource base influences the options and entry timing. Market pioneers had significantly different skills than late entrants (Lieberman & Montgomery, 1998).

Potential early entrants usually examine potential opportunities by evaluating both perceived desirability and perceived feasibility (Zhao, Erekson, Wang, & Song, 2012). These are conditioned by competencies developed from human capital, their evaluation and perception of market opportunities and self efficacy (Elfving *et al*., 2009; Mauer, Neergaard & Lindstad, 2009). Zhao, Erekson, Wang, and Song, (2012) argue that performance and cost advantages influence perceived desirability of the entrepreneurial opportunities. The extent the advantages can be predicted is dependent on the clear lens through which potential pioneer examines market opportunities and capacity to apply specialised knowledge or resources to gain competitive advantage (Douglas, 2009).

Some firms are able to identify new niche markets through flexibility in exploitation and control of firm resources . Through competitive action, firms can develop and even protect their own competitive advantage. The competitiveness of their peers in the market can also be eroded by firm flexibility of resources (Nadkrani & Narayanan, 2007). The constant configuration and rate of application on the competitive actions of a firm determines the capacity of the firm to change its competitive stand and in turn respond to competition efficiently (Young *et al.,* 1996). Strategic schemas are the lenses through which strategic decision-makers interpret information and translate it into organizational actions. Strategic schemas influence firm performance by promoting effective strategic actions.

As mentioned earlier pioneer advantages occur in the dimensions of technological knowledge, pre-emption of assets and buyers switching (Lieberman & Montgomery, 1987). First mover advantages through buyer switching costs arise from initial transaction buyers makes when adapting to a product or from the buyer who has supplier specific learning.

2.3 Firm Entrepreneurial Performance

Firms tend to seek ways to continue growth and one of the principle mechanism is entrepreneurial activities. According to Penrose (1959), entrepreneurship is a contributor and consequence of growth in firms. There is a need for firms to reconfigure new and old resources in order to gain more value. Through adaptive capabilities, firms can expand the entrepreneurial activities to take advantage of presented opportunities. The relationship between firm growth and firm entrepreneurial behaviour, firm growth and managerial perception towards risk is mediated by adaptive capability. Adaptive capability is a firm's adeptness of market expectations. Augmented understanding and corresponding exposure to new entrepreneurial opportunities is the central antecedent to tangible entrepreneurial activities undertaken to capture opportunities. Consequences of entrepreneurial orientation or activities is firm growth, knowledge generation, strategic learning and improvement of strategic positioning.

Extant literature argues that entrepreneurship is concerned with growth strategies while strategic management is concerned with creation of wealth (Amit & Zott,2001; Hitt & Ireland, 2000; Hitt, Ireland, Camo & Sexton, 2001, 2002; Zahra, 2008). Entrepreneurship's main objective is growth and wealth creation (Ireland, Kuratko & Covin, 2003). Entrepreneurship is viewed as a motivator of economic growth through actions of individual firms, especially in emerging, developing and developed economies (Peng, 2001, Zahra, Ireland, Gutierrez & Hitt, 2000). Entrepreneurship and strategic management can be seen to be two disciplines that are complementary (Ireland, Hitt, & Sirmon, 2003). A firm that exploits entrepreneurial opportunities as its strategy not only contributes to its effort to form sustainable competitive advantage but also in wealth creation. However firms must motivate and encourage their employees to be innovative and creative through providing the right internal environment. However entrepreneurs risk failing to develop sustainable competitive advantage, this is as a result of failure of entrepreneurs to strategically manage resources. (Hitt, Ireland, Camp, *et al*., 2001). Therefore for sustainable wealth creation, both entrepreneurship, which is opportunity-seeking and strategic management that is advantage seeking, must complement each other (Amit & Zott, 2001; Hitt & Ireland, 2000; Mcgrath & MacMillan, 2000). According to Penrose, (1959), entrepreneurship is a contributor and consequences of growth.

Whereas in strategic management performance has been mostly operationalised through objective indicators of profits. That however leaves out the important dimensions on sustainability of the profit which can benefit from the perspective drawn from entrepreneurship. Entrepreneurship is interested in sustainability, growth and ability to continue to earn profits. This is an agreement with the view advanced by proponents to the construct of sustainable competitive advantage that leads towards acquired capability for a firm to be able to contionously earn or post satisfactory returns. The perspective from entrepreneurship studies has a better inclination which stands to provide a more clear path for organisations employing entrepreneurship based strategic innovation with the hope of sustaining performance in the long term. There is therefore need for scholarship from both streams to build consensus in understanding the construct of entrepreneurial performance. Chirico, (2006b) study on family business defined entrepreneurial performance as a new and innovative form of competitve advantage achieved through entrepreneurial innovation and strategic adaptation to the market.

2.4 Issues Arising from the Conceptual Review

The reviewed conceptual literature has pointed to a number of issues. First is the emerging implication of the possibility of a phenomenon that describes firm strategic behaviour in terms of a diversity of constructs involving TMT Cognition, Pioneer advantage and firm performance. From this emerging pehnomenon, it is notable that TMTs play a role in strategic decisions that have implications for pioneer advantages, there is also an implied link between TMT cognition, the external environment and strategic flexibility that may explain dinstinctions among first movers and late entrants. The outcome of this strategic flexibility leads to actions that are entrepreneurial in nature as firms respond to market opportunities. This offers scholars a lens by which linkages between TMT cognition and firm entrepreneurial moves may be seen.

Secondly, a review of several empirical attempts reveals the different ways the constructs have been operationalised and applied in empirical work. For example Gary and Wood, (2011) looked at the accuracy of mental models at an individual level, indicating that the variations in mental models is key in performance. Hurzschenreuter and Horstkotte, (2013) used observable characteristics of the UET to measure psychological characteristics. Zhao,Erekson,Wang and Song,(2012); Zhao and Parry,(2012) looked at perception on pioneer advantages and disadvantages and the effects of first mover of entrepreneurs. Su, Xie,Wang and Li, (2011) examined the entrepreneurial strategy making, resources and firm perfromance. Carow, Heron and Saxton, (2014) study operationalised information asymmetry when making first mover decisions.

Thirdly, there is an emerging issue on the conceptualization of constructs as well as their operationalization. Notable in this are two constructs, performance and TMT Cognition. Whereas in strategic management performance has been mostly operationalised through objective indicators of profits, that perspective however leaves out the important dimensions on sustainability of the profit which can benefit from the perspective drawn from entrepreneurship. Entrepreneurship is interested in sustainability, growth and ability to earn profits which in our view tends to close the gaps in conceptualization between proponents of sustainable competitive advantage on the one hand and those in enterpreneurship supporting the view advanced by proponents to the construct of sustainable competitive advantage that leans towards acquired capability for a firm to be able to continously earn or post satisfactory returns. The perspective from entrepreneurship studies has a better inclination which stands to provide a more clear path for organisations employing entrepreneurship based strategic innovation with the hope of sustaining performance in the long term. There is therefore need for scholarship from both streams to build consensus in understanding the construct of entrepreneurial performance. Towards this then, the authors consider the limitations of the perspective by the approach adopted by Chirico (2006b) and the state of the extant literature and offer an alternative description to the construct of enterpreneural performance. Thus the authors add their voice to the extant literature their perspective to the construct of enterpreneural peroformance and define it as *"the outcome of an enterpreneural oriented organization's strategic efforts that offer potential for sustainability of the firm through dimensions such as growth, ability to earn profits and overall viability."*

Fourthly, the review of the literature points at a gap in understanding the role of the determinants of the timing of entry to achieve pioneer advantages in the phenomenon that derives from TMT Cognition in making strategic moves that should realize this advantage as suggested by Fines (1998) and Lieberman and Montgomery (1998). On the one hand, Lieberman and Montgomery, (1998) point that when a firm is deliberating on the decision of entry timing, the optimal timing will depend on the strengths and weaknesses of the firm’s existing resource base and its capabilities and competencies, while on the other Fines (1998) basing his argument in managerial consideration of industry clock speed indicated that the clock speed influences a firm’s strategic flexibility. The clock speed comprises product, process and organisational attributes. Product clock speed is the firm’s consideration of new product introduction and the obsolescence rate. Process clock speed reflects on the rate of change and replacement of technological processes within an industry. While organisational attributes is the rate of change at the strategic actions and structures, strategic flexibility is the ability of organisations to expedite intentional changes, in response to the environmental change. The authors are of the view that since these two determinants have not been considered in extant research, an attempt should be made to suggest how they may be modelled to explain the phenomenon involving TMT Cognition and pioneer advantage.

Lastly, given the diversity of issues that have been raised, the authors are of the view that there is need for application of multiplicity of theories that underpin constructs describing the phenomenon that involves TMT's Cognition, pioneer advantages and firm entrepreneurial performance. Considering the theoretical underpinnings offers an opportunity to anchor both the constructs and the phenomenon on sound theoretical ground as the phenomenon needs clear understanding for empirical application.

2.5 Review of Relevant Theories

The previous discussion on concepts has comprehensively discussed the nature of the constructs emanating from TMT cognition, first mover advantages and emerging entrepreneurial firm performance. This debate raises issues that call for an assessment of the appropriate theories that can explain this phenomenon. To further advance the TMT cognition construct, this paper has taken a multi disciplinary approach by adopting theory from behavioural science that could prove valuable in extending the needed explanation of the behaviour of the phenomenon. The paper considers postulates and contributions of the: Upper Echelon theory, Theory of Administrative Behaviour, Managerial Cognitive Theory, Resource based view of the firm, The Game Theory and Theory of Entrepreneurial Orientation

2.5.1 The Upper Echelon Theory

The Upper Echelon Theory (UET) argues that the demographic characteristics and background of top management team members have an influence on the strategic decisions of the organisations, which have a direct impact on the performance and value creation in the organisation (Hambrick & Mason1984). In their paper, they proposed a model that explains how the managers characteristics could influence the strategic choice in organisations. More emphasis was on the observable characteristics, as indicators of the value managers bring to the firm. These characteristics includes age, functional background, tenure in the organisation, education, socio economic roots and financial position. The study on background characteristics was further emphasised and reaffirmed by other researches in other fields like marketing who study on demographic as an indicators of consumer preference. At this point upper level manager's cognitive bases, values and perceptions were not convenient to measure. Another proposal that was developed from the study is that scrutiny of the upper management team was more effective than on individual managers.

Hambrick, (2007) introduced two refinements as important moderators, these are managerial discretion and excutive job demands. Discretion exists in the absence of constraint and when there are multiple feasible alternatives. Hence, when there is presence of discretion, managerial characterritics are reflected in strategy and performance. Development of executive job demands is derived from task challenges, strategic conditions that are difficult for managers and challenges from performance that include owners or board members who can be demanding as well as aspirations from the excutive who are pushed to perform. Faced with challenges such as intense jobs, executives will normally apply what has worked in past for them, the strategic choice will be a reflection of their background and dispositions (Hambrick, Finkelstein, & Mooney, 2005).

Further two additional refinements were added to the theory. Intra-TMT power distribution which argues that some TMT's have more say than others, hence their biases is highly dependable when predicting managerial actions (Hambrick, 2007). Hambick on the other hand introduced TMT behaviarol integration. The degree to which a TMT engages in mutual and collective interaction is known as behavioral integration, which has a direct positive effect on organisational performance. Thus TMTs need to engage collectively in information processing or decision making. (Hambrick, 2007). The theory is linked to TMT cognition in that it reveals demographic characteristics of TMT members influence on strategic decision making..

2.5.2 Managerial Cognitive Theory

Managerial cognitive theory is rooted in Piaget theory of cognitive development, is a comprehensive theory that addresses the nature and development of human intelligence and later the development of the cognitive theory which explains the mental processes, influenced by both intrinsic and extrinsic factors. This theory explains how different processes that involve learning can be explained by analysing the mental processes. Cognition is the mental action or process of acquiring knowledge and understanding through experience and senses. According to Stimpert,(1999) review, managerial cognition theory is concerned with the development of a deep understanding of the way in which managers think. Managerial cognition emphasises on the upper echelon theory objective of positioning the manager at the center stage (Eden & Spender, 1998). The issues on the importance of the managers and the organisation in making sense of situations and events. Sense making involves the intepretation, frames, schemas and assumptions of situations or events (Meindl, Stubbart, & Porac, 1994).

2.5.3 Theory of Administrative Behaviour of the Firm

The theory of Administrative Behaviour of the firm (AB) was introduced by Simon, (1997) who presented the manager as an administrative man who uses decision premises . The decision premises explain: how the organisation can be understood by their decision process ; decision premises influences behaviour, behaviour can also modify decision premises; individual decision premises can be influenced by structures or objectives of the organisation, and as a result, the decisions undertaken are in line with the objectives of the organisation.

Jemison,(1986) classified the contribution into three categories: study of the organisation in the context of the environment ; study of managerial action in the context of an organisation ; and lastly the development of techniques to improve strategies alignment with organisation capabilities and its environment. The aforementioned postulates reveal the link of this theory to TMT cognition.

Organisations are seen as open systems that must have support and feedback from their environment. Hence they are systems that interact with greater systems (enviroments) and engage in life sustaining processes of exchange. The responsibility of deciding which product to produce or the service to deliver, internal rationalisation or throughtput procedure to implement, allocation of resources in order to achieve throughput that can compensate on the value recieved from external constituences is within the strategies. When considering the managerial actions in context of the environment, the AB theory seeks to undesrtand what the manager actually does through activities such as entrepreneurial decision making, allocating resources, operating decisions (Chandler, 1962). This theory is linked to TMT cognition, where managerial decisions are in agreement with the organisations structures, objectives and environment.

2.5.4 Resource Based View Theory of the Firm

The resource based view is a theory that explains a way the firm can be viewed and the strategic choices available. The RBV theory emphasizes the use of firm resources and internal capabilities in strategy formulation to enable a firm acquire sustainable competitive advantage in the market and industry. The proponent of RBV theory, Penrose (1959), emphasized the need to view the firm as a bundle of resources. Thus, growth of firms is both facilitated and limited by managerial teams search for the optimum use of available resources. The theory is also linked to Prahalad and Hamel (1990), Rumelt, Schendel, & Teece, (1991), who examined the differences in firm profitability within and across the specific industry. Resources comprise of capabilities, process attributes, assets, knowledge that is owned by a firm, which can be used for the formulation and implementation of competitive strategies. Prahalad and Hamel essentially conceptualized the firm as a bundle of resources, the difference between firms is seen through the difference in combination of the resources in order to deliver products or services. If an organisation is viewed as made of capabilities and resources, which can be configured and re-configured to provide a competitive advantage, then the internal capabilities determine the strategic choices it makes in competing in its external environment.

Prior research on RBV basically investigated the association among available resources and performance, but this has now evolved and resources are said to possess certain characteristics, that is, resources are valuable, rare, inimitable and non-substitutable. These characteristics allow organisations to plan better in implementing strategic actions. When the activities taken by the firm emphasize on economic use of the resources, competitive advantage is created which can then translate to enhanced performance (Ketchen-JR, Hultz, & Slater, 2007). The RBV theory hence provides a theoretical backing to FMA which lacks in the concept. The theory is also linked to TMT cognition in that TMT cognition is an intangible resource and capability that has an impact of the re-configuration of other resources.

2.5.5 Game Theory

The proponents of Game theory, Zermelo and Neumann introduced this concept as a branch in mathematics that is concerned with the analysis of strategies to deal with competitive situations where the outcome of the participants depends on the other participants (Bonanno, 2015). The theory is divided into two branches, cooperative game theory and non-cooperative. In the cooperative game theory players are assumed they can communicate, form coalitions and sign binding agreements. While the non-cooperative theory, players are in a situation where they are unable to communicate, with no possibility of signing a binding contract. Game theory has also been defined as part of a greater body of theory that provides a formal language to describe cognisant, goal-oriented, decision making process that involves one or more players (Shubik,1972). It can also be as an analysis of logical activities in situations that involve interdependence of results (Camerer, 1991). Game theory models two or more players, in this case firms, who have a variety of activities on alternatives of choices or strategies, while they have specific information that guides. Every firm has preferred varied results, with the outcomes of interaction that depends on decisions of all the players (Ogot). The choice of which strategies to implement determines the consequences which yield pay-offs (Camerer, 1991). The reasoning in game theory is a decision rule or algorithm that selects an equilibrium strategy, firms discover an equilibria by introspection. Introspection is a mental or computational process simulating outcomes of various choices, eliminating choices that do not yield expected outcomes or reconfiguring the choices. According to research by Chau, (1996) , game theory goes beyond the classic theory of probability, strategic aspects are emphasized or controlled by the participants, hence the adoption in the study of competiton, where there are several factors for instance conflicting intrests, incomplete information, chance and interplay of rational decisions. The goal is to utilize the game rules to forecast the equilibrium outcome of the game in terms of maximisation of profits and improvement of market price influctuations, which may threaten the sustainability of the firm, producers who are faced with the risk of market prices (Sahin, Yildirim, & Miran, 2009). This theory is connected to the concept of first mover advantage when firms are addressing the critical questions on how payoffs can be achieved from the strategic decision made to attain competitive advantage.

2.5.6 Theory of Entrepreneurial Orientation

In a rapidly changing environment, for a firm to continuously remain competitive, considering the resources and capabilities that have been developed over time, TMT's need to have an entrepreneurial mindset that will recognise opportunities that present themselves. Integration of entrepreneurship in strategic process will eventually change the firm's culture- this encourages an innovative and creative environment and allocation of resources for entrepreneurial activities. As organisations grow, they gain new resources and the business environment changes, hence need to mix existing and new resources in value creating ways. Firms can exploit new opportunities through the expansion of entrepreneurial activities through adaptive capabilities. EO leads to firm's growth, knowledge generation, strategic learning and an improvement of strategic positioning (Eshima & Anderson, 2016). The concept of entrepreneurial orientation looks at strategic process and the styles of firms that engage in entrepreneurial activities (Covin & Slevin,1998; Lumpkin & Dess,1996; Wiklund & Shepherd, 2003). Covin and Slevin, (1988) defined a firm's entrepreneurial orientation in terms of the extent managers and strategist are inclined to take business-related risks, favour change and innovation and compete aggressively with other firms.

The five components of EO are innovativeness, risk-taking, pro-activeness, autonomy and competitive aggressiveness. Risk-taking describes the act of managers allocating finances to activities or project that have uncertain results. Pro-activeness is whereby a firm is able to engage in entrepreneurial activities to predict opportunities in future, both from a perspective of technologies or products and consumer and market demand. Innovativeness is the consideration on the product variations and services to be introduced in the market, while emphasizing the importance of leadership in technology as well as product line. Competitive aggressiveness is the way an organisation engages with competition, differentiate among firms that do not embrace competition directly with those that have a direct approach. Autonomy is the autonomous way of introducing ideas or visions , implementing it to completion (Lumpkin & Dess,1996) while not hampered by company's inflexibilities. (Schillo, 2011). This theory reveals that an integration of EO in the strategy of a firm will improve its performance.

2.5.7 Issues Rising From the Theoretical Review

The review of theories has brought out the theoretical anchorage of the constructs of TMT's, FMA and firm entrepreneurial performance. For example the Upper Echelon Theory, managerial cognitve theory and theory of administrative behaviour of the firm explain the role of TMT's in complex situations where they rely on their background, past interactions and the desire for performance. The organisation structures, objectives, understanding of the environment, use of decision premises to influence their cognitive ability when making decision making. The FMA construct has been identified in the RBV theory and game theory. The reasons behind the choice to be a pioneer can be explained by the game theory. The firm entrepreneurial performance construct has been identified in the entrepreneurial orientation theory.

From the review, the theories are complimentary to each other. For example TMT cognition can be explained through the upper echelon theory that introduced the psychological characteristics which are influenced by the observable characteritics. The psychological characteristics are rooted in the managerial cognitive theory. The role of TMT's can be examined using the theory of adminstrative behaviour of the firm . TMT cognition as a firm resource and hence the resource based view theory of the firm. The pioneering strategic choice of the firm can be explained by the game theory, while firm entrepreneurship which is also a resource within the firmis explained by the entrepreneurial orientation theory.

Several empirical studies have used the theories to examine the constructs of this study, and in some cases other constructs beyond this study. Hurzschenreuter and Horstkotte, (2013), used the **Upper Echelon Theory** to measure managerial and growth related characteristics to analyse firm performance. Nadkrani and Narayanan, (2007) examined the Upper Echelon Theory to investigate the linkage among industry clockspeed, strategic schemas and strategic action of performance. Lieberman and Montgomery, (1998) journal reviews linked empirical findings on first mover and RBV. Zhao and Parry, (2012) study on the impact of perceived pioneer advantages, in consensus with prior work by Lieberman and Montgomery pioneer advantages.Various researchers such as Doorn, Jansen, Bosch, and Volberda, (2013); Zhao and Parry, (2012) ; Zahra,(2008) all examined the EO theory to underpin their studies. Kantur, (2016) study that focused on developing a clearer understanding of the relationship between firm level entrepreneurship and firm performance in an emerging economy, argued that EO leads to increased performance through strategic entrepreneurship.

Lastly, in our review,we also find that from the RBV, there are close links between the two disciplines of strategic management and entrepreneurship in terms of their focus on prosperity of organisations. The outcome of strategic entrepreneurial moves that take the form of performance have not also been adequately addressed in the theory and empirical attempts in strategic management. Finally the construct of TMT cognition can be viewed as one of the key capabilities of the firm that is vital in influencing key decisions of the firm. This is an important observation that scholarship in strategic management needs to pickup and build on to strengthen links between theories focusing on TMT and those that focus on firm resources.

3. The Call for a Theoretical Model

The review of the conceptual, empirical and theoretical literatures has brought out a number of issues that make a case for a proposal of a new theoretical model involving the constructs of TMT Cognition, first mover advantage and enterpreneurial performance. First, is the emergence of a phenomenon linking TMT cognition, first mover and firm entrepreneurial performance calling for efforts to model linkages among the constructs. Secondly, the emerging phenomenon involves more contigent factors touching on entrepreneurial orientation and industry clockspeed as a determinant of timing of entry into the market whose role in the phenomenon needs to be ascertained. Thirdly, the review raises the need for a multidiscplinary based approach for modelling the relationships among the constructs as well as their operationalized indicators in describing the emerging phenomenon and the strategic behavior in organizations. Lastly, there is need for a scientifically relevant approach to the advancement of knowledge in management using these constructs so as to inform the direction furture research needs to take. The scientific methodology towards advancement of knowledge based on both ontological and epistemological inclinations supports the view that advancement of new knowledge calls for theoretical models (theories) that affirm empirical work. There are debates as to whether theory should come before research or vice versa (Nachmias & Nachmias, 2004). Proponents of the school of thought supporting theory before research base their argument on the fact that a theoretical framework supports a research study theory by Constructing an explicit theory or model, Selecting a proposition derived from the theory and modelling for empirical investigation and Designing a research project to test propositions. This allows the researcher to examine assumptions, address queries of why and how, permit the researcher to intellectually progress from simply describing phenomenon that has been observed to generalising various aspects of the phenomeono and assist in identifying limits to those generalization (Wandiga, Kilika, & James, 2017 ; Nachmias & Nachmias, 2004). Thus in consideration of the above observations, the authors are of the view that there is a compelling case for the development of a new model to relate TMT cognition with firm entrepreneurial performance as conditioned by several contextual factors.

3.1 The Proposed Theoretical Framework

From the reviewed literature several constructs emerged from both the theoretical and conceptual literature. These constructs include TMT cognition, firm entrepreneurial performance, pioneer advantage, entrepreneurial orientation and industry clock speed. The role of a theory is developed to clarify, envisage and comprehend phenomenon and in several situations test and expound existing knowledge within the limits of critical bounding assumptions. Therefore in order to progress knowledge in a conventional manner, the authors propose the following theory designating different roles in a phenomenon that involves the above five constructs. The model presents a phenomenon whose antecedent factor is the TMT cognition. TMT cognition has two dimensions : mental processes and task related fault lines. The intermediate state emerging from the TMT cognition is the first mover advantage. According to literature the advantage results from technological knowledge, pre-emption of scarce resources and buyer switching costs. The ultimate state is that of firm entrepreneurial performance. This construct has been operationalized through indicators of customer satisfaction, sustainable competitive advantage, sustainable profits and growth. The contingent factors include entrepreneurial orientation and the industry clock speed.

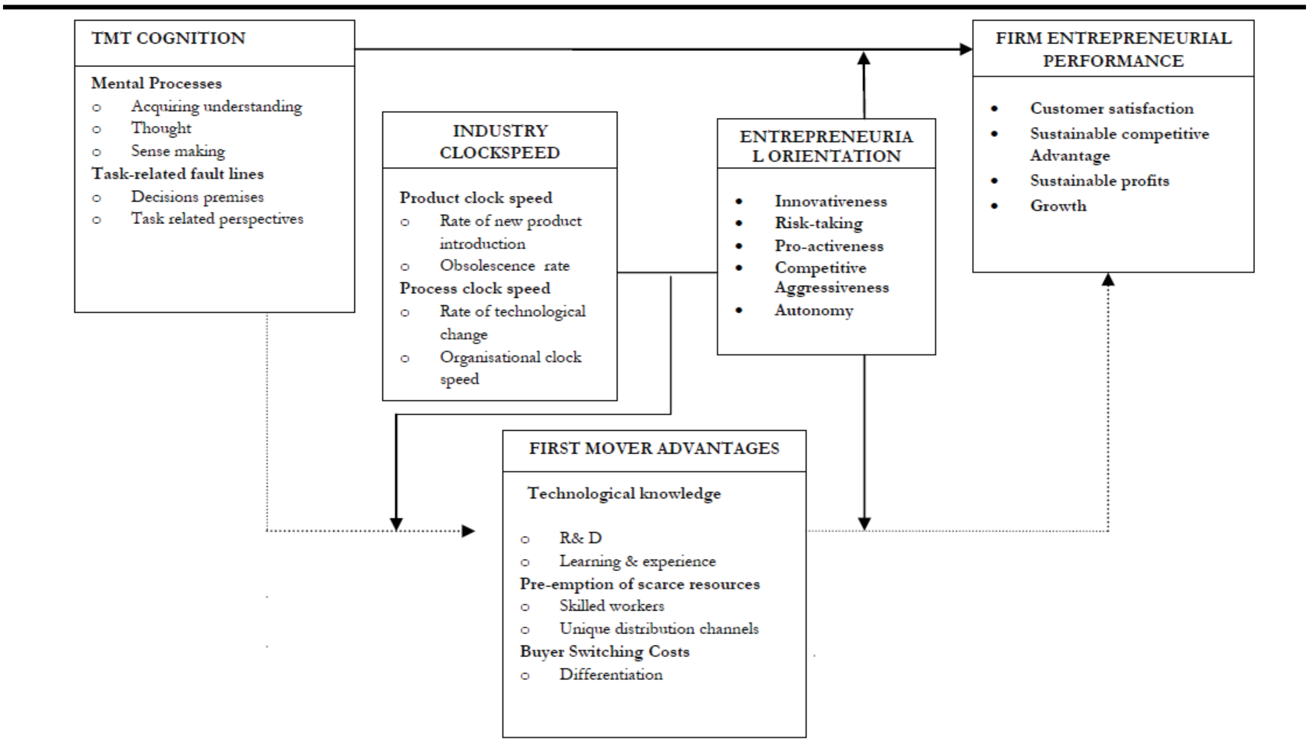

Figure 1. Theoretical Model showing the relationship between TMT Cognition and Entrepreneurial Performance

3.2 Propositions

3.2.1 TMT Cognition and Firm Entrepreneurial Performance

Strategy formulation and implementation is normally undertaken at three levels in a firm, the corporate level, business level and functional level. Corporate level strategy is the level at which TMT's are the primary decision makers. TMTs provide the overall managerial game plan for a company to achieve its objectives and stakeholders expectations. TMTs are faced with complex situations calling for the adaptability or strategic renewal that emphasizes the role of managerial cognition (Kaplan, 2011) in strategic choice. According to Neilsen, (2009), the nature and effectiveness of firm's response to changing environmental conditions vary due to the characteristics and compositions of TMTs. TMT's cognitive ability to identify opportunities within the environment that optimize achievement of organizational goals will be crucial. It is expected that well constituted TMT's will take time to understand their external contexts, make sense of the key requirements of the external context and generate appropriate decision premises that appropriately respond to the demands of the external environment. The responsiveness to the environment through the quality of decisions made by the TMT members will bring about outcomes that correspond to the requirements of the market. Cognitions are key to the relevance of the responses TMTs generate for response to their environments as they reflect how well TMTs perceive, interpret and attach meaning to vital environmental cues that require strategic response. The cues require the systems in the organization to be aligned in a manner that they are innovative enough to generate the required responses. The responses that are considered sufficiently innovative will bring about results that will enhance the entrepreneurial performance of an organization such that the firm generates profits on a continual basis, the firm competes effectively and the market is satisfied. Thus, the paper proposes that:

> *Proposition One: TMT Cognition in strategically oriented firms has influence on the firm's Entrepreneurial Performance.*

3.3 The Role of First Mover Advantage

TMT strategic responses that are innovative in nature targeting to enhance entrepreneurial performance of firms will emphasize sensitivity to timing of the launch of the strategic Responses. The speed at which a firm responds to its changing external environment is key to attaining the desired firm entrepreneurial performance. As firms deliberate on the decision of entry timing, the optimal timing will depend on the strengths and weaknesses of the firm, existing resource base and its capabilities and competencies (Lieberman & Montgomery, 1998). Thus, it is argued in this paper that TMTs in firms that intend to build and sustain desirable levels of entrepreneurial performance will need to build the needed capability and competence for purposes of sustaining this performance so that the firm can be a pioneer in making strategic moves in the market and not only earn this perceived position of a pioneer but also enjoy the pioneer advantages that derive from pre-emption, buyers switching costs and technical knowledge. The concept of first mover advantage assumes a firm can recognize and respond promptly first upon some identified opportunity in the business environment. In view of this logic, the paper proposes that:

> *Proposition Two: TMT Cognition in strategically oriented firms will lead the firms to make strategic moves that earn the firms First Mover Advantages as a necessary condition for sustaining their desired Entrepreneurial Performance level.*
>
> *Proposition Three: The earned state of First Mover Advantage will determine the strength of the relationship between the strategically oriented firm's TMT Cognition and the desired level of Entrepreneurial Performance.*

3.4 Role of Enterpreneurial Orientation and Industry Clock speed

It has already been suggested that TMT Cognitions need to generate strategic responses that from the viewpoint of the market are sufficiently innovative. Thus, the paper argues that in terms of strategic thinking, two factors from within and without the firm will be critical in determining the level of performance attained, namely the firm's enterpreneural orientation and the industry clock speed. Innovation as a defining attribute of the firm needs to be supported by a culture that demonstrates attributes of enterpreneural orientaion in terms of innovativeness, Risk-taking behaviour, Pro-activeness, and Competitive Aggressiveness. If these attributes are prevalent as components of the culture of the firm, both employees and systems will work towards initiatives that generate appropriate innovations that adequately respond to the conditions faced in the market so as to realize outcomes that promote the firms entrepreneurial standing on a continual basis. Secondly, since the strategic responses that register such entrepreneurial performance outcomes are considered as strategic choices, such choices are subject to the dictates of the conditions of the industry in which the firm operates. Thus the industry clock speed in terms of Product, process clock speed and the Rate of new product introduction will influence the firm's strategic flexibility that will determine how fast the firm can initiate strategic moves. Considering the findings of previous empirical work by Meyer *et.al* (2009), Kilika (2012), and Kilika *et.al* (2013) that identified complimentarity between RBV and environmentally based approaches to organizational studies of Resource dependence and institutional theories, it is observed that the industry clock speed will play a contingent role in the phenomenon linking the TMT Cognition and the earned capability of first mover advantage. Entrepreneurial Orientation as an aspect of the internal culture prevailing in the organization will be critical as a contingent factor not only in the path from TMT Cognition to firm entrepreneurial performance but also the indirect path from TMT Cognition to First Mover Advantage and that of first mover advantage to firm entrepreneurial performance. Thus, informed by this logic, the paper proposes that:

> *Proposition Four: The relationship between the strategically oriented firm's TMT Cognition and the earned capability of First Mover Advantage will be conditioned by the combined effect of the state of Industry Clock speed for the firm and the firm's Entrepreneurial Orientation.*
>
> *Proposition Five: The strategically oriented firm's entrepreneurial orientation will condition both the relationship between the firm's TMT Cognition and its desired Entrepreneurial Performance as well as that between the earned level of First Mover Advantage and the desired firm Entrepreneurial Performance.*

4. Conclusion and Direction For Further Research

The purpose of this paper was to review the extant literature on the construct of TMT cognition, First Mover Advantage and enterpreneural performance. The study reviewed both conceptual and empirical literature that provided different perspectives to the understanding of the constructs as well as their operational indicators. The relevant theories upon which the constructs are anchored reviewed included the Upper Echelon theory, Managerial cognitive theory and Administrative behaviour of firms which introduced the construct of TMT cognition. First mover advantage concept has been anchored on the Theory of Resource Based View of the firm and Game Theory. The emerging gaps identified from the types of literature reviewed were used to propose a theoretical framework showing the different conceptual roles the constructs play in the phenomenon that involves TMT Cognition, FMA, Enterpreneural perfromance, enterpreneural orientation and industry clock speed. The paper presented several propositions that highlight the direct and conditional links among the variables.

The discussions advanced in this paper leading to the proposed theoretical framework and the propositions make several contributions to the continuing discourse in strategic management. First, the paper had identified the need for an enhanced understanding of the constructs of TMT Cognition, First mover advantage and firm entrepreneurial performance. The study relied on multiple perspectives drawn from extant conceptual literature underpinned in an integrated multidisciplinary theoretical base drawn from managerial cognitive theory which is rooted in psychology, Theory of Administrative Behaviour drawn from the behavioural science, Game theory drawn from Mathematics and Theory of Entrepreneurial Orientation which is borrowed from Entrepreneurship. From these, the constructs were described, their conceptual nature, characteristics and operational indicators identified. In addition, using previous research work, the authors expanded the scope of the current understanding of the construct of entrepreneurial performance and provided an alternative definition to that offered earlier by Chirico (2006).

Secondly, the research aimed at addressing the various linkages between the TMT cognition, external environment and strategic flexibility for the purpose of demonstrating the possibility of an emerging phenomenon involving the constructs. Besides the attempt made towards operationalization of the constructs, the study further identified the emerging strategic management phenomenon as well as designation of the roles that each would serve in the phenomenon. While TMT Cognition serves as the antecedent factor, strategic flexibility and the environment serve as contingent factors through entrepreneurial orientation and industry clock speed respectively. Finally, the study proposed a new theoretical model with a clear set of constructs and operational indicators that can guide future research. The theoretical framework proposed can be practically tested in different sectors of the economy where innovation and creativity provide a platform for competitiveness.

While this paper contributes to literature on strategic management, more specifically TMT cognition and firm perfomance, it also proposes further research on other attributes of TMT cognition that have either not been researched such as task related fautlines and their contribution to TMT cognition and decision making. The paper has also taken a multidiscplinary approach, proposing further research on entrepreneurial orientation and industry clockspeed and how these concepts can be integrated with the discpline of entreprenuership to come up with a theoretical conclusion. Since the propositions made face a limitiation in that they have not yet been empirically tested, the authors propose that future research be undertaken in relevant contextual settings to assess how the constructs proposed and the emergent phenomenon empirically behaves. Such attempts will require researchers to develop approapriate data collection tools using the operationalized indicators and apply relevant statistical techniques to test the relationships. Some industries where such initiatives may be applied include firms in information and communication technology, agribusiness, manufacturing .

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A New Policy-Making Model for Development of National Insurance Services Market Based on Resource-Based Approach

Mohammad Ayati Mehr[1], Mohammad Haghighi[2], Mohammad Ali Shah Hosseini[3], Assad Allah Kurd Naij[4]

[1] PhD student of Business Administration of Alborz Pardis University of Tehran, Iran

[2]Associate Professor, Faculty of Management, University of Tehran (Supervisor and author), Iran

[3]Associate Professor, Faculty of Management, University of Tehran, Iran

[4]Associate Professor at Tarbiat Modares University, Iran

Correspondence: Mohamad Esfehani, esfehani.mohamad3@gmail.com

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Abstract

Insurance industry is one of those industries providing financial services for people that couldn't achieve a balanced development in provision of different services. In other words, insurance companies didn't have a favorable performance as compared with other countries, except for provision of services for automobile industry. This actually pinpoints that the conditions for development and penetration into this market is not that much optimal. The main objective of this study is to provide a policy-making model for the development of service market under the light of a resource-based approach and investigation of model relations. The research method applied in this study is qualitative and it follows an applied objective. The population for this study are specified to the development of the model and interview was used to identify the criteria. The sample includes insurance companies' managers and experts. These people have at least a bachelor's degree and they have more than ten years of experience of managerial work. The number of experts included in this study include 20 people using saturation limit approach. The data were analyzed using grounded theory approach. The results showed that the main phenomenon was the concept of market-orientation. In addition, the causal conditions of this study include future-orientation and technological infrastructures. In intervention part of the study, dynamism of industry has been specified. In another part related to the context, culture has been identified. The identified strategies in the field of policy-making include innovativeness, entrepreneurialism, and a positive picture of the industry. Finally, the outcome of this model was the development of the market. The main suggestion of this study was to improve social culture. Besides, it will create a trusting mechanism with regard to policy-making and therefore the required atmosphere for the development and strengthening the market will be created.

Keywords: development of the market, resource-based approach, creation of the appropriate culture in the society, developmental policy-making, grounded theory

1. Introduction

As we know, considering the fast-changing market that we're facing nowadays, scheduling for participating in today's markets is more difficult and complicated as compared with the past (Merrilees et al., 2011; Maydeu & Lado, 2003). There are several factors contributing to this phenomenon. Some of them include the intensity of competition, rapid political and economic evolutions, the observed increase in business obstacles and limitations within various countries, the observed inclination toward supporting policies, developments and rapid innovations in technology and the spread of commercial advertisements (Rahim Nia et al., 2016). This has led the companies to penetrate well into the market in different areas and they could contribute to further developing it. One of the most important industries, is insurance industry. Insurance industry, as one of the most precious industries in every society, has been always contributing to increasing economic growth and development. Nowadays, in all of development-based societies, insurance is considered as an important factor in the development of the countries, because they believe that insurance has a significant contribution in various economic areas and by covering the damages due to economic activities and contributing to the development of the society, will increase stakeholders' motivation to invest more. In other words, insurance industry, as a complex of financial firms, works for its own benefit and in the direction to reduce its expenses and its performance is optimized to the extent that it provides the most services with minimum expenses that will lead to rapid development in the society. In the current market, companies are faced with a stressful situation and they are looking for profitability and increasing their market share through maintaining and optimizing sales. Company's stability is dependent upon its capabilities in generating superior value for market. Resource-based perspective means that competitive advantage could be realized through resources. In order to be successful in this potential market, these companies should effectively employ both their tangible and intangible assets, provided that these resources would be valuable to be scarce, difficult to be copied, be exclusive and in addition will provide stable competitive advantage and will enhance company's performance (Velean et al., 2014; Theodosiou et al., 2012; Olimpia and Racela, 2014; Alpkan et al., 2012). One of the most prominent problems in insurance industry is the lack of balanced development within various parts of the market. The insurance market in Iran is afflicted with a structural weakness in policy-making for market development; that's why this industry was successful in the field of automobile insurance for instance; however, the same insurance companies are facing severe problems in developing its market the field of treatment insurances and accidents. Improper development of these parts is regarded as lack of suitable policy-making in insurance market; because it is insurance industry that plays an important role in most of the fields such as economic development and investments and occupational security and any decrease in market development in various field illustrates lack of understanding and cultural teachings in this field. Therefore, considering lack of sufficient public awareness toward insurance coverage, it's clear that we have problems in developing insurance market, especially in areas such as effective planning and policy-making. Thus, except for compulsory insurances like third-person, development of insurance in other fields such as life insurance, responsibility insurance, etc., it experiences a slow development. This decreased the penetration coefficient if insurance in Iran, compared with the average for global and regional countries. On the other hand, insurance's penetration coefficient which is expressive of the proportion between the produced insurance right and country's gross domestic product shows the tangible or intangible relationship between insurance industry's rate of activity and a country's economics. The insurance's penetration coefficient in 2009 was equal to 1.4. This coefficient for Middle East, northern Africa, Asia and the world is 1.6, 1.59, 6.2, and 7.49 respectively. Thus we can conclude that our country isn't in good condition with regard to this index. In addition, considering the growth experienced by insurance industry and development of insurance coverage, this will lead to creation of individual benefits for individuals within a society and various economic divisions; therefore, advertising policy-making should be strengthened in this industry. According to economic and social thoughts, the government should participate actively in developing the required culture of insurance and forming the necessary evolutions in order to develop insurance industry and services in the society. It's noteworthy that there isn't any similar study on the same topic, either within the country or abroad. Besides, there isn't any national or international research paper that would have investigated various dimensions of policy-making aimed at the development of insurance industry. Considering these points. The objective of this study is to provide a policy-making model following investigation of provided market policies within country's insurance industry. Thus, the value for insurance's penetration coefficient has been raised in the country and there is a possibility of faster movement toward the first rank in the region with regard to insurance's penetration coefficient.

1.1 Theoretical Background of the Study

Considering the increasing changes within economics and market in world domain as well as stagnation and other related problems in Iran, the development of the market for a particular product, whether a good or service, is really significant (Chen and Wang, 2010;Doz et al., 2001). Most of the producers of a good, are the suppliers of goods or providers of some kind of services; some of them have weighed various aspects of the task at first, but have encountered problems later as they attempt to develop their own market (Eric Shaw, 2012). Identification of changes in market needs and the demands made for it in different markets has contributed to implementation of market development strategy alongside continuation of economic competition (Suh & Kim, 2014)/ the main purpose behind market development is to achieve higher levels of performance in those markets. In fact, by developing their own market, companies will be able to make use of the existing opportunities in the new markets or they'd be able to identify gaps and fill them. Thus, understanding market development strategic models will help these companies' policy-makers and planners to codify their own competitive strategies more consciously (Masrek & Jusoff, 2009; Seyedhosseini et al., 2016; Hsiu-Fen & Chang, 2017) policy-making in market development is more pronounced and possible in macro fields of the country and mother organizations like Central Insurance. Iran's Central Insurance and Iran's Ministry of Economics can easily contribute to the development of insurance market in Iran and increase its penetration. The thing that should be taken more seriously, is the public use of insurance and public's understanding of advantages of insurance; this needs creation of stable resources in insurance industry and coordination between different organizations. For instance, broadcasting organization will have a major contribution in improving the trust atmosphere and heightening people's awareness.

Most of the problems encountered with regard to the developments incurred in the development of the market is lack of sufficient information regarding national insurance industry in less-developed countries. In fact, the more we attend to perceived values for customers, the necessary conditions for market development will be met and this is one of the necessary requirements in Iran's market. With regard to policy-making, coordination and attracting market's resources is another issue that can prevent us from redundancy and this will lead to heightening efficacy and better policy-making performance in the market.

1.2 Experimental Background of the Study

Fabian Eggers et al. in their study in 2017 attempted to investigate the role of technology in improving market and businesses. This study showed that implementing strategic orientations like entrepreneurialism will improve company's performance and increase market development. On the other hand, information technology, especially social networking websites is capable of providing the necessary context for nosiness companies. Komarova and Velthius (2017) investigated the market development mechanisms in emerging markets. In this study, the researchers referred to the existence of financial capacities with regard to the development of local businesses. In fact, in order to develop local markets and attain its related benefits, we should focus more on supporting capacity. O'Cass, Aron, and Heirati (2015) in teir study entitled as "an investigation of the relationship between marketing mix and capacities to concentrate on the customer to achieve the best performance for new products in the market", attempted to investigate the same relationship. The results of this study show that it's better for market-oriented companies to invest more on their marketing attempts, brand name and customer relations and this will consequently lead to higher new product performance and higher company's capacity in achieving product success. Bo Rundh (2015) investigated international markets development in small and medium-sized businesses. In this study, the researcher suggests that market development requires proper alienation of company in various parts to achieve success in international markets, especially through improving performance and export behaviors. Therefore, due attention to business development will facilitate financial performance and a positive change in business companies through making use of international opportunities. Alessandra Cssar et al. (2013) have investigated the impact of trust in market development. This study declared the need for trust in order to develop markets, especially those countries that have passed civil wars and local unrests. This study has been conducted among 426 people for investigating the factors affecting economic development; the researchers suggest that legislation and policy-making has a significant impact on developing market for the companies and increasing market activity. In another study by Zhang and Wu (2013), the relationship between social capital and development of the new market was investigated by considering the mediating role of companies' recognition power. This research has been implemented among high-technology companies in China. The results show that trust and power are among those powerful factors influencing the relationship between social capital and new product development. Those companies who will be able to identify market gaps, will be more successful. Ishtiaq Mahmood et al. (2012) investigated the impact of applying innovative opportunities in Taiwan markets on market development. The researcher found that considering the limitation of the resources, purposefulness in applying innovations, will enhance innovation culture; i.e. focus on innovation will provide the necessary context for companies to develop their own market. Eric Shaw (2012) investigated marketing strategies by focusing in market development approach. The researcher found that managers' approach in designing business strategies will provide more success for the businesses; this, the researchers attempted to consider manager's attitude for developing and strengthening market and it made use of business strategies in order to better orient market development.

2. Methodology

This study follows a qualitative approach and it makes use of systematic grounded theory as the research technique. Grounded theory is a kind of qualitative research method which attempts to identify concepts, themes and finding the relationship between data through organizing them and then provides a theory based on the data (Bazargan, 2008).This systematic grounded theory armpits to provide a model with an integrated approach. First it tries open coding, then closed and finally selective. In other words, this study is considered as heuristic based on its nature and is applied considering its purpose.

The population for this study includes marketing and policy-making experts in insurance industry. These people do have active participation in insurance companies as well as university contexts. The experts participating in this study were quite experiences in the field of penetrating into the market and policy-making. These people had been the manager if insurance companies and were in charge of marketing initiatives for at least three years. In fact the selected people were both academically educated in marketing and policy-making and also had relevant occupational experiences. These people were selected through purposed sampling and based on the criteria mentioned by the researcher; then, using snowball sampling method, the researcher tries to increase the number of interview participants of the study. Undoubtedly these selected people were among the informed individuals in the field of developing the market for insurance industry. This sampling has been continued to the point that the researcher attains sufficient data. Considering these information, 14 interviews were done and in order to improve validity and becoming confident in the sample, five more interviews were done. The interview was a deep one and as it was said, from the 10^{th} interview onward, the received data were repeated; but to make sure, the interviews continued toll 19^{th} interview and from 14^{th} interview on the data were completely repeated and they have reached saturation. Data collection has started from July, 2017. The interview began with questions regarding "influential factors on the drivers of market development through policy-making approach in insurance market" (open interview) and the rest of the questions were optimal. All the interviews were recorded and were analyzed many times in order to extract the main points.

2.1 Reliability and Validity

Reliability refers to the adjustability of research findings. Reliability fo interviews is assessed in several stages like interview situation, transcription and analysis. Validity refers to the way the interviewer conducts the interview and asked question. In validity of transcription, we should be conscious with regard to intra-coder validity during typing texts by two people. Another method to assess the validity of the analysis, is during the categorizing stage and noticing the reported percentages by the two coding people (Bowen & Bowen, 2008).

a) Calculating inter-coder reliability: in order to calculate inter-rater reliability, some of the interviews were selected as examples and each of them will be coded separately by two coders. Then the generated codes will be compared with each other. in order to analyze the stability researcher's coding procedure, test-retest method is used. Those codes similar are specified as congruent and those dissimilar ones are specified as incongruent. The method for calculating inter-coder reliability by the researcher in two different time intervals is like this (Kowal, 1996):

$$\text{the percentage of inter} - \text{coder reliability} = \frac{number\ of\ congruencies \times 2}{totl\ number\ of\ codes} \times 100\% \qquad (1)$$

The results of these coding procedures are shown in Table 1.

Table 1. calculation of inter-coder reliability

No.	Name of the interview	Total number of codes	Number of conformities	Number of inconformities	Inter-coder reliability
1	P5	86	34	26	79%
2	P9	79	31	22	78%
	total	165	65	48	78%

As it can be seen in table 1, total number of codes registered by the researchers for 165, the total number of conformities between the codes was equal to 65 and total number of inconformities in these two times is equal to 48. Inter-coder reliability of this research was equal to 78% for the interviews. Considering that this reliability is more than 60%, reliability of the codes is validated (Khastar, 2009).

Validity of the interviews

Three criteria of being authentic and validity (beleivability), transferability, and confidence were considered (Khastar, 2009). The following initiatives were taken to achieve each of these criteria:

Validity: the researcher has increased the validity of research data by putting sufficient time, validation of research procedure by eight experts, using two coders for coding samples of interview for making sure about the similarity of perspectives among coders, using tangible and measurable questions like writing down the range and having reminders in excel forms.

Transferability: in order to make sure with regard to transferability of research results, three experts in the area of market development that didn't participate in the study, were consulted with regard to research findings.

In all stages of work and in order to create confidence, all the details of the research and notes were recorded.

3. Data Analysis

The first step: open coding

Primary coding: in this step, all the key points in the interviews get a title; then all these titles are put in Table 2.

It’s noteworthy that some samples of interviews are included here for looking at the way interviews are primarily coded.

Table 2. primary coding

Interview question	Sample interview response	Primary codes
In your opinion, what are the contributing factors in the development of market in insurance industry?	I think that having organized procedures followed by insurance companies with regard to market planning will be a good context for influencing the market to achieve strategic objectives in the market. Therefore, continuation of investment with regard to attaining objectives will be an important guarantee in proper orientation in getting market share and market development. In addition, specifying strategic objectives will be important for companies’ success and will guarantee our success.	- Commitment toward investing in strategic objectives and continuity of investment - having organized procedures with regard to business objectives
	I think that for classifying the requirements of successful development; we need to have a general look and identify inter-organizational and intra-organizational factors in the development of the market. Intra-organizational factors include human resources and updated technologies that could help the company strengthen itself and it will be used as an important leverage in optimizing activities targeted at penetrating into insurance market. On the other hand, external influential factors include competitors and customers. Therefore, if these factors wouldn’t be considered in market development, the company wouldn’t be efficient in today’s markets.”	- Regard for intra-organizational factors like focus on human resources’ requirements and organizational technologies which are considered as important for market development. - Regard for environmental competitors, customers and their need analysis
	“Attempting to strengthen brand in competitive markets through considering environmental variables and factors will facilitate market development for your company.”	- Optimal brand image and increasing brand awareness in competitive markets
What dimensions had the insurance company considered?	“Our company will first commence upon surveying and analyzing the market of field of activity and we will perform need analysis accordingly.”	- Market need analysis
	“Our company is looking to identify its customers’ needs as the most important asset and it will attempt to gain customer satisfaction through providing products that will match their needs.” “One of the strategic objectives of our company is consideration of market share and it attempts to increase its own market share. Therefore, it attempts to provide distinguished and exclusive products and services and increase the domain of its products. This will be only feasible through supporting new ideas provided by employees”	- Continuous customers’ needs analysis - Consideration for innovation in products and services - Increasing pioneering in the market spirit - Supporting employees’ ideas - Aggressiveness in market
If you’d like to express your weaknesses in market development and increasing your penetration into the market, what are the most disregarded aspects?	“Incapability in creating higher value in delivered services and products, compares with the competitors, is one of the problems observed in this domain. Those companies who are participating in markets like insurance industry quickly attempt to copy each others’ ideas without considering copyright. This will reduce our capabilities for participating in competitive markets.”	- Creating value for customers at the time of providing products or services - Consideration for innovation and its maintenance
	“Consideration for chance is one of those issues prevalent among our managers. That’s while this topic lacks application in acquiring market development “In our company, the designed structure isn’t capable of responding to environmental changes and it looks for increasing its speed and capability in adjusting itself to environmental changes. Considering my studies, the existence of structures called agile structures will facilitate responsiveness and changing the environment. That’s while the organizational structures we’re using nowadays are facing severe problems with regard to speeding up information current, working knowledge and organizational decisions.	- Disregard for chance - The ability to adjust with the environment - Inter-task coordination in the organization - Agile structures

Secondary coding and forming the concepts: In the next stage, because of the multiplicity of primary codes, they will be transformed into secondary codes or categories (primary codes will be included in similar categories).

Multiple secondary codes will be transformed into one conceptual code. Table3= 3 provides the results of open coding based on secondary codes and categories.

Table 3. transforming open codes into secondary concepts

Concepts and open codes	Categories
Motivating the public Incentive plans for using insurance Creating the need in the society Extra coverage in case of acceptance of the insurance plans	Public acceptance of insurance
Improving technological infrastructures and consideration for the use of them in order to relate with the customer Using cloud computing systems for improving initiatives Using customer relationship systems Speeding up customer relationship	Improving technological infrastructures in marketing
Creating supplementary insurance plans Supplying public's general concerns Favorable coverage services for the public Regard for insurer's concerns	Understanding public needs
Strategic outlook Focus on achieving long-term competitive advantage Commitment toward long-term investment and being patient	Macro perspective in insurance industry
Provision of coherent rules with regard to representatives Organizing quick follow-up approaches Creation of dispute resolution committee for speeding up resolving customers' complaints Regard for ethics in insurance industry	Regard for legal mechanisms
Being important for the company Self-awareness with regard to accessible resources and how they are distributed	Planning long-term objectives in insurance industry
Increasing customer's awareness Teaching human resources Improving insurance culture within socity Provision of financial incentives for creating the desirable culture of insurance	Improving society's understanding
Using national media in creating the necessary culture Improving positive attitude toward insurance Creation of insurance incentive plans in less-developed regions	
Focus on performance standards Disregard for concepts like chance An organized procedure for development and improvement	Standardizing insurance procedures in the industry
Logical analysis of market framework Reduction of environmental uncertainties Discovering and providing logical solutions for solving market problems Flexible organizational structure	Regular and comprehensive organizational framework in insurance industry
Organizational self-efficacy Competent human resources Entrepreneurship capacities Not getting used to current situation	Entrepreneurship capacity in insurance industry
Identification of environmental opportunities Sagacity and intelligence in responding to market needs speed in compatibility with market procedures.	Organizational opportunism
Creating a favorable brand image in the market Social responsibilities Regard for employee's status Creating identity for the brand The provided value in the market	Powerful brands
Increasing accessible resources for the companies	Ability to fundraise
Variety in ways for attracting capital Improving relationship with various investing departments Provision of fundraising plans	
Development of intellectual capital Allocation of organizational resources for research and development department Attracting organizational experts	Development of human resources
Establishing knowledge management	Using organizational knowledge

Creation of an open environment in the organization Speed in transferring the idea to service or product Holding brainstorming meetings	
Using technology-based systems Focus on the technology Using modern technologies Investing in technology	The penetration of information technology
Provision of on-time and speedy services Concern for responding to customers' needs Widespread services Higher access to insurance services High number of insurance branches Variety in providing services Covering insurer's expectations Competitiveness of insurance services Facilitation of requests	The quality of services
Relationship between various segments of the market Strengthening relationship with different parts of service industries The necessity for other parts of the industry to make use of insurance services	Coordination between various segments of the market
The existence of administrational regulations in the industry Regard for ethical responsibilities in insurance industry Consistent pricing policies in insurance industries Selection of the target market Production, distribution and promotion of products Application of environmental information Creation of market research team Improving technical knowledge in marketing segment Creation of sustainable value Expansion of intelligence within organization Inter-task coordination within the organization Long-term focus on the market Change management	
Identification of customers' future needs Designing and providing products Creation of superior value among customers Applying customer relationship management Continuous evaluation of brand's good reputation from customer's perspective Codification of strategic objectives for customer brand Identification of value from customer's perspective Improving satisfaction and loyalty among customers Creation and maintenance of an information bank for customers	Supplying customers' needs
Increasing customer's loyalty Identification of preferred points in the mind of future customers Provision of favorable services for customers Creation of value among customers Analysis of current customers' preferred point	
Fast responsiveness to market requirements Following similar service industries Consideration for risk Analyzing industry's growth Decoding insurers' behaviors Continuous search in the industry Gathering information from dissatisfied customers	Market analysis
Central insurance's increased support of insurance companies Commitment of insurance contracts in supporting central insurance Clarification of central insurance's initiatives	Central insurance's guarantees
Justice in paying debts Speeding up the process of paying possible damages Consideration for financial liabilities Regard for the satisfaction of insurers with regard to paying the liabilities Consideration for public financial liabilities	Financial liabilities

3.1 Shaping the Main Categories

After defining the categories, the next stage is structuring main categories of the theory that are included in Table 4.

Table 4. macro and micro categories

Micro categories	Category's code	General categories	Category's code
General acceptability of insurance	B1	Market development	C1
Understanding insurance's need	B2		
Organizational perspective	B 3	Futurism	C2
Long-term objectives	B4		
Penetration of information technology	B5	Consideration for industry's infrastructures	C3
Powerful brands	B6		
Entrepreneurship capacity	B7	Entrepreneurialism	C4
Organizational opportunism	B8		
Improving understanding gained from society	B9	Creating culture within society	C5
Standardizing industrial procedures	B10	Industry's dynamism	C6
Regular and coherent framework of the industry	B11		
Strengthening legalism in industry	B12		
Capability of fundraising	B13		
Development of organizational capitals	B14	Innovation-oriented	C7
Applying organizational knowledge	B15		
Favorable financial liability	B16	Positive picture from industry	C8
Central insurance's guarantees	B17		
The quality of favorable services	B18		
Coordination between different segments of the market	B19	Market orientation	C9
Supplying customer demands	B20		
Improving technological infrastructures in marketing	B21		
Market analysis	B 22		

When a category was identified, the analyst is able to define it based on its features and particular dimensions. Through defining particular features of each category, we can specify that. The task of features in grounded theory is providing more details regarding each category.

3.2 Second Step: Axial Coding

Axial coding comprises the second step of analysis in grounded theory. The objective of this stage is to establish a relationship between generated categories (in open coding stage). This will be done based on paradigm model and facilitates the task for theoretician. The basis of relating procedure in axial coding is the expansion of one if the categories (Dana'ee Fard et al., 2004). In Figure 1, axial coding is illustrated in the form of a framework.

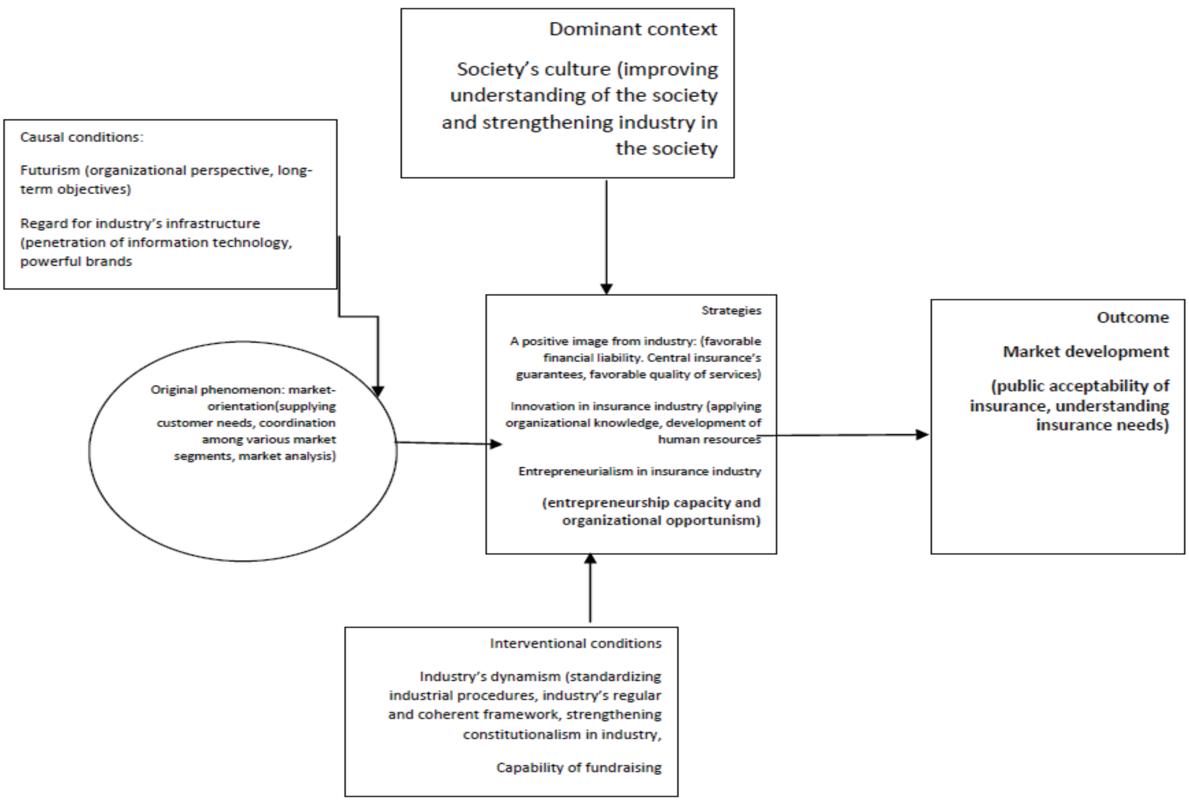

Figure 1. axial coding based on the model

3.3 Third Step: Theorizing Stage

As it can be seen in figure 1, the topic of providing a model with regard to market development entails intricate relations; in fact, the causal conditions in this study include futurism which will create the necessary conditions for market development. Market orientation, will provide the necessary information regarding the positive picture of industry, innovation in industry and entrepreneurship in insurance industry that is known as model strategies. On the other hand, industry's dynamism is another factor contributing to the strengthening of strategies. On the other hand, the context of organization which is illustrative of society's culture will help to develop the market through the use of strategies and organizational strengthening.

3.4 Defining Model's Categories

3.4.1 Market Development

It refers to the improvement of insurance industry with regard to business processes in the country. In fact, market development implicates balanced share and development within various active segments in insurance industry and within national markets. One of the challenging issues in developing the market, is developing a kind of balance that should be considered as a prerequisite for improving public acceptability and understanding the necessity of this industry for continuing economic, occupational and social activities by the companies. The following is taken from an expert interview:

"Undoubtedly, in order to improve economic indices in business market, we require a consideration toward triggering public acceptability with regard to the importance of insurance for economic activities. In case that policy-making in insurance industry requires creation of need and understanding for that, it will consequently increase public acceptability of various branches of insurance industry which will provide the necessary context for improving market development."

3.4.2 Society's Culture

The culture of each society shows the accepted values, beliefs and norms by those people living in it. In case that one branch of initiatives will be compatible with society's values, therefore, that branch will be most accepted by the public. According to one of the experts:

"An important issue to be considered in insurance industry, its society's culture. If society's culture is ready to accept insurance and insurance-related initiatives in branches like fire, natural events, etc., it will create the necessary atmosphere for improving prosperity of participation in insurance industry."

3.4.3 Industry's Dynamism

An important issue in market development that should be considered is the level of participation of that industry in the society. Dynamism shows activities, initiatives, investments and other similar issues in the society. According to one of the experts:

"If we'd like to have a growing market in insurance industry, its frameworks should be established beforehand; in other words, the necessary standards with regard to business processes should be established and codified. Legalism in the industry as well as capability of fundraising are other factors contributing to market development."

3.4.4 Entrepreneurialism

The ability to identify opportunities is the main ingredient of entrepreneurship and it has been investigated through many years by different companies and continuous identification of new opportunities in knowledge-based and technology-based companies can be a necessary competitive advantage:

"Our company has established a department called environmental scanning in order to improve the capability of identifying opportunities. The main objective of this section is increasing the purposefulness of initiatives by increasing new initiatives in competitive market and identifying the market that seems that it has been depressed recently."

3.4.5 Positive Image from Industry

Something that should be considered here is the public attitude toward insurance industry and companies will contribute to the formation of a positive image in the market through creating a trusting atmosphere. This image shows public's understanding with regard to the activities done in insurance industry in order to help various segments of the society. According to one of experts:

"Trust and ethics is a topic that should be considered in insurance industry with regard to as compared with the competitors market activities. In fact, if the main purpose of policy-making will be directing companies toward consideration of ethics, this issue will facilitate creation of a positive image in the society. On the other hand, strengthening services and quality and increasing liability toward the resources is among those issues that will directly contribute to development of the market."

3.4.6 Innovation-Orientation

It refers to the novelty of ideas, methods, structures, behaviors, theories, cultures, technologies, and skills. Innovation also refers to the knowledge bases that were used for creation of new products and transfer, production, and distribution services for the administration and management of the societies and various organizations. An expert says:

"Lack of capability in creating higher values in provided products and services for the customers, as compared with the competitors is one of the apparent problems in this area. Those companies participating in medicine production in markets similar to our industry, would quickly copy services and products through reverse engineering without considering copyright and this will preclude us from being capable of participating in competitive markets."

3.4.7 Futurism

Futurist companies emphasize on the creation of sustainable competitive advantage in more than one period instead of realizing financial short-term expectations. According to one of the experts:

"Policy-making in companies have been always implemented considering the long-term outlook and it attempts to achieve its strategic objectives through applying a holistic look and equipping various departments."

3.4.8 Industry's Infrastructures

Another issue that requires investment and attention in today's markets, is the company's technological infrastructures. In other words, it is the company's infrastructures that will orient activities and companies toward market and market orientation.

"Undoubtedly, companies need to develop their modern technologies in order to strengthen their marketing initiatives, gathering information and understanding needs. These technologies make it possible to gain a better understanding of the company's environment for determining the next strategies."

3.4.9 Market Orientation

Market orientation is an organizational culture with maximum efficiency and effectiveness which provides the necessary behaviors and performances for creation of superior values among customers and consequently it will result in continuous superior performance for the business. Narver and Slutter (1990) define market orientation as entailing three behavioral aspects including customer orientation, competitor orientation and inter-task coordination and two decision criteria including long-term focus and profitability. One of the experts says:

"I'm saying it for sure and for 100% that companies have disregarded their won market and they will never achieve their own strategic objectives and they will be discussed in this domain as the followers and none of them would be mentions as an influential brand."

4. Discussion and Conclusion

Considering and strengthening the market, especially in the insurance domain is one of the important and key issues in improving and managing risk and investment in the society. Considering the functions of insurance in Iran, except for Third-person insurance, insurance industry was never successful in expanding its market. This fact validates the point that insurance industry hasn't been successful in improving its penetration and consistent penetration within different segments of the market. It seems that the macro strategies of insurance industry haven't been successfully implemented in this market and this endangered market's strengthening and development. This problem requires attention from different parts of the society toward policy-making in this domain in order to increase its penetration and market expansion. However, as it was said in the paper, the lower penetration rate observed in the society is not exclusively related to lack of good performance in insurance industry and insurance institutions. on the contrary, lack of optimal coordination among national; economic factors, weakness of insurance culture development, inappropriateness of insurance fees, lack of consideration toward the significance of insurance in having a healthy economics and finally the weakness observed toward effective policy-making and lack of widespread and awareness-increasing advertisement are among the factors contributing to slow development of this rate in Iran. Codification of appropriate strategies in this area requires positive macro perspectives toward insurance industry and coordination between different parts. Therefore, the main objective of this study was to provide a policy-making model for the development of national insurance services market. In this study, the researcher tried to make used of a qualitative approach for providing a proper policy making in order to penetrate into the market. One of the important parts for gathering fata that was considered as significant in this study was the topic of interview. The researcher could develop a final model regarding market development by using a grounded theory comprised of six parts. In fact, this model attempts to argue that market development is dependent upon strategies for the creation of a positive image, innovation orientation and entrepreneurship orientation. On the other hand. The strategies are influences by the main phenomenon, i.e. market orientation and intervening factors like dynamism of the industry and the context of society which is culture. Finally, the main phenomenon, being market orientation is influenced by organizations' futurism and industry's infrastructures. Eventually, this research suggests that insurance companies should attempt to clarify their own perspectives and long-term objectives specified in their planning initiatives and they also should consider powerful companies as well, so as not to waste their time and energy. In addition, it is suggested that we should use technology and web-based services for policy-making. Using cloud computing systems for speeding up, and using web-based systems for improving relationships are among t=other factors to be considered in this relationship. On the other hand, it is argued that using national potentials like national media will b effective in crating the necessary culture to make use of insurance and its advantages. In fact, using national television, using national capacities in providing incentives for using country's insurance and the necessity of that, increasing public awareness with regard to insurance mechanisms and coherent advertisement in social networking websites by central insurance to cover various branches of insurance are among other initiatives to be taken. Another recommendation is to use those injured and damaged people's experiences in order to create an awareness of insurance services and benefits and central insurance should have a more active role in this domain.

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Hypothesis Testing for the Questionnaire Investigation on the Needs at Fuji City

Yuki Higuchi[1], Akane Okubo[2], Daisuke Suzuki[3] & Kazuhiro Takeyasu[4]

[1]Faculty of Business Administration, Setsunan University, Japan

[2]NIHON University Junior College, Japan

[3]Fujisan Area Management Company, Japan

[4]College of Business Administration, Tokoha University, Japan

Correspondence: Yuki Higuchi, Faculty of Business Administration, Setsunan University, Japan.

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Abstract

Shopping streets at local city in Japan became old and are generally declining. In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Four big festivals are held at Fuji city. Many people visit these festivals including residents in that area. Therefore a questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. Hypothesis testing was executed based on that. We have set 9 Null hypotheses. In the hypothesis testing, 4 cases out of 9 null hypotheses were rejected and nearly half of hypotheses were insisted clearly. We have obtained fruitful results. To confirm the findings by utilizing the new consecutive visiting records would be the future works to be investigated.

Keywords: Fuji city, area rebirth, regional vitalization, festival, hypothesis testing

1. Introduction

Shopping streets at local city in Japan are generally declining. It is because most of them were built in the so-called "High Growth Period (1954-1973)". Therefore they became old and area rebirth and/or regional revitalization are required everywhere.

There are many papers published concerning area rebirth or regional revitalization. Inoue (2017) has pointed out the importance of tourism promotion. Ingu et al. (2017) made a study on the application of geothermal power generation to local revitalization in Obama Town. Kotani (2017) developed the project of shutter art to Wakkanai Chuo shopping street in Hokkaido/Japan. Ohkubo (2017) has made a questionnaire research at Jigenji shopping street in Kagoshima Prefecture/Japan and analyzed the current condition and future issues. For about tourism, many papers are presented from many aspects as follows.

Yoshida et al. designed and conducted a visitor survey on the spot which used a questionnaire to investigate the activities of visitors to the Ueno district in Taito ward/Tokyo. Doi et al. analyzed the image of the Izu Peninsula as a tourist destination in their 2003 study "Questionnaire Survey on the Izu Peninsula." Kano conducted tourist behavior studies in Atami city in 2008, 2009, 2014 and in other years.

In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Fuji city is located in Shizuoka Prefecture. Mt. Fuji is very famous all around the world and we can see its beautiful scenery from Fuji city which is located at the foot of Mt. Fuji. There are two big shopping street in Fuji city. One is Yoshiwara shopping street and another one is Fuji shopping street. They became old and building area rebirth and regional revitalization plan have started. Following investigation was conducted by the joint research group (Fuji Chamber of Commerce & Industry, Fujisan Area Management Company, Katsumata Maruyama Architects, Kougakuin University and Tokoha University). The main project activities are as follows.

A Investigation on the assets which are not in active use

B Questionnaire Investigation to Entrepreneur

C Questionnaire Investigation to the residents and visitors

After that, area rebirth and regional revitalization plan were built.

In this paper, we handle above stated C. Four big festivals are held at Fuji city. Two big festivals are held at Yoshiwara district(Yoshiwara shopping street) and two big festivals at Fuji district(Fuji shopping street). At Yoshiwara district, Yoshiwara Gion Festival is carried out during June and Yoshiwara Shukuba (post-town) Festival is held during October. On the other hand, Kinoene Summer Festival is conducted during August and Kinoene Autumn Festival is performed during October at Fuji district. Many people visit these festivals including residents in that area.

Therefore questionnaire investigation of C is conducted during these periods. Finally, we have obtained 982 sheets (Yoshiwara district: 448, Fuji district: 534). Basic statistical analysis and Hypothesis testing analysis are executed based on that.

In this paper, a questionnaire investigation is executed in order to clarify residents and visitors' needs for the shopping street and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. Hypothesis testing was executed based on that. We have set 9 Null hypotheses. Some interesting and instructive results are obtained.

The rest of the paper is organized as follows. Outline of questionnaire investigation is stated in section 2. In section 3, Hypothesis testing is executed which is followed by the Remarks is stated in section 4.

2. Outline and the Basic Statistical Results of the Questionnaire Research

2.1 Outline of the Questionnaire Research

A questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street, and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. The outline of questionnaire research is as follows. Questionnaire sheet is attached in Appendix.

1) Scope of investigation: Residents and visitors who have visited four big festivals at Fuji city in Shizuoka Prefecture, Japan

2) Period: Yoshiwara Gion Festival: June 11,12/2016 Yoshiwara Shukuba (post-town) Festival: October 9/2016 Kinoene Summer Festival: August 6,7/2016 Kinoene Autumn Festival: October 15,16/2016

3) Method: Local site, Dispatch sheet, Self-writing

4) Collection: Number of distribution 1400, Number of collection 982(collection rate 70.1%), Valid answer 982

2.2 Basic Statistical Results

Now, we show the main summary results by single variable.

2.2.1 Characteristics of Answers

(1) Sex (Q7)

Male 48.9%, Female 51.1%

These are exhibited in Figure 1.

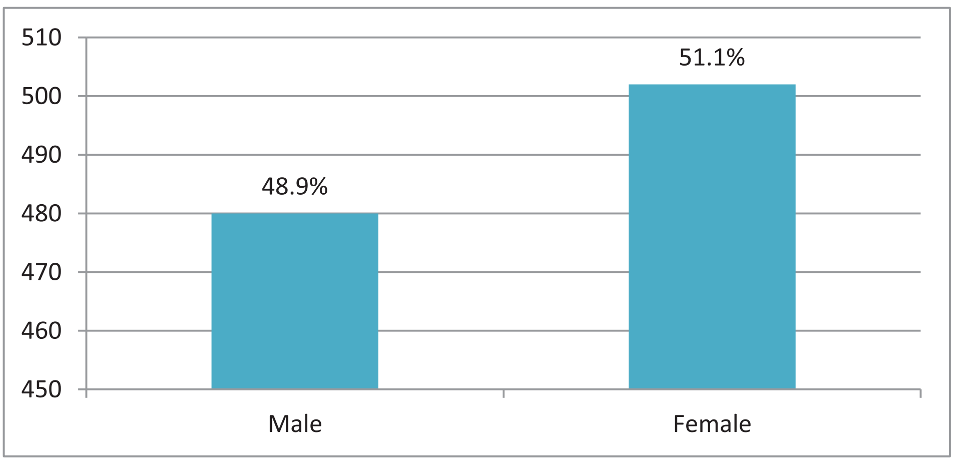

Figure 1. Sex (Q7)

(2) Age (Q8)

10th 16.2%, 20th 14.8%, 30th 22.4%, 40th 17.4%, 50th 11.6%, 60th 10.5%, More than 70 7.1%

These are exhibited in Figure 2.

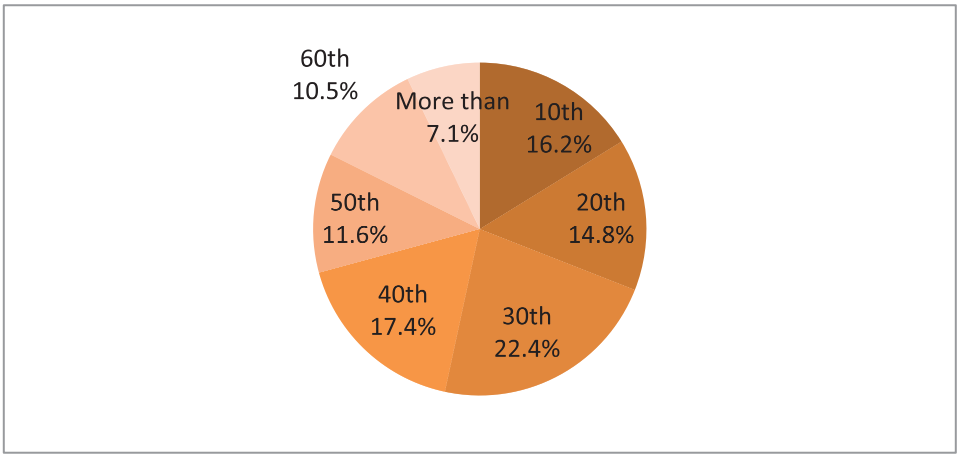

Figure 2. Age (Q8)

(3) Residence (Q9)

a. Fuji city 56.4%, b. Fujinomiya city 18.0%, c. Numazu city 7.2%, d. Mishima city 2.3%, e. Shizuoka city 4.2%, F. Else (in Shizuoka Prefecture) 5.1%, g. Outside of Shizuoka Prefecture 6.9%

These are exhibited in Figure 3.

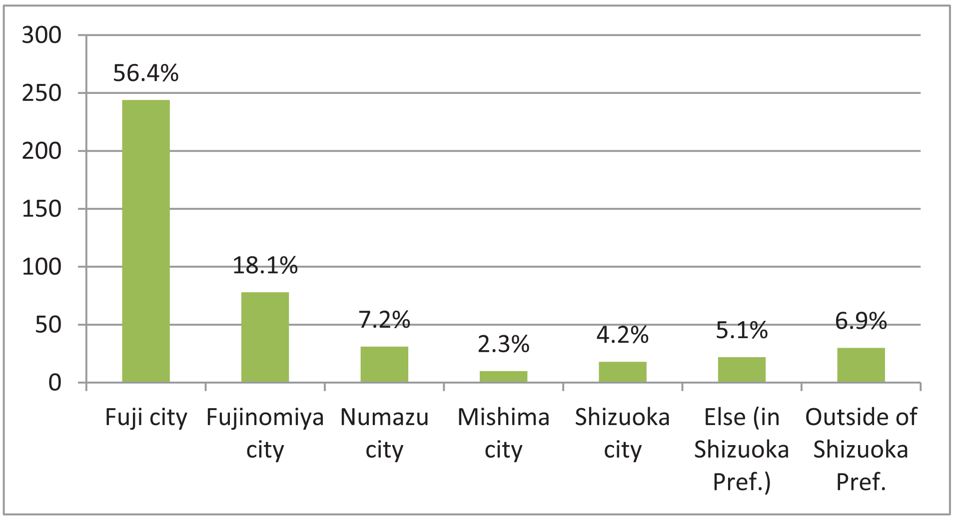

Figure 3. Residence (Q9)

2.1.2 Summary Results for the Items Used in Hypothesis Testing

(1) How often do you come to this shopping street? (Q1)

Everyday 17.4%, More than 1 time a week 16.5%, More than 1 time a month 25.8%, More than 1 time a year 31.6%, First time 4%, Not filled in 4.8%

These are exhibited in Figure 4.

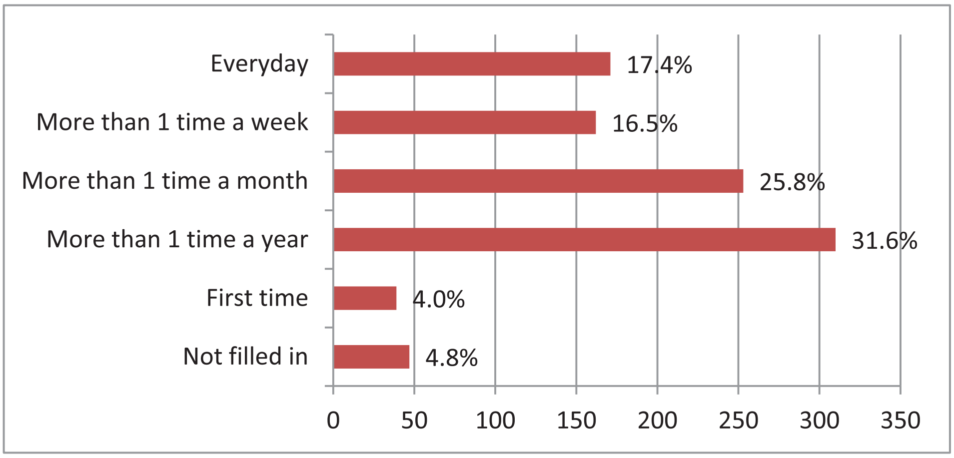

Figure 4. How often do you come to this shopping street? (Q1)

(2) What is the purpose of visiting here? (Q2)

Shopping 18.8%, Eating and drinking 13.4%, Business 7.4%, Celebration, event 40.2%, Leisure, amusement 4.0%, miscellaneous 16.1%

These are exhibited in Figure 5.

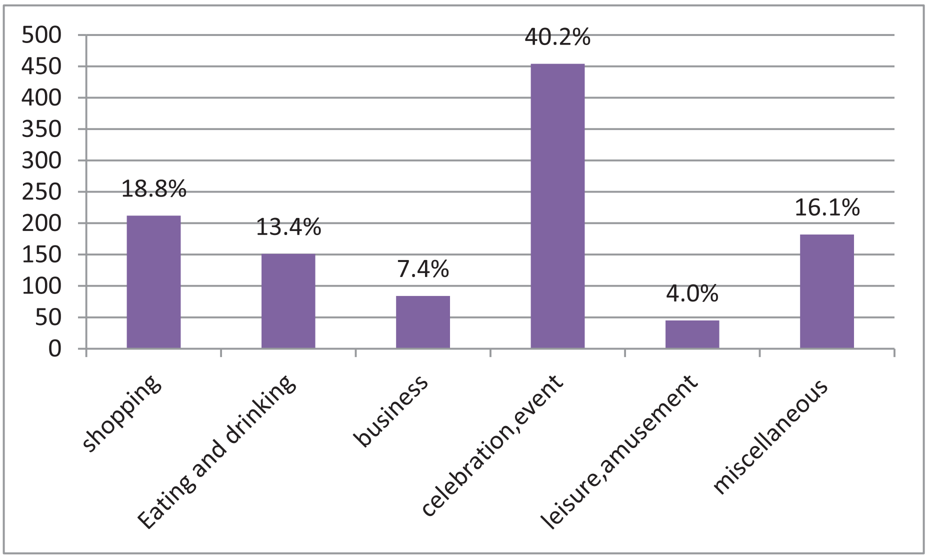

Figure 5. What is the purpose of visiting here? (Q2)

(3) How do you feel about the image of the surrounding area at this shopping street? (Q3)

Beautiful 51.5%, Ugly 48.5%, Of the united feeling there is 45.6%, Scattered 54.4%, Varied 39.2%, Featureless 60.8%, New 32.4%, Historic 67.6%, Full of nature 54.5%, Urban 45.5%, Cheerful 46.5%, Gloomy 53.5%, Individualistic 44.0%, Conventional 56.0%, Friendly 59.5%, Unfriendly 40.5%, Healed 53.7%, Stimulated 46.3%, Open 46.2%, exclusive 53.8%, Want to reside 44.3%, Do not want to reside 55.7%, Warm 58.5%, Aloof 41.5%, Fascinating 45.5%, Not fascinating 54.5%, Want to play 47.4%, Want to examine deliberately 52.6%, Lively 38.4%, Calm 61.6%, Atmosphere of urban 29.1%, Atmosphere of rural area 70.9%

These are exhibited in Figure 6.

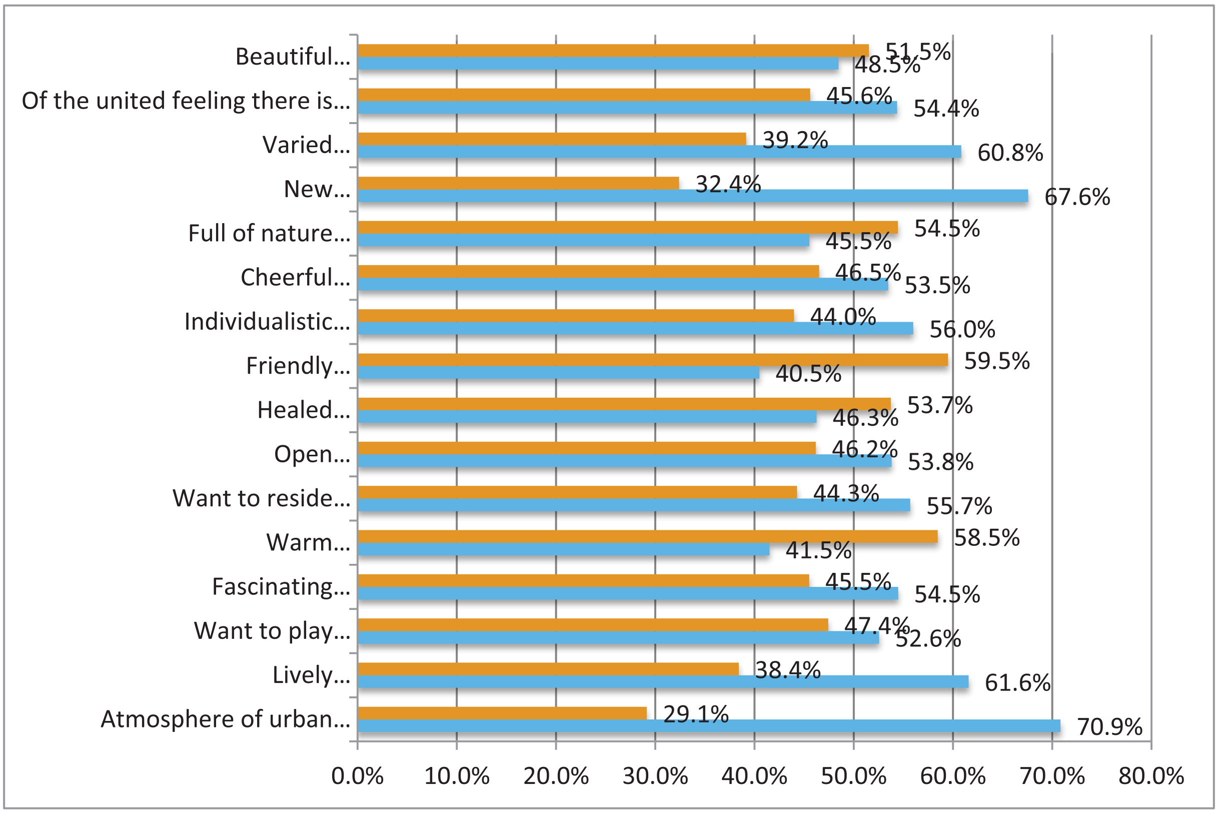

Figure 6. How do you feel about the image of the surrounding area at this shopping street? (Q3)

(4) There are many old building at the age of nearly 50 years. Do you think we can still use them? (Q4)

(We explain it a little more bit. As there often arises earthquake in Japan, many buildings are re-built after 50 years they have been built. But some of them can still be useful with some repairs. That is why this question is executed.)

Can use it 44.1%, Cannot use it 31.4%, Have no idea 24.5%

These are exhibited in Figure 7.

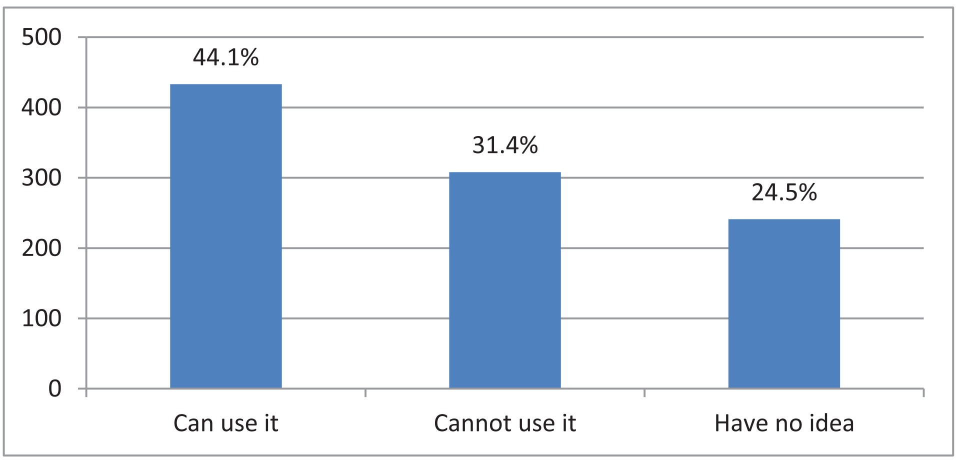

Figure 7. There are many old building at the age of nearly 50 years. Do you think we can still use them? (Q4)

3. Hypothesis Testing

Hereinafter we make hypothesis testing based upon the questionnaire investigation data.

3.1 Setting Hypothesis

We set the following 9 themes before setting Null Hypothesis.

A-1) Those who come frequently (every day) think that old buildings cannot be used.

A-2) Those who do not come so often (once a year) think that old buildings cannot be used.

A-3) Those who are at the age of less than 40 think that old buildings can be used.

A-4) Men think that old buildings cannot be used.

A-5) Those who answered that old buildings can be used think that they want to reside.

A-6) Those who answered that the image of the street is lively think that they want to reside.

A-7) Those who came from far away (Miscellaneous in Shizuoka Prefecture, Outside of Shizuoka Prefecture) think that they cannot judge whether old buildings can be used or not.

A-8) Those who answered that the purpose of visiting the shopping street is eating and drinking are male in majority.

A-9) Those who live in Fuji city have the purpose of eating and drinking while visiting the shopping street.

Now, we set the following 9 Null hypotheses.

B-1) There is not so much difference whether "those who come frequently (every day) think that old buildings cannot be used" or not.

B-2) There is not so much difference whether "those who do not come so often (once a year) think that old buildings cannot be used" or not.

B-3) There is not so much difference whether "those who are at the age of less than 40 think that old buildings can be used" or not.

B-4) There is not so much difference whether "men think that old buildings cannot be used" or not.

B-5) There is not so much difference whether "those who answered that old buildings can be used think that they want to reside" or not.

B-6) There is not so much difference whether "those who answered that the image of the street is lively think that they want to reside" or not.

B-7) There is not so much difference whether "those who came from far away (Miscellaneous in Shizuoka Prefecture, Outside of Shizuoka Prefecture) think that they cannot judge whether old buildings can be used or not" or not.

B-8) There is not so much difference whether "t hose who answered that the purpose of visiting the shopping street is eating and drinking are male in majority" or not.

B-9) There is not so much difference whether "those who live in Fuji city have the purpose of eating and drinking while visiting the shopping street" or not.

3.2 Hypothesis Testing

x^2 hypothesis testing is executed in order to clarify tourists' behavior. x^2 hypothesis testing is to clarify the difference between the expected value and the observed data, which is shown in Eq.(1).

$$x^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} \tag{1}$$

Where O_i is an observed data and E_i is an expected value. The results of statistical hypothesis testing are as follows.

Null Hypothesis B-1) There is not so much difference whether "those who come frequently (every day) think that old buildings cannot be used" or not.

Summary table concerning Null Hypothesis B-1**)** is exhibited in Table 1.

Table 1. Summary table for Null Hypothesis B-1**)**

Q1: How often do you come to this shopping street? : Everyday

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

Q1		Q4 Can use it	Cannot use it / Have no idea	Total
Everyday	Frequency	79	92	171
	%	46.20	53.80	100.00
Less than that	Frequency	332	432	764
	%	43.46	56.54	100.00
Total	Frequency	411	524	935
	%	43.96	56.04	100.00
			significance probability	0.514

The null hypothesis is not rejected. It can be said that there is not so much difference whether "those who come frequently (every day) think that old buildings cannot be used" or not.

Null Hypothesis B-2): There is not so much difference whether "those who do not come so often (once a year) think that old buildings cannot be used" or not.

Summary table concerning Null Hypothesis B-2) is exhibited in Table 2.

Table 2. Summary table for Null Hypothesis B-2)

Q1: How often do you come to this shopping street? : 1 time a year

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

Q1		Q4 Can use it	Cannot use it / Have no idea	Total
1 time a year	Frequency	130	180	310
	%	41.94	58.06	100.00
More than that	Frequency	281	344	625
	%	44.96	55.04	100.00
Total	Frequency	411	524	935
	%	43.96	56.04	100.00
			significance probability	0.380

The null hypothesis is not rejected. It can be said that there is not so much difference whether "those who do not come so often (once a year) think that old buildings cannot be used" or not.

Null Hypothesis B-3) There is not so much difference whether "those who are at the age of less than 40 think that old buildings can be used" or not.

Summary table concerning Null Hypothesis B-3) is exhibited in Table 3.

Table 3. Summary table for Null Hypothesis B-3)

Q8: Age

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

Q8		Q4 Can use it	Cannot use it / Have no idea	Total
Less than 40th	Frequency	309	386	695
	%	44.46	55.54	100.00
More than 50th	Frequency	124	163	287
	%	43.21	56.79	100.00
Total	Frequency	433	549	982
	%	44.09	55.91	100.00
			significance probability	0.719

The null hypothesis is not rejected. It can be said that there is not so much difference whether "those who are at the age of less than 40 think that old buildings can be used" or not.

Null Hypothesis B-4) There is not so much difference whether "men think that old buildings cannot be used" or not.

Summary table concerning Null Hypothesis B-4) is exhibited in Table 4.

Table 4. Summary table for Null Hypothesis B-4)

Q7: Sex

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

		Q4			
Q7		Can use it	Cannot use it	Have no idea	Total
Male	Frequency	212	168	100	480
	%	44.17	35.00	20.83	100.00
Female	Frequency	221	140	141	502
	%	44.02	27.89	28.09	100.00
Total	Frequency	433	308	241	982
	%	44.09	31.36	24.54	100.00
				significance probability	0.010

The null hypothesis is rejected with 1% significance level. It can be said that men think that old buildings cannot be used.

Null Hypothesis B-5) There is not so much difference whether "those who answered that old buildings can be used think that they want to reside" or not.

Summary table concerning Null Hypothesis B-5) is exhibited in Table 5.

Table 5. Summary table for Null Hypothesis B-5)

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

Q3: How do you feel about the image of the surrounding area at this shopping street? : Want to reside

		Q3: Want to reside		
Q4		Think so/ Not specified	Do not think so	Total
Can use it	Frequency	284	149	433
	%	65.59	34.41	100.00
Cannot use it / Have no idea	Frequency	309	240	549
	%	56.28	43.72	100.00
Total	Frequency	593	389	982
	%	60.39	39.61	100.00
			significance probability	0.003

The null hypothesis is rejected with 1% significance level. It can be said that those who answered that old buildings can be used think that they want to reside.

Null Hypothesis B-6) There is not so much difference whether "those who come frequently (every day) think that old buildings cannot be used" or not.

Summary table concerning Null Hypothesis B-6) is exhibited in Table 6.

Table 6. Summary table for Null Hypothesis B-6)

Q3: How do you feel about the image of the surrounding area at this shopping street? : Lively

Q3: How do you feel about the image of the surrounding area at this shopping street? : Want to reside

Q3: Lively		Q3: Want to reside Think so/ Not specified	Do not think so	Total
Think so/ Not specified	Frequency	341	127	468
	%	72.86	27.14	100.00
Do not think so	Frequency	252	262	514
	%	49.03	50.97	100.00
Total	Frequency	593	389	982
	%	60.39	39.61	100.00

significance probability 0.000

The null hypothesis is rejected with 1% significance level. It can be said that those who answered that the image of the street is lively think that they want to reside.

Null Hypothesis B-7) There is not so much difference whether "those who came from far away (Miscellaneous in Shizuoka Prefecture, Outside of Shizuoka Prefecture) think that they cannot judge whether old buildings can be used or not" or not.

Summary table concerning Null Hypothesis B-7) is exhibited in Table 7.

Table 7. Summary table for Null Hypothesis B-7)

Q9: Residence

Q4: There are many old building at the age of nearly 50 years. Do you think we can still use them?

Q9		Q4 Can use it	Cannot use it/ Have no idea	Total
Neighborhood	Frequency	411	519	930
	%	44.19	55.81	100.00
Far away	Frequency	22	30	52
	%	42.31	57.69	100.00
Total	Frequency	433	549	982
	%	44.09	55.91	100.00

significance probability 0.790

The null hypothesis is not rejected. It can be said that there is not so much difference whether "those who came from far away (Miscellaneous in Shizuoka Prefecture, Outside of Shizuoka Prefecture) think that they cannot judge whether old buildings can be used or not" or not.

Null Hypothesis B-8) There is not so much difference whether "t hose who answered that the purpose of visiting the shopping street is eating and drinking are male in majority" or not.

Summary table concerning Null Hypothesis B-8) is exhibited in Table 8.

Table 8. Summary table for Null Hypothesis B-8)

Q7: Sex

Q2: What is the purpose of visiting here? : Eating and drinking

Q7		Q2: Eating and drinking No	Yes	Total
Male	Frequency	386	94	480
	%	80.42	19.58	100.00
Female	Frequency	445	57	502
	%	88.65	11.35	100.00
Total	Frequency	831	151	982
	%	84.62	15.38	100.00
			significance probability	0.000

The null hypothesis is rejected with 1% significance level. It can be said that those who answered that the purpose of visiting the shopping street is eating and drinking are male in majority.

Null Hypothesis B-9) There is not so much difference whether “those who live in Fuji city have the purpose of eating and drinking while visiting the shopping street” or not.

Summary table concerning Null Hypothesis B-9) is exhibited in Table 9.

Table 9. Summary table for Null Hypothesis B-9)

Q9: Residence

Q2: What is the purpose of visiting here? : Eating and drinking

Q9		Q2: Eating and drinking No	Yes	Total
Fuji city	Frequency	664	129	793
	%	83.73	16.27	100.00
Else	Frequency	167	22	189
	%	88.36	11.64	100.00
Total	Frequency	831	151	982
	%	84.62	15.38	100.00
			significance probability	0.113

The null hypothesis is not rejected. It can be said that there is not so much difference whether “those who live in Fuji city have the purpose of eating and drinking while visiting the shopping street” or not.

4. Remarks

The Results for Hypothesis Testing are as follows. We set the following 7 themes.

A-1) Those who come frequently (every day) think that old buildings cannot be used.

A-2) Those who do not come so often (once a year) think that old buildings cannot be used.

A-3) Those who are at the age of less than 40 think that old buildings can be used.

A-4) Men think that old buildings cannot be used.

A-5) Those who answered that old buildings can be used think that they want to reside.

A-6) Those who answered that the image of the street is lively think that they want to reside.

A-7) Those who came from far away (Miscellaneous in Shizuoka Prefecture, Outside of Shizuoka Prefecture) think that they cannot judge whether old buildings can be used or not.

A-8) Those who answered that the purpose of visiting the shopping street is eating and drinking are male in majority.

A-9) Those who live in Fuji city have the purpose of eating and drinking while visiting the shopping street. 4

cases out of 9 are rejected and nearly half of hypotheses (A-4, A-5, A-6, A-8) were insisted clearly.

5. Conclusion

Shopping streets at local city in Japan became old and are generally declining. In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Four big festivals are held at Fuji city. Many people visit these festivals including residents in that area. Therefore a questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. Hypothesis testing was executed based on that.

In the hypothesis testing, 4 out of 9 null hypotheses were rejected and nearly half of hypotheses (A-4, A-5, A-6, A-8) were insisted clearly.

It was made clear that there are many people who want to reside near the vital shopping street. Men mainly visit the shopping street for the purpose of eating and drinking and think that old building can still use it. To make promotion to such people is a way to increase population.

There is a limitation in this research that the research period is restricted during the festival time. As for this, the questionnaire investigation should be executed in the plural years and should be analyzed. Further study on this will bring forth much more exquisite analysis.

These are utilized for constructing a much more effective and useful plan building.

Although it has a limitation that it is restricted in the number of research, we could obtain the fruitful results. To confirm the findings by utilizing the new consecutive visiting records would be the future works to be investigated.

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Appendix

Questionnaire Sheet about the Image Around the Shopping Street

1. How often do you come to this shopping street?

   a. Everyday b. ( ) times a week c. ( ) times a month d. ( ) times a year e. miscellaneous ( )

2. What is the purpose of visiting here? (Plural answers allowed)

   a. shopping b. eating and drinking c. business d. celebration, event e. leisure, amusement f. miscellaneous ( )

3. How do you feel about the image of the surrounding area at this shopping street? Select the position.

Beautiful	• • • • •	Ugly
Of the united feeling there is	• • • • •	Scattered
Varied	• • • • •	Featureless
New	• • • • •	Historic
Full of nature	• • • • •	Urban
Cheerful	• • • • •	Gloomy
Individualistic	• • • • •	Conventional
Friendly	• • • • •	Unfriendly
Healed	• • • • •	Stimulated
Open	• • • • •	exclusive
Want to reside	• • • • •	Do not want to reside
Warm	• • • • •	Aloof
Fascinating	• • • • •	Not fascinating
Want to play	• • • • •	Want to examine deliberately
Lively	• • • • •	Calm
Atmosphere of urban	• • • • •	Atmosphere of rural area

4. There are many old building at the age of nearly 50 years. Do you think we can still use them?

   a. Can use it b. Cannot use it C. Have no idea

5. Is there any functions or facilities that will be useful?

6. Comments

7. Sex

   a. Male b. Female

8. Age

   a.10th b.20th c.30th d.40th e.50th f.6th g. More than70

9. Residence

   a. Fuji City b. Fujinomiya City c. Numazu City d. Mishima City e. Shizuoka City f. Miscellaneous in Shizuoka Prefecture g. Outside of Shizuoka Prefecture [ ]

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Measuring the Effectiveness of National Enforcers in the IFRS Context: A Proactive Approach

Alberto Quagli[1], Francesco Avallone[1], Paola Ramassa[1] & Lorenzo Motta[1]

[1]Department of Economics and Business Studies, University of Genoa, Italy

Correspondence: Paola Ramassa Department of Economics and Business Studies, University of Genoa, Italy.

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Abstract

It is widely acknowledged that an effective enforcement system represents a crucial element to achieve significant improvements in financial reporting through the adoption of high-quality accounting standards. Indeed, the quality of financial reporting is considerably influenced not only by the standards to be adopted but also by their actual implementation, and consequently by enforcement mechanisms.

The topic has generated considerable interest among scholars, who devoted their attention to developing different measures of the quality of the enforcement system. Building upon this literature, this paper aims at exploring the accounting enforcement system and focuses on controls over financial reporting considering two levels, namely the auditing activity and the controls performed by national enforcers.

This paper extends the prior literature by proposing a dynamic measure of the accounting enforcement system capturing controls at those two levels. More specifically, the index here proposed focuses on the quality of the accounting enforcement operated by national enforcers in terms of proactivity, intended as the national enforcers' capability to detect problems not highlighted in the auditors' opinions, thus shifting the focus from an input to an output perspective. Indeed, the activities of auditors and national enforcers are strictly connected, given that the auditors' opinion is the first public output of accounting controls and that is normally one of the bases for further investigation by national enforcers. An illustrative empirical analysis is carried out on the German and the Italian contexts to show the potential of the index for enforcement studies.

Keywords: accounting enforcement, financial reporting, IFRS, Europe, auditing, enforcement measures

1. Introduction

The relevance of the enforcement system in influencing accounting quality has received growing interest in the academic literature. Evidence suggests that the simple adoption of high-quality standards, such as IFRS, is not sufficient to increase homogeneously the quality of the accounting numbers resulting from those standards, and the accounting enforcement has a relevant influence on the phenomenon.

The accounting enforcement for publicly listed companies is a complex system where several subjects interact (Quagli & Ramassa, 2017). We can identify two subsystems (Figure 1): the company level and the external one. Within the company level, many subjects can be involved on accounting topics, including the internal auditor, the audit committee inside the board, up to the general shareholders meeting that approves the financial reports prepared by the CEO and the CFO. At a company level, the external auditor operates as a fundamental link between the internal level and the external one, considering that the external auditor informs public enforcers about any weakness found during his work. The external subsystem is based on the activity of the national enforcer, able to enforce accounting errors and frauds by imposing the restatement of financial reports, giving sanctions to companies and managers, and activating courts for the most serious cases. Press and public opinion, as well as financial markets, use information from those subjects to penalize companies for their misreporting. In some jurisdictions (i.e. the US) private enforcers are very active subjects as well, originating private litigations to defend the investors' interests against the company managers responsible for accounting errors.

This depicted system has specific features depending on the country. In particular, for the European countries, it is worth noting that ESMA operates a supra-national coordination of national enforcers following the EU decision of mandatory IFRS adoption in the consolidated financial statements of the EU listed companies. In a strict sense, the most acknowledged enforcers are the national enforcers, as they have the legal authority to give sanctions and impose corrections and restatements of the financial information disclosed to markets. In this perspective, auditors do not have a similar power, since they can only signal to markets the errors observed in their review. However, markets generally perceive qualified or negative auditors' opinions as a risk increase on the company, with consequent negative reactions (Chen et al., 2000; Menon & Williams, 2010). Therefore, auditors can be deemed as "substantial" enforcers (Chen et al., 2000), being on the front line to ensure high-quality financial reporting (FEE, 2001).

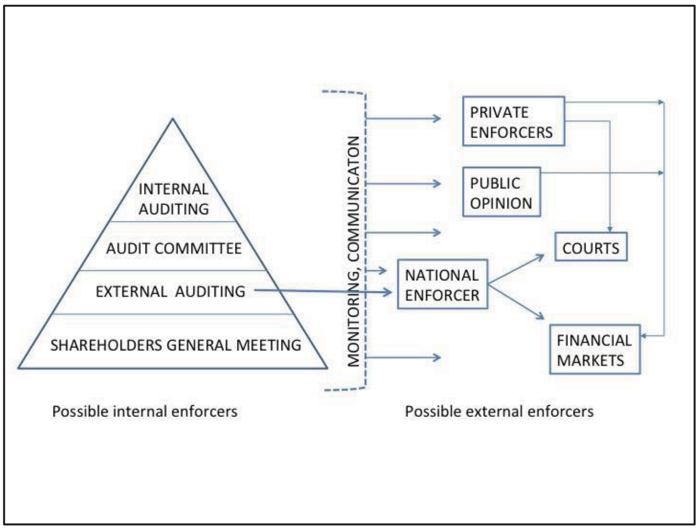

Figure 1. The accounting enforcement system (Source: Quagli & Ramassa, 2017)

Accounting enforcement can originate many processes, composed of different steps and involving more than a single subject (Figure 1). The possible situations are various, for instance the triggering events of an enforcement activity can be located at an external level (i.e. a decision of the national enforcer can originate both private enforcement activity and court lawsuits) or at an internal level (i.e. the auditor's opinion can inform audit committees and shareholders and deny the approval of financial statements in their meetings).

The relationship between the national enforcer and the auditors is a relevant link in the enforcement system. The ESMA Guideline 5 (ESMA, 2014) deals with the selection criteria for the regular monitoring activity of the national enforcer and establishes that the enforcer's selection model "should be based on a mixed model whereby a risk-based approach is combined with a sampling and/or a rotation approach". The guideline specifies that the risk approach implies "indications from the auditors of misstatements, whether in their reports or otherwise, will normally trigger a selection of the financial information in question for examination. Indications of misstatements provided by auditors or regulatory bodies as well as grounded complaints should be considered for enforcement examinations. On the other hand, an unqualified opinion from an auditor should not be considered as proving the absence of risk of a misstatement. Enforcement examinations should be considered where, after preliminary scrutiny, a complaint received appears reliable and relevant for a possible enforcement examination."

In this context, one of the most difficult challenges for researchers on this topic is to develop relevant measures for the intensity of enforcement in a country, to be used in comparisons among countries and to evaluate the influence of the enforcement system on accounting quality at an aggregate level. Within this complex system, many papers focused on the activity of single subjects but they suffer the lack of data on the outputs of the most relevant enforcers, the auditors, and the national enforcers. Such limitations imply that detailed analyses of national enforcement systems deal only with countries with publicly available data (i.e. the US and Germany).

This paper proposes a new kind of measure, the national enforcers' proactivity (NEP) ratio, based on the unexplored relationship between national public enforcer and companies' auditors. This focus allows adding a dynamic perspective to scrutinize the enforcement process whereas the extant literature mainly uses a static analysis, often focused on a single subject. In particular, the index here proposed is determined as the percentage of accounting enforcement actions adopted by the national enforcer that do not regard financial statements that received qualified or negative opinions by the auditors. This index can help researchers to catch the effectiveness of national enforcers in terms of proactivity, measured by enforcement actions based on their own initiative (without being prompted by auditors). In such a perspective, it can support studies aimed at exploring whether -

and to what extent - national public enforcers use auditors' opinion as a major input of their activity or, alternatively, their enforcement decisions are proactive respect to the auditor's work.

The index can also allow a comparison of the effectiveness of national enforcers between countries if we posit that the monitoring activity performed by auditors is less affected by country differences. This proposal, in other words, is based on the idea that the effectiveness of national enforcers can be measured by observing the number of enforcement proactive actions not previously "suggested" by auditors with their opinions on the companies' reports.

An illustrative empirical analysis is then carried out to show the potential of the index for enforcement studies. In particular, the exploratory analysis investigates the enforcement actions by the German and the Italian enforcers regarding consolidated financial statements of listed companies from the first year of IFRS mandatory adoption. Findings highlight a different degree of proactivity between the Italian and the German enforcers, with a higher ability of the German one to conduct autonomous analyses resulting in enforcement actions. Empirical evidence suggests that the Italian authority is more reactive in monitoring listed companies, relying more on auditors' opinions instead of pursuing new investigations.

This study contributes to enforcement literature as it sheds light on the enforcement process and the links between key actors favoring a dynamic perspective. Additionally, our findings have relevant policy implications as they allow an evaluation of the role played by public enforcers and auditors in terms of errors undetected by the latter and found by the formers.

The remainder of the paper is organized as follows. The next section discusses prior literature on the enforcement system, its effects on financial reporting and markets, as well as the measures of their intensity. The development of the NEP index is explained in section 3, and section 4 illustrates the research design of the illustrative empirical analysis conducted on the enforcement systems adopted in Germany and Italy. Section 5 presents the findings, and section 6 provides concluding comments and some implications for future research.

2. Literature Review

The relevance of the enforcement system in influencing accounting quality has received growing interest in the academic literature. This interest increased since the worldwide adoption of the IFRS, deemed as high-quality standards, does not seem sufficient to increase homogeneously the quality of the accounting numbers resulting from those standards. From the first studies on the international comparisons of accounting quality (Ball et al., 2000; Ball et al., 2003), an impressive number of papers demonstrated in a IFRS context how cost of capital, liquidity, and others measures of financial markets efficiency, basically depend on the enforcement intensity existing in the different countries (Daske et al. 2008; Armstrong et al., 2010; Li, 2010; Landsman et al., 2012; Christensen et al. 2013; Silvers, 2013). When the enforcement system is stronger, also financial analysts' estimates are more accurate (Byard et al., 2011; Demmer et al. 2015; Preiato et al., 2015), the institutional investors' ownership increase (Florou & Pope, 2012), and earnings management behaviours decrease (Cai et al., 2008; Houqe et al. 2012). Finally, in countries with a stronger enforcement, financial disclosure improves as well (Glaum et al., 2013; Gros & Koch, 2015). From all those studies, the importance of the enforcement system clearly emerges. Notwithstanding, this literature has to deal with the challenging measure of the intensity of the accounting enforcement system "to capture differences in enforcement between countries and changes in enforcement within a country over time" (Brown et al., 2014). The interest for the topic favored a rapid sophistication in the soundness of measures.

At the beginning, many of those studies used "static" proxies for this relevant variable, mainly the index originally proposed by La Porta et al., 1997 and La Porta et al., 1998 (used by Hope, 2003, and Leuz et al. 2003), who ranked a group of countries based on the level of investor's protection as resulting from the business community evaluations (i.e. strong rule of law, judicial system efficiency, degree of corruption, specific legal rules to protect creditors and minorities) or the opinions of actors of the national judicial system (La Porta et al., 2006). With a similar static approach, another more recent and comprehensive index rather used in accounting studies is the World Bank's corporate governance ranking of 215 countries (Kaufmann et al., 2011, for example, used by Daske, 2008, and Pownall & Wieczynska, 2013). This stream of studies has also tried to overcome the criticism of measures based only on the "law-on-the-books" by proposing a ranking derived from an international survey to courts aimed at catching the variety of national enforcement system approaches in front of simulated lawsuits (Djankov et al., 2008). This "static" stream evolved to measure the national enforcement intensity considering how the EU countries actually adopted the CESR best practices for the monitoring of financial markets (CESR, 2007, used by Van Beest et al., 2013). A more recent trend of studies tried to measure more specifically the accounting enforcement system, instead of the general indexes of investor protection or corporate governance. Christensen et al. (2013) used the creation of a specific national accounting enforcer after the EU mandatory adoption in 2005 as a proxy of the enforcement intensity (used also in Pownall & Wieczynska, 2013; Silvers, 2013).

On the other side, a more dynamic approach to the definition of this measure was claimed (Holthausen, 2009; Leuz, 2010) due to the incapacity of the law-on-the-books indexes to measure the national enforcer's activity level, both potential and actual, and not only the existence of the legal power to enforce. In this sense, the national enforcer's budget or its number of employees seemed to approximate input variables of the enforcement process (Coffee, 2007; Jackson & Roe, 2009), such as the total national spending in audit fees (Hope, 2003). The total sanctions issued by the national enforcer (Jackson, 2007) are an attempt to measure the output of the same process.

A more recent contribution (Brown et al., 2014, used in Preiato et al., 2015) is of particular interest because it tries to get a more comprehensive view of the whole enforcement system with an index composed of both auditing system and national enforcer features. This index is more focused on the accounting enforcement and ranges from 0 to a maximum of 56, encompassing 51 countries. The audit system features for each country are static measures derived mainly from surveys of accountants' associations (FEE, IFAC) and include, for example, the existence of quality assurance program or ongoing professional development. The measures of the national enforcer effectiveness are both static (existence of specific activity, such as review of financial statements or power to set accounting and auditing standards), and dynamic (such as the level of resourcing or the existence of enforcement actions taken by the national enforcer).

It is worth to recall also a completely different approach to the measure of the enforcement system, which can be defined as an "indirect" approach, as it is based on the effects of low enforcement (Carvajal & Elliott, 2009). In this sense, the magnitude of earnings management indexes (Daouk et al., 2006; DeFond et al., 2011; De George, 2015) existing in the different countries can surrogate a direct measure of the enforcement intensity.

Prior literature shows that the efforts to develop a specific measure of the accounting enforcement have been rapidly improving, but serious limitations continue to exist and methodological questions are still to be addressed. Empirical analyses still suffer for the lack of public data necessary to build dynamic measures. In the EU, for instance, the availability of databases of the public enforcement decisions is very limited, depending on the publicity regime existing in each member country. In this sense, it is very difficult to obtain the national enforcer's outputs, such as the number of decisions and the amount of sanctions issued. The input measures are difficult to get as well, and it is to recall that the traditional measures concern the resourcing of national enforcers at a general level, without a specific reference to the resources spent for the specific accounting enforcement activity.

A common choice for the scientific investigation is to conceive the enforcement as an activity performed by a single actor, typically the national enforcer, instead of a process involving the enforcers both at a firm-level (i.e. the auditors) and at a national level (i.e. the national enforcer agency). It is true that the role of the auditor in a strict sense is not to enforce company's behavior, because the auditor, differently from the national enforcer, has not the power to issue sanctions or to oblige companies to correct accounting errors. Auditors simply issue signals concerning accounting problems to shareholders and financial markets. The enforcement sanctions depending on the auditor activity will be the markets' and shareholders' reactions, such as dropping prices or substitution of CEO and other managers. However, it is a matter of fact that in the real world the national enforcer activity gets fundamental information inputs from the auditors' outputs to start its review, so we argue that the actual whole enforcement process has to deal with both the actors, namely company auditors and the national enforcer.

3. The National Enforcer's Proactivity Ratio

Prior studies paid particular attention to measure the differences in the enforcement systems between countries, while scant attention has been paid to measure the actual activity of national enforcers. Additionally, the relationship between the national enforcer and the auditors has not been investigated in depth yet.

In this study, we consider the enforcement as a process involving both the company auditors and the national enforcement agencies. In such a perspective, it is no wonder that auditors' opinions could anticipate the national enforcers' activity, with adverse or qualified opinions that could certainly be picked up as signals by the market, as well as any other enforcer's initiative undertaken when material misstatements are detected.

The national enforcers' selection process for monitoring companies, even if independent from auditors and normally based on published financial reports, could take auditors' opinion as a starting point. In this regard

ESMA guidelines on enforcement of financial information (ESMA, 2014) require a selection model for enforcement activity based on a mixed model where a risk-based approach is combined with both a rotation and a random sampling approach, considering indications from the auditors as an extremely relevant information to trigger the selection itself. Furthermore, data gathered by external auditors can be useful to supervisors, and the EU Commission recognizes the need to strengthen cooperation between auditors and supervisory authorities even if any cooperation should not be allowed to blur the respective responsibilities (European Commission, 2010). Actually, the ESMA guidelines on enforcement require meetings with auditors and disclosure of matters to the bodies responsible for the audit as examples of examination procedures of an issuer's financial information.

Against this background, we focus on the proactive role of enforcers as monitoring bodies to understand to what extent the national enforcer's actions result from an autonomous activity or are driven by the auditors' reports. Auditors and national enforcers can be seen as parts of the same enforcement process, making it difficult to assess the actual and autonomous role played by each of them. In the light of these considerations, we conduct our analysis to evaluate and isolate the proactivity of national enforcers' actions respect to the activity performed by the auditors.

In pursuit of this objective, we investigate the actual monitoring process of the national enforcer shifting the focus to a deep analysis of national enforcers' actions by developing an index that proxies for the national enforcer's proactivity. Such index can be used as a measure to assess the effectiveness of the national enforcers, observed from a proactivity point of view, looking at their ability to detect unknown errors in its monitoring phase.

The index here proposed is designed also to help researchers to catch both the intensity and the effectiveness of a national enforcer, based on its own autonomous initiative, to allow a cross-country comparison. This kind of interpretation relies on the assumption that the behavior of auditors is more homogeneous compared to national enforcers, as the big audit firms share the same high-quality operating standards and as international organizations have incentives to develop and maintain uniform reputations around the world (Simunic and Stein, 1987). We posit this assumption considering the strong concentration of the audit market, especially in the European context (European Commission, 2010). Thus, the country differences in the enforcement intensity could be studied focusing on the actual actions triggered by the national enforcer.

Our national enforcer's proactivity index (NEP index) is developed taking simultaneously into consideration the outputs of the monitoring activity played by the auditors and the national enforcer. In particular, we adopt an output perspective focusing on audit opinions and on national enforcer's actions regarding the financial statements of the same company in a given year.

As a result, we obtain a classification that can be illustrated by a 2x2 matrix identifying four categories of companies (Figure 2): *i)* companies with modified auditors' opinions but that are not target of enforcement actions (α), *ii)* companies with both enforcement actions and modified opinions (β), *iii)* companies that are target of enforcement actions but without any modified opinion (γ), and *iv)* companies with unmodified opinion and that are not target of enforcement actions (δ). This classification combines the two levels of enforcement represented by auditors and national enforcers highlighting four possible cases.

Absence of enforcement actions	(α) Companies with modified opinion without enforcement actions	(δ) Companies with unmodified opinion and without enforcement actions
Presence of enforcement actions	(β) Companies with modified opinion and subject to enforcement actions	(γ) Companies recipients of enforcement actions with an unmodified opinion
	Auditor's modified opinion	*Auditor's unmodified opinion*

Figure 2. Classification of financial information's issuers

If we consider the national enforcer's perspective, it distinguishes companies target of the enforcer's actions depending on the opinion received by the auditor. Companies belonging to the β group have prepared financial statements with qualified opinions by auditors and have received enforcement actions. In this case, both the levels of enforcement have detected misstatements in the annual report and we can assume that the auditor's opinion has been an extremely relevant input for the national enforcer. On the other side, companies in the γ group received enforcement actions that have not been preceded by a negative auditor's opinion. In this case, the national enforcer shows its proactivity in monitoring and identifying misstatements without receiving a public signal at the audit level.

Companies in groups α and δ have not received enforcement actions, but differ for the auditor's opinion. Auditors have issued a report highlighting some kind of misstatement for group α, while declaring a IFRS compliance for financial statements prepared by group δ. A plausible explanation for the existence of group α could lie in different levels of significance in the misstatement detection between national enforcers and auditors.

Nor the auditors or the national enforcer has found misstatements for companies in group δ. In other words, the market has no signal of infringement by the two levels of the enforcement system. This group includes companies with annual reports actually compliant with IFRS and those for which the enforcement system was not able to detect any error. It is worth noting that, given the unmodified auditor's opinion, these companies might have been not directly checked by the national enforcer due to its sampling procedures.

The NEP index is based on this classification and empirically assesses the "real" and not the auditor-driven activity of national enforcers through the analysis of group γ, considering its relationship with the whole not compliant companies receiving an enforcement action (β+γ). Thus, we compute the actual and unprompted intensity of national enforcement activities as follows:

$$\textit{NEP ratio} = \gamma/(\beta + \gamma) \tag{1}$$

where:

γ = number of firms obtaining enforcement actions but without modified opinions

β = number of firms with modified opinions and obtaining enforcement actions

γ+ β = number of firms with infringement of IFRS framework.

The NEP ratio ranges from 0 to 1 and higher values of this index signal more proactive national enforcers. The maximum proactivity is reached when the NEP ratio equals 1, as all the financial statements target of enforcement actions have been detected by the national enforcer without a modified auditor's opinion. On the contrary, a NEP ratio equal to 0 means that all financial statements with enforcement actions have already received a modified opinion by the auditor.

4. Research Design

To illustrate the potential of the NEP ratio for enforcement studies, we conduct an empirical analysis in an IFRS context. The investigation is based on the joint consideration of enforcement actions and of the auditors' reports regarding the same financial statements in order to identify which actions are the result of an autonomous monitoring activity by the national enforcer.

In particular, the exploratory analysis investigates all the enforcement actions by the German and the Italian enforcers regarding consolidated financial statements from the first year of IFRS mandatory adoption. Before explaining the construction of the NEP index, we briefly describe the characteristics of the German and Italian enforcement systems.

4.1 The Enforcement Systems in Germany and Italy

4.1.1 The Two-Tier German Enforcement System

The predominant characteristic of the enforcement system in Germany is its two-tier structure (Ernstberger et al., 2012), which involves a private institution (the DPR, Deutsche Prüfstelle für Rechnungslegung) and a federal agency (the Bundesanstalt für Finanzdienstleistungsaufsicht - BaFin) that represents the public German enforcer. The first tier involves the DPR Enforcement Panel, as its active body. In the second tier, the Bafin participates in the enforcement process to determine whether an error has occurred when the DPR opinion differs from that of the company, to order the publication of discovered errors, or to perform an examination with sovereign means when a company is not willing to cooperate with the Panel (DPR, 2005). The goal of the enforcement process is to assess the compliance with the relevant accounting principles of recent individual and consolidated financial statements (and their related management reports) of firms listed on regulated markets on domestic stock exchanges.

At the first tier, the Panel can initiate an examination if there are concrete indications of an infringement of financial reporting requirements or following a request of the BaFin. The Panel can also initiate an examination without any indications of an infringement, through a systematic sampling. For this kind of examinations, the Panel uses a combination of random-based and risk-based selection procedures, according to the selection methods admitted by the ESMA Guidelines (ESMA, 2014). The sole assignment of the DPR is to conclude whether the financial statement is erroneous. Because the DPR is a private body without an authoritative power to oblige companies, the Panel only examines the financial statements if the firm under investigation is willing to cooperate; in other words, if the company declares its willingness to cooperate, the legal representatives of the firm (or other persons) are obliged to provide the additional information requested by the DPR. In absence of willingness to cooperate, the DPR notifies BaFin of this situation; in this case, the BaFin will order an examination at the second-tier level. After the examination of the documents, the DPR decides whether the financial statements are erroneous. If the DPR establishes material errors, companies have a sufficient time to decide whether they agree with the DPR findings.

The second tier involves only the BaFin, which initiate an investigation when a firm does not cooperate with the DPR or when the management does not agree completely or partially with the DPR findings (in the case that DPR discovers material errors in the financial statements). However, the most important task of BaFin is to enforce the disclosure of error findings. When erroneous accounting is detected by DPR or by BaFin, BaFin requires companies to disclose these error findings in a press release. These press releases are broadcasted via the electronic platform of the Federal Gazette (the Elektronischer Bundesanzeiger).

The objective of this enforcement system is to achieve compliance of the financial statements through the adverse disclosure. This “name and shame” publicity relies on investor reactions to published error findings. Thus, the only sanction for infringing companies is the negative market reaction, the deterrent for managers to misstate the accounts (Hitz et al., 2012).

4.1.2 The Italian Enforcement System

The Italian enforcement system for listed companies involves only a public enforcer (the Commissione Nazionale per le Società e la Borsa, CONSOB). The main difference from the German system is that there is only one public enforcer that supervises the compliance with the relevant accounting principles of individual and consolidated financial statements. CONSOB can initiate an examination if there is evidence of an infringement of financial reporting requirements (i.e. from a trial in progress) and, like DPR, it also selects firms to examine through a systematic sampling.

In the Italian context, the Legislative Decree n. 58 of 1998 (commonly known as the Testo Unico della Finanza - TUF) and the incorporation into the Italian Law of the European Transparency Directive (with the Legislative Decree n. 195 of 2007) reformed the regulation of financial markets. Following these reforms, CONSOB can choose between two accounting enforcement actions: the *impugnativa di bilancio* (challenge procedure) ex article 157 of TUF and the *accertamento di non conformità* (non-compliance procedure) ex article 154-ter of TUF.

In case of *impugnativa di bilancio*, CONSOB can challenge a shareholders’ meeting resolution approving the annual accounts on the grounds that these accounts do not comply with the relevant financial reporting framework. the Authority can take this action up to six months after the filing of consolidated or annual accounts. With this action, CONSOB can request the courts to verify the conformity of accounts; in particular, the courts may declare null and void the shareholders’ meeting resolution and can require a reissuance of the erroneous financial statements. In case of *accertamento di non conformità*, CONSOB discovers material errors in the annual or half-year financial report of a firm and require it to disclose a correction of the financial report. In particular, CONSOB can require a corrective note and/or a correction in future financial statements with the restatement of comparatives in order to ensure an accurate information compliant with relevant accounting principles. CONSOB states that it uses first the *accertamento di non conformità* and the *impugnativa di bilancio* only for residual cases (CONSOB, 2009). In its 2009 annual report, CONSOB specifies that it uses the *impugnativa di bilancio* only for particular deficit cases, or when the firm does not agree with a previous *accertamento di non conformità* or when a firm repeats the error, previously discovered by an *accertamento di non conformità* in the following financial report. Indeed, from 2009 to 2015 CONSOB used in only 5 cases the *impugnativa di bilancio* and, instead, it has enforced the compliance of financial statements in 18 cases through the *accertamento di non conformità*.

The CONSOB publicity regime is different from the DPR one: information concerning errors findings are available on the corporate website, on the CONSOB electronic platform (the “Bollettino Elettronico”) or in the annual reports of the Authority.

4.2 Data Collection and Analysis

Our analysis focuses on consolidated financial statements by Italian and German listed companies from 2005 to 2014. To develop our index, we first collect data to identify which financial statements have received enforcement actions by national enforcers in the aforementioned time horizon. We use public information regarding enforcement actions, available on national enforcers' websites. We acknowledge that our index, based solely on public information, does not capture other possible private communications. In fact, an exchange of information between public enforcers and auditors/firms that it is not publicized could be supposed. However, we think that public data sources are important to ensure that our index can be implemented in many countries to allow cross-country analyses.

To build the NEP index, we analyze all the erroneous consolidated statements discovered by the German and Italian public enforcers. In particular, we investigate all the enforcement releases published on the electronic platform of the Federal Gazette for the German system. Table 1 reports the sample selection of the German errors findings related to consolidated statements.

Table 1. The auditors' opinions for financial statements with enforcement actions

	No.
Initial errors findings	166
Rephrased versions of earlier error findings	12
Unavailability of auditors'opinion	14
Final observations	140

As highlighted in Table 1, this search leads to an initial sample of 166 erroneous consolidated statements. First, we eliminate 12 observations that represent rephrased versions of earlier error findings, and then we hand-collect all the related auditors' opinions. Finally, we eliminate 14 statements for the unavailability of auditors' opinion, resulting in a sample of 140 observations.

In the same way, we investigate all the CONSOB enforcement actions regarding consolidated statements for the Italian enforcement system. In this case, we use the CONSOB electronic platform (*bollettino elettronico*) and every annual report of the Authority. The initial sample consists in 27 erroneous statements. Then we eliminate 2 *impugnativa di bilancio* that enforce the same statement of an earlier *accertamento di non conformità* and we collect the related auditors' opinion, thus obtaining a sample of 25 observations (17 *accertamenti* and 8 *impugnative*).

Based on those data, we determine how many companies form the groups β (misstatements detected by both auditor and national enforcer) and γ (misstatements detected only by the national enforcer) for each country in every year of the observation period. This analysis is conducted for each financial statement target of at least an enforcement action by the national enforcer.

To compute how many financial statements are part of group β, we consider as signals of possible misreporting all the modified auditors' opinions. In particular, according to ISA 705, auditors shall modify their opinion when they conclude that, based on the evidence obtained, the financial statements are materially misstated or when they are unable to obtain appropriate evidence to conclude that the financial statements are free from material misstatement. Those data are used to compute the NEP ratio for both countries according to the aforementioned formula.

Additionally, we determine a comprehensive NEP ratio considering as a signal of possible misreporting by auditors not only the modified opinions as defined by the ISA 705, but also the unmodified opinion with Emphasis of Matter Paragraph. Auditors, according to ISA 706, shall include an Emphasis of Matter Paragraph to draw users' attention to a matter disclosed in the financial statements, that is fundamental to users' understanding of the statements. For example, auditor may decide to include an Emphasis of Matter Paragraph when exists an uncertainty relating to the future outcome of exceptional litigation or regulatory action.

5. Results

To analyze the nature of the Italian and German national enforcement system, first, we present data on enforcement actions and auditors' opinions. To determine the NEP ratio, we consider as a signal of possible misreporting the qualified opinion, the adverse opinion and the disclaimer of opinion, all the types of modified opinion as defined by the ISA 705. In particular, the auditor expresses an adverse opinion when the evidence obtained leads the auditor to conclude that the misstatements are both material and pervasive. The auditors, instead, qualify the opinion when the misstatements are material but not pervasive. Additionally, auditors express a qualified opinion when they are unable to obtain appropriate and sufficient evidence to conclude whether misstatements exist and the possible effects of undetected errors on financial statements can be material but not pervasive. Furthermore, auditors disclaim an opinion when they are unable to obtain sufficient evidence and they conclude that the possible effects of undetected errors can be material and pervasive. Table 2 reports the different types of auditors' opinions related to the erroneous consolidated statements for both countries.

Table 2. The auditors' opinions for financial statements with enforcement actions

	Italy	Germany
Adverse opinion	1	1
Qualified opinion	2	13
Disclaimer of opinion	3	1
Unmodified opinion	19	125
Total	25	140

It is arguably to note that there is a lack of uniformity between the national enforcer actions and the auditors' reports, in fact for only 20 statements on 165 observations the auditors modify their opinion. In particular, auditors highlight a material misstatement for only 17 cases (adverse and qualified opinions) and they conclude in 144 cases that the financial statements are free from material misstatement. Based on these data, we estimate the national enforcement proactivity ratio (NEP ratio). Table 3 reports the number of erroneous consolidated statements, the related unmodified opinions and the estimation of the NEP index for the period of analysis 2005-2014.

Table 3. The NEP ratio

Year (consolidated statements)	*Italy* $\boldsymbol{\beta}$	*Italy* $\boldsymbol{\gamma}$	*Italy NEP ratio*	*Germany* $\boldsymbol{\beta}$	*Germany* $\boldsymbol{\gamma}$	*Germany NEP ratio*
2005	0	1		5	20	
2006	1	1		1	28	
2007	0	3		2	11	
2008	1	2		2	18	
2009	1	0		2	17	
2010	0	0		2	9	
2011	3	6		1	8	
2012	0	5		0	11	
2013	0	0		0	3	
2014	0	1		0	0	
Total	6	19	76.00%	15	125	89.29%

The trend of the German enforcement system is different from the Italian one, in particular the number of German erroneous statements decreases over time. This is due probably to the introduction of the two-tier system that has increased the likelihood of detecting companies that issue inaccurate financial statements and, consequently, managers are more discouraged to misstate the financial reports (Ernstberger et al*.*, 2012; Böcking et al., 2015).

For the Italian enforcement system, instead, it seems that the number of enforcement actions is increased after the introduction of the *accertamento di non conformità* in 2007. As highlighted in Table 3, during the time horizon under investigation CONSOB is more reactive than DPR: its enforcement actions are preceded by an unmodified auditor's opinion in 76% of cases against the 89.29% of the German public enforcers.

Then, we also determine a comprehensive NEP ratio considering as a signal of possible misreporting not only the modified opinions as defined by the ISA 705, but also the unmodified opinion with Emphasis of Matter Paragraph. According to ISA 706, auditors shall include an Emphasis of Matter Paragraph to draw users' attention to a matter disclosed in the financial statements that is fundamental to users' understanding of the statements. For example, an auditor can decide to include an Emphasis of Matter Paragraph when an uncertainty relating to the future outcome of exceptional litigation or regulatory action exists. Table 4 reports the different types of auditors' opinion related to the erroneous consolidated statements for both countries. In particular, the Table draws attention to the modified opinions with Emphasis of Matter Paragraphs.

Table 4. The auditors' opinions for financial statements with enforcement actions

	Italy	Germany
Modified opinion (sum of adverse, qualified and disclaimer)	6	15
Unmodified opinion with Emphasis of Matter Paragraphs	14	17
Unmodified opinion (clean opinion)	5	108
Total	25	140

Considering as a signal of possible misreporting also the unmodified opinions with Emphasis Paragraphs, the number of unmodified opinions without any signal of possible misreporting decreases. In particular, the clean opinions for Italy become only 5, that are equal to about a quarter of those reported in the first-level analysis (Table 1). The German clean opinions decrease less than the Italian ones, from 125 (Table 1) to 108.

Based on these data, we estimate the comprehensive NEP ratio, determined by dividing the number of firms obtaining enforcement actions but without modified opinions or unmodified opinions with Emphasis Paragraph (γ^*) by the number of firms with infringement of IFRS framework discovered by national enforcers ($\beta^*+\gamma^*$), which also include the number of firms with modified opinions or opinions with Emphasis Paragraph and obtaining enforcement actions (β^*). Table 5 reports the number of erroneous consolidated statements, the related clean opinions and the estimation of the comprehensive NEP ratio for the period of analysis 2005-2014.

Table 5. The comprehensive NEP ratio

Year of the consolidated statements	*Italy β^**	*Italy γ^**	*Italy Compr. NEP ratio*	*Germany β^**	*Germany γ^**	*Germany Compr.NEP ratio*
2005	1	0		6	19	
2006	1	1		5	24	
2007	3	0		5	8	
2008	2	1		6	14	
2009	1	0		5	14	
2010	0	0		2	9	
2011	7	2		1	8	
2012	4	1		2	9	
2013	0	0		0	3	
2014	1	0		0	0	
Total	20	5	20.00%	32	108	77.14%

Table 5 shows that, considering the unmodified with Emphasis Paragraph as a signal of possible misreporting, CONSOB is even more reactive than the German public enforcers. In this case, the Italian enforcement actions are not preceded by auditors' opinion that may highlight a situation of possible misreporting (modified opinion and opinion with Emphasis Paragraph) in only 5 cases. In particular, the Italian comprehensive NEP ratio (20%) is equal to about a quarter of the German one (77.14%).

6. Conclusions

This paper examines the accounting enforcement as a complex system, in which not only national enforcers but also other subjects operate as substantial enforcers, namely the auditors. This system is investigated according to this perspective, shifting the focus from the national enforcer alone to the unexplored link between this authority and auditors.

This is the starting point to develop an index (NEP ratio) capturing the intensity of national enforcement as the proactivity of the national enforcer in identifying accounting infringements not detected by auditors. While prior literature often adopts static measures based on inputs (e.g. resources devoted to enforcement), this index is a dynamic proxy capturing the original output of national enforcers' activity. It can help to advance our understanding of the role of national enforcers by observing to what extent they are able to detect errors not already discovered by auditors. Additionally, this measure could be of great interest especially for cross-country analyses as it can represent a proxy for the effectiveness of a national enforcer's activity.

An illustrative empirical analysis is conducted in an IFRS context to show the potential of the index for enforcement studies. In particular, the exploratory analysis investigates all the enforcement actions by the German and the Italian enforcers regarding consolidated financial statements from the first year of IFRS mandatory adoption. The investigation is based on the joint consideration of those actions and on the auditors' reports regarding the same financial statements to identify which actions are the result of an autonomous monitoring activity by the national enforcer. The resulting NEP ratio is determined as the percentage of financial statements receiving an enforcement action without any previous public signal by auditors on the overall number of financial statements target of enforcement actions.

Findings highlight a different degree of proactivity between the Italian and the German enforcers, with a higher ability of the German ones to conduct autonomous analyses resulting in enforcement actions. On the contrary, empirical evidence suggests that the Italian authority is more reactive in monitoring listed companies, relying more on auditors' opinions instead of pursuing new investigations. These results might depend on different procedures adopted in the two national contexts, such as the sampling decisions taken or the risk approach actually followed, that can be different even if consistent with the common ESMA guidelines.

Exploratory findings illustrate how the NEP ratio can be used to compare the intensity of enforcement by different national enforcers, also in the light of these considerations. The proactivity of a national enforcer, in other words, can be seen as a proxy for enforcement effectiveness under the assumption that the monitoring activity performed by auditors is less affected by country differences.

The analysis of the output of national enforcers also highlights the scarcity of public data regarding the activity of different players involved in the accounting enforcement process. This issue refers to national enforcers' and auditors' activity in different ways. Data on monitoring procedures adopted by national enforcers, for instance, are rarely disclosed, thus limiting scholars' possibility of cross-country comparisons. Auditors' opinions, on the contrary, are publicly available within companies' financial statements, but in most countries outside the US a single public or a private repository does not exist. This means that empirical analyses on the topic must rely on indirect measures or on hand-collection of data that are formally public, but actually very difficult to collect for representative samples.

This opacity is particularly striking given the role played by national enforcers that should ensure compliance and transparency for the financial markets. Additionally, this point stresses the demand for more cooperation between accounting scholars, legislators, and regulators, as better economic analyses need the necessary data that could be efficiently collected by regulators and authorities (Leuz & Wysocki, 2016).

This study informs the current debate on accounting enforcement by broadening the scope of the analysis from the activity of the national enforcer as a stand-alone subject to encompass the signals that it receives from another "substantial" enforcer, namely the auditor.

Against this background, it extends the prior literature by proposing an index based on the output of national enforcers, measuring their proactivity with respect to auditors' opinions. This enforcement measure can support future research in two possible directions. First, it can be used to explore national enforcers' activity focusing on the role played by these subjects in the complex enforcement system, identifying their proactivity in identifying accounting infringements. Second, it represents an alternative measure for national enforcement intensity - capturing the additional output of national enforcers and not simply its input - to be adopted in cross-country studies on accounting quality. In this perspective, it can support future research on the value relevance of enforcement actions and on the association between enforcement and earnings management.

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The Impact of Firm Financial Efficiency on Executive Compensation of United States Apparel Stores Industry: An Application of Panel Data Envelopment Analysis

Herman Sahni[1] & Christian Nsiah[1]

[1]School of Business, Baldwin Wallace University, Berea, Ohio, United States of America

Correspondence: Herman Sahni, School of Business, Baldwin Wallace University, Berea, OH 44017, United States of America.

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Abstract

This study examines the effect of firm financial efficiency on executive compensation with an emphasis on the US apparel industry. We find that both annual efficiency levels and cumulative efficiency changes obtained from the Data Envelopment Analysis (DEA) are positively associated with CEO pay. The effect is stronger for technological changes and changes in scale efficiency. Our results seem to support the pay-for-efficiency paradigm, a stricter version of the pay-for-performance framework under the efficient contracting explanation for CEO pay.

Keywords: apparel industry, data envelopment analysis, efficient contracting, executive compensation, financial efficiency, Malmquist productivity index

1. Introduction

CEO compensation has been a hot topic of discussion for decades. From 1978 to 2014, the inflation-adjusted average CEO compensation in the USA increased by 997% compared to about 11% for a typical worker (Mishel & Davis, 2015). The CEO-to-worker compensation ratio shows an even worse scenario - from 20.2 in 1965 to 279.5 in 2016 (Mishel & Scheider, 2017). A nationwide survey of 1,202 people by the Rock Center of Stanford University revealed that CEO compensation is not accurately set relative to the average worker in the firm. As indicated in Figure 1 below, average executive pay has been on an upward trajectory except a few years.

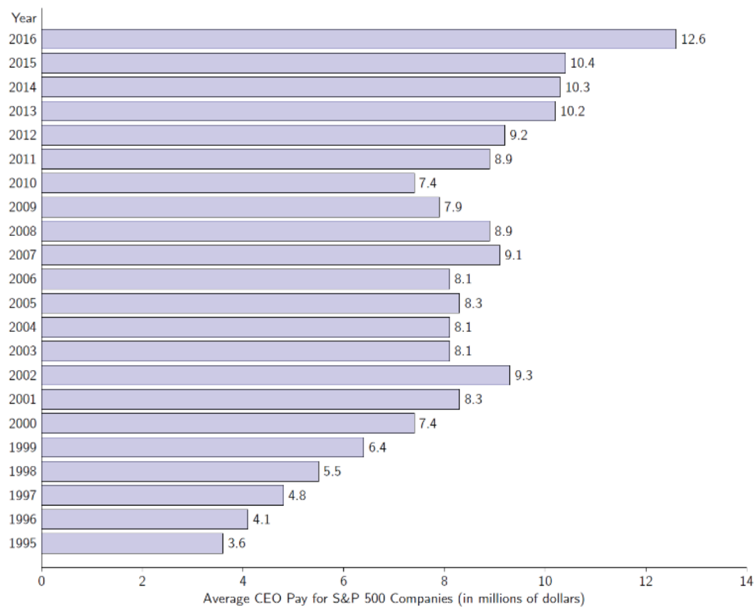

Figure 1. Average CEO Pay (in $ millions) for S&P 500 Companies (Equilar, 2016)

Many CEOs saw their pay go up even as their companies performed poorly (Jensen & Murphy, 2010). This disconnect between CEO pay and firm performance brought to the forefront once again the question of why CEOs are exorbitantly paid for the performance they produce. In this paper, we attempt to put forward another measure, the firm's financial efficiency, as an explanation for executive compensation levels.

Our sample is made up of 21 publicly traded apparel companies in the United States. The average CEO pay for this sample of firms in 2015 was USD 7.3 million. In comparison, the average CEO pay of S&P 500 companies during the same year was USD 10.4 million. The top five earners in this industry for the year 2015 are Leslie H. Wexner of L Brands (USD 27.2 million), Carol M. Meyrowitz of TJX (USD 19.6 million), Julian R. Geiger of ARO Liquidation (USD 10.8 million), Barbara Rentler of Ross Stores (USD 10.2 million), and Jane T. Elfers of Children's Place (USD 9.8 million).

The objectives of this study are twofold. First, we estimate the annual levels and the cumulative changes in efficiency for apparel stores via dynamic data envelopment analysis (DEA). Second, we examine the relationship between these efficiency measures and CEO compensation. Previous research which sought to investigate the determinants of CEO compensation use firm performance measures such as return on assets and stock returns in isolation. In contrast, our study combines a wide variety of financial performance indicators into one measure – financial efficiency, making our analysis richer. This is our main contribution, and to the best of our knowledge, this is the first study to apply firm financial efficiency measurements to executive compensation analysis.

The rest of this paper is organized as follows: Section 2 presents a summary of the previous related literature, section 3 discuss the data and empirical models employed by this study, section 4 discusses the empirical results, and section 5 concludes.

2. Literature Review

There are two related but distinct strands of literature that we must consider due to the nature of our study - (1) firm performance measurement, and (2) CEO compensation.

It is a well-known fact that executive compensation has been under scrutiny for several decades, with several critics arguing that top corporate executives are overcompensated. However, corporations tend to defend their executive compensation using two rationales. On the one hand, there is the efficient contracting framework which argues that firms offer lucrative pay packages for CEOs to attract talented candidates and to extract optimal effort. Here, one should expect that firms with high-paid CEOs also yield high financial performance. On the other hand, some argue that CEO pay serves as a reward for previous work done, indicating that there should be a positive relationship between current CEO pay levels and past firm performance.

Several other studies (e.g. Eisenhardt, 1989; Baiman, 1990; Gerhart & Milkovich, 1992) argue that one of the possible solutions to solving the agency issue is to find ways to induce the self-seeking agent to act in the best interest of the principals they represent. As succinctly put by Tosi, Werner, Katz, and Gomez-Mejia (2000), there are two main ways of doing so. First, the agents could establish a system of monitoring the managers to ensure their decision making do not deviate from the stockholders' best interest, which is difficult to do for such dispersed stockholders in the presence of board members who may themselves be optimizing their own wellbeing. The second proposed solution to the agency issue is to establish an incentive system that aligns the agent's incentives to the company performance (Fama, 1980).

The studies on CEO compensation and firm performance have not achieved a consensus on the direction and the magnitude of the impact of firm performance on CEO compensation. In firm performance literature, many different profitability proxies including return on equity (ROE), return on assets (ROA), stock market capitalization, annual stockholder's return amongst other financial profitability ratios have been employed, sometimes yielding different findings. In their 2003 study, Engel, Hayes, and Wang contend that accounting performance proxies such as profit, ROA, and ROE, as well as market-based performance yardsticks such as stock price and total shareholder returns, are the primary basis of executive termination decisions. In this spirit, the rest of our literature review will focus on these performance variables.

2.1 Market-Based Performance

Regarding market-based performance, several different proxies have been used by earlier studies with varying results. The earlier work of Jensen and Murphy (1990) analyzed the pay-for-performance theory using shareholder wealth as a proxy for performance. Even though they found a positive relationship, they failed to find a very strong empirical relationship between CEO compensation and stockholders wealth, thus, calling into question the pay-for-performance theory. Jouber and Fakhfakh (2011) in their study of 300 publicly traded firms found that a positive impact of performance measured by total shareholder return for the year, however, they concluded that the CEO pay to performance elasticity is positively correlated to the strength of shareholder rights.

Contrarily, many other studies have found a significant positive relationship between a firm's stock performance and CEO compensation. Hill and Phan in their 1991 study analyzed the relationship between CEO pay and stock return for the 1977–1988 period, finding a positive correlation between CEO pay and stock return. However, they also found that this relationship weakens with CEO tenure. Using stock returns as a proxy for performance, Shaw and Zhang (2010) indicated that changes in CEO cash-based pay were significantly positively related with stock returns, which they argue that CEOs of better performing firms were better rewarded. Similarly, in a study of 16 US firms, Boschen and Smith (1995) found that albeit being permanent, past stock return significantly impacts current executive compensation. In a 2016 Wall Street Journal article, Francis reported the NSCI's corporate governance study that investigates the CEO compensation among the 400 large and mid-sized US firms between 2006 and 2015. They found an inverse relationship between stock price performance and CEO compensation. In their 2006 study, Leone, Wu, and Zimmerman found that the relationship between stock market return and CEO compensation may be non-linear. Specifically, they found that CEO pay is more sensitive to adverse stock returns than to positive stock returns. They also found that compensation elasticity for negative returns is twice that of positive returns. Similarly, Shaw and Zhang (2010) concluded that CEO cash compensation is not penalized for lackluster stock returns.

2.2 Accounting Performance Proxies

Cooper, Gulen, and Rau (2016) argue that the variation in current compensation not explained by current observable performance factors may be highly correlated to future performance. In their opinion, analysts in this camp tend to rely more on accounting-based performance measures such as ROA and ROE. Other studies have analyzed the relationship between ROA, ROE, and CEO compensation with varying results. ROE is positively related to the compensation of executives (Carr, 1997; Berrone & Gomez-Mejia, 2009; Sigler, 2011; Banker, Darrough, Huang, & Plehn-Dujowich, 2013; Ismail, Yabai, & Hahn, 2014). Similarly, ROA is also positively related to executive compensation (Yatim, 2012; Pathak, Hoskisson, & Johnson, 2014; Ismail et al., 2014; Paul & Sahni, 2017).

Contrarily, some studies employing ROA and ROE as performance proxies found a significant negative relationship or no relationship at all. Jouber and Fakhfakh (2011) studying 300 international firms find no significant impact of ROE on CEO pay. Interestingly, they even found a negative relationship between CEO compensation and ROA. Abed, Suwaidan, and Slimani (2014) in a study of a sample of 266 publicly traded industrial companies in Jordan for the period 2004-2009 found that whereas factors such as CEO tenure, age, and company size have a significant impact on CEO pay, they found no significant effect of firm performance measured by ROA. Similarly, Finkelstein and Hambrick (1989) in their study of the leisure industry's executive compensation trends found that while ROE is positively related to executive bonuses, it has no impact on the salary of these executives. They hypothesize that the insignificant relationship is because salaries are set ex-ante, indicating that wages are not performance based and as such does not drive performance, hence discounting the efficiency wage argument. In their study of 205 publicly traded US firms drawn from different industries, Core, Holthausen, and Larcker (1999) found that ROA has no significant impact on executive compensation. Using data from 15 512 firms from 1993 to 2006, Banker et al. (2013) indicated that ROE and stock performance have a positive and a significant relationship with CEO equity compensation and CEO total pay. Nonetheless, they show a negative correlation between ROE and bonus.

Other studies have used different measures of firm performance (apart from ROA and ROE) such as operating profits to examine the impact of firm performance on CEO pay. For example, Lewellen and Huntsman (1970) found a significantly positive link between CEO compensation and profit measures. Weichenrieder (2009) found that only firms with low concentrations of investor ownership have a small relationship between CEO pay and firm profits. However, those with highly concentrated ownership have no link at all. In a study of 100 firms over a five-year period, Ismail et al. (2014) concluded that there is a weak positive relationship between profit margin and CEO pay. Vemala, Nguyen, Nguyen, and Kommasani (2014) selected annual revenue and net income as proxies for firm performance. The dependent variables include CEO bonus and salary. Using time-series cross-sectional regression to study the relationships within a sample of Fortune 500 firms listed in 2008 with 2241 observations, they found that CEO compensation has a significant positive correlation with firm size and firm performance.

2.3 Literature Review Conclusions

From the existing literature, we can conclude that performance can significantly positively impact executive compensation. At the same time, these previous studies investigating the link between firm performance and executive compensation narrowly focused on one proxy for firm performance without genuinely looking at the overall efficiency of the firms. Also, none of the previous research has explicitly focused on the compensation for executives in the apparel industry.

In terms of accounting performance measures, one of the most used in the existing literature is ROE, which in turn can be decomposed into profit margin (PM) (measuring operating efficiency), total asset turnover (TAT) (measuring asset use efficiency), and the leverage proxied by equity multiplier (EM), using the DuPont system of equations. That is, ROE can be calculated as $\text{PM} \times \text{TAT} \times \text{EM}$. From this equation, one can argue that an increase in ROE can directly result from an increase in debt levels. Therefore, it is essential that studies which use ROE as a performance measure need to control for the effects of debt, something most of the previous studies ignore. Further, ROA can be deduced from the first components of the DuPont system (PM × TAT). While ROA is an adequate performance measure for most corporate finance studies, it does not encompass the full spirit of a firm's financial efficiency as a performance measure.

In actuality, there are several possible proxies for accounting performance which could be employed. However, the magnitude and the direction of the impact of performance on CEO pay are sensitive to the type of performance proxy being used. Hence, the use of different accounting performance proxies is one source of the inconsistencies in the link between performance and CEO compensation reported by previous literature. Also, most accounting performance proxies measure different aspects of efficiency, which often are correlated with each other, and as such cannot be used in the same regression. On the other hand, eliminating one or more of these proxies from the analysis may lead to omitted variable bias.

In an attempt to circumvent the issues described above, we propose the use of the more comprehensive performance measure estimated in line with data envelopment analysis techniques (DEA) called the Malmquist Productivity Index. This model allows us to account for both inputs and outputs in measuring firm efficiency and the growth of efficiency over time. It also allows us to distinguish different aspects of efficiency. We believe that the DEA type measures of efficiency have significant advantages over individual financial ratios because it circumvents the "one ratio at a time" issue. More importantly, this approach may also provide analysts the ability to break up the changes in total factor productivity into its components (technological change and technical change). Thus, this methodology presents the analyst with the ability to detect the primary determinants of the movements in total factor productivity (Deliktas, 2002).

In their 2004 analysis of the Greek banking sector, Halkos and Salamouris conclude that DEA can be used as either a substitute or a complement to traditional financial ratios in estimating firm performance. Feroz, Kim, and Raab (2003) also document similar findings. Whereas DEA type analysis has been used by some previous studies in analyzing firm performance (e.g. Chandra, Cooper, Li, & Rahman, 1998; Mahadevan, 2002; Feroz et al., 2003; Eslami-Bidgoli & Kashani-Poor, 2004; Tehrani, Mehragan, & Golkani, 2012), to our knowledge no study has applied the efficiency scores obtained from the DEA analysis as a determinant of executive compensation.

We thus contribute to the existing literature by examining the effect of DEA type efficiency scores on executive compensation for the apparel industry. Specifically, we employ the Malmquist Total Factor Productivity Index, which apart from providing us with static efficiency scores, also provides us with the technical change, technological change, pure efficiency change, and scale efficiency change scores.

3. Research Questions, Contributions, and Empirical Models

3.1 Research Questions

The primary research objective of our study is to examine the relationship between the financial efficiency and the CEO compensation of publicly traded US apparel firms. Specifically, given operational, financial inputs and outputs, our central research question is the following: does firm financial efficiency explain the differences in compensation of the CEOs of US publicly traded apparel firms? This research question can be divided further into three related issues: (1) Does measuring annual efficiency scores using variable (VRS) and constant (CRS) returns to scale assumptions lead to significant differences in how static firm efficiency impacts CEO compensation? (2) Do changes in efficiency impact CEO pay? (3) Do different aspects of efficiency (catch up, technical, pure, and scale efficiencies) have a significant differential impact on CEO pay (Note 1)?

3.2 Contributions to Existing Literature

The main contribution of our study is the following: using a dynamic input and output model, we investigate the relationship between firm's overall internal efficiency and executive compensation. To our knowledge, this study is the first to describe the link above. Our other contributions are as follows. First, this study estimates the efficiency scores, changes in total factor productivity, and changes in different efficiency component factors for US apparel industry firms. Second, this study documents the relationship between changes in various efficiency component factors and executive compensation. Third, to our knowledge, this study is the first to investigate executive compensation in the US apparel industry.

3.3 Research Methodology

By design, our analysis consists of a two-stage process. In stage one we estimate the efficiency levels and cumulative efficiency changes of apparel industry firms. In stage two, we examine the relationship between the efficiency scores estimated in step one (and their cumulative changes) and the CEO compensation.

3.3.1 Measuring the Efficiency and Productivity of Publicly Traded US Apparel Firms

Our study seeks to estimate financial efficiency scores and their cumulative changes for US publicly traded apparel companies. The two commonly employed efficiency estimation techniques in the existing literature include parametric and nonparametric frontier estimation techniques. In the view of Jarzebowski (2013), both methodologies have their merits and disadvantages. For our analysis, however, we employ a nonparametric efficiency scores estimation model called the Malmquist Production Index (MPI), popularized by Caves, Christensen, and Diewert (1982). One of the criticisms of this model is that it does not provide a means of estimating inefficiency scores. Fare, Grosskopf, and Norris (1997) solved the problem. It is worth noting that the MPI estimator is dependent on data envelopment analysis (DEA), which itself is a linear programming (LP) based model. The model not only presents the annual efficiency scores similar to the DEA models but also gives the rate of productivity changes between periods for each decision-making unit (in our case, firms).

Before describing the MPI formula specification, it is appropriate to delineate two groups of linear programming distance functions as given in equations 1 and 2.

$$\left\{\widehat{\mathrm{D}}_{\mathrm{i}}^{\mathrm{t}}(\mathrm{x}_{\mathrm{i}}^{\mathrm{t}},\mathrm{y}_{\mathrm{i}}^{\mathrm{t}})\right\}^{-1} = \max\theta \tag{1}$$

$$\text{s.t.} \qquad \theta y_{im\leq\sum_{j=1}^{L}\tau_j^t y_{mj}^t}^{t}; m = 1,\dots,M; \sum_{j=1}^{L}\tau_j^t x_{jn}^t \leq x_{in}^t, n = 1,\dots,N; \tau_i^t \geq 0, \mathrm{i} = 1,\dots,\mathrm{L}.$$

where x_i and y_i denote inputs and output for company i, respectively, and t denotes period one. $\tau_i^t = (\tau_1^t, \dots, \tau_L^t)$ is a vector of weights that forms a convex combination of each company's efficiency observation relative to the reference country in the analysis. We can replace t with t+1 to reflect the next period information. These calculations measure the distance of each company's efficiency score from the reference best practice company for each year. The inverse of Equation 1 presents DEA type efficiency scores for any period and company. It is worth noting that $\widehat{D}_i^t$=1 indicates the i$^{\text{th}}$ company is technically efficient, thus on the efficiency frontier. On the other hand, $\widehat{D}_i^t$≤1 denotes a technically inefficient company. The distance between a company's efficiency score and the frontier value of one (1) represents the magnitude of the technical inefficiency of the company in question for that year.

$$\left\{\widehat{\mathrm{D}}_{\mathrm{i}}^{\mathrm{t}}(\mathrm{x}_{\mathrm{i}}^{\mathrm{t+1}},\mathrm{y}_{\mathrm{i}}^{\mathrm{t+1}})\right\}^{-1} = \max\theta \tag{2}$$

$$\text{s.t.} \qquad \theta y_{im\leq\sum_{j=1}^{L}\tau_j y_{mj}^t}^{t+1}; m = 1,\dots,M; \sum_{j=1}^{L}\tau_j^t x_{jn}^t \leq x_{in}^{t+1}, n = 1,\dots,N; \tau_i^t \geq 0, \mathrm{i} = 1,\dots,\mathrm{L}.$$

Equation 2 includes information for time t and time t+1. We can also switch the periods in Equation 2 and calculate a second mixed period distance function denoted by $\widehat{D}_i^{t+1}(x_i^t, y_i^t)$. This set of two equations measures the distance of the reference technology in period t+1 relative to time t. Historically, the estimation of Equations 1 and 2 has been done with an assumption of either constant returns to scale (CRS) or variable return to scale (VRS) assumptions. While we investigate the static relationship between efficiency and executive compensation considering both CRS and VRS assumptions, for our goal of investigating the deferential relationships between executive compensation and different types of efficiencies and their cumulative growth, we deploy the CRS to aid us with our estimation of the distance functions which we will use for our Malmquist Productivity Index. Further, Grifell-Taje and Lovell (1995) indicate that the Malmquist Index typically underperforms in estimating productivity index when the model specification is not CRS. One can model equations 1 and 2 from the perspective of input minimization or output maximization. For our analysis, we employ input minimization orientation.

The change in the Malmquist Total Factor Productivity Index (MPI) is calculated as the geometric mean of the input-based Malmquist Production Indices for period's t and t+1 is presented in Equation 3.

$$MPI(y^{t+1}, x^{t+1}, y^t, x^t) = \left[\frac{D^t(y^{t+1}, x^{t+1})}{D^t(y^t, x^t)}\, X\, \frac{D^{t+1}(y^{t+1}, x^{t+1})}{D^{t+1}(y^t, x^t)}\right]^{1/2} \tag{3}$$

The MPI specifically measures the productivity changes along with time variations. As shown in Figure 2, this index can be decomposed into efficiency change, also known as “catch up effect” (EFFCH) and technical change between the two periods, respectively (TECHCH).

Equation 4 split Equation 3 into two categories described above.

$$MPI(y^{t+1}, x^{t+1}, y^t, x^t) = \left[\frac{D^{t+1}(x^{t+1}, y^{t+1})}{D^t(x^t, y^t)}\right]\left[\frac{D^t(y^{t+1}, x^{t+1})}{D^{t+1}(y^{t+1}, x^{t+1})}\ X\ \frac{D^t(y^t, x^t)}{D^{t+1}(y^t, x^t)}\right]^{1/2} \quad (4)$$

The first part of the equation measures the technical efficiency change and the second argument measures the pure technical change between periods. The pure technical change essentially measures the shift in the reference frontier, whereas the efficiency change measures “catch up” in technical efficiency, i.e. it measures how much closer or further away an apparel firm gets from the firms in the industry with best practice with regards to financial efficiency.

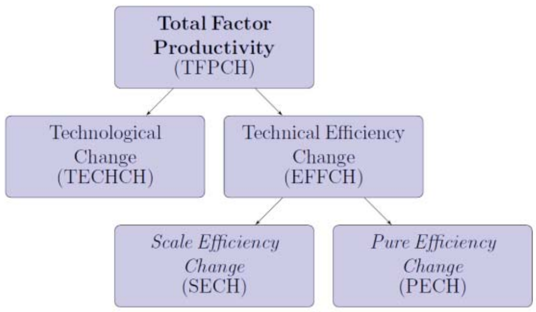

Figure 2. Malmquist Productivity Index Growth Breakdown

As indicated in Figure 2 technical efficiency change can be further subdivided into two parts (Lee, Leem, Lee, & Lee, 2011) including a scale efficiency change (SECH) and a pure efficiency change (PECH). These measures are represented by equations 5 and 6, respectively.

$$SECH = \left[\frac{\frac{D_{vrs}^{t+1}(x^{t+1}, y^{t+1})}{D_{crs}^{t+1}(x^{t+1}, y^{t+1})}}{\frac{D_{vrs}^{t+1}(x^t, y^t)}{D_{crs}^{t+1}(x^t, y^t)}}\ X\ \frac{\frac{D_{vrs}^{t}(x^{t+1}, y^{t+1})}{D_{crs}^{t}(x^{t+1}, y^{t+1})}}{\frac{D_{vrs}^{t}(x^t, y^t)}{D_{crs}^{t}(x^t, y^t)}}\right]^{1/2} \quad (5)$$

$$PECH = \frac{D_{vrs}^{t+1}(x^{t+1}, y^{t+1})}{D_{crs}^{t}(x^t, y^t)} \quad (6)$$

The MPI enables us to compare the productivity change within an industry as well as the productivity changes within each decision-making unit in the industry. Thus, it provides us with the ability to investigate catch up and retrogressions. In interpreting the MPI, all scores higher than one, equal to one, and less than one represents efficiency improvements, no change in efficiency, and deterioration of efficiency, respectively.

3.4 Data

The data for this study is from Bloomberg’s firm-level data. This study focuses on a balanced panel of 21 publicly traded US apparel stores from 2004 to 2015. Appendix A provides the list of firms. The sample was largely determined by the availability of the data of input and output variables needed for efficiency estimation. The final sample consists of 252 firm-year observations.

3.4.1 Efficiency Scores Estimation

For this study, we specifically focus on the efficiency of the financial inputs in the operations of the apparel store industry’s internal operational process. Our analysis focuses only on financial efficiency, and as such our input and output variables are all financial variables.

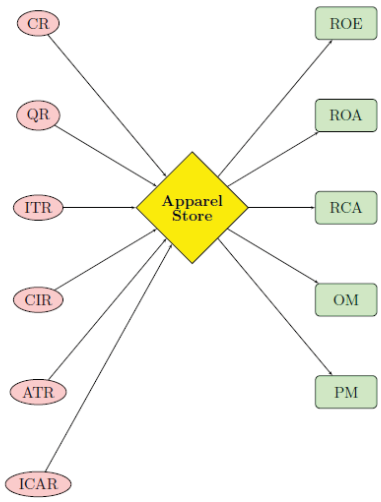

Figure 3. Schematic View of our Input and Output Analysis

Note. Firm's input variables appear on the left (red) and output parameters appear on the right (green), respectively.

As presented in Figure 3, our input variables include liquidity ratios such as current ratio (CR) and quick ratio (QR), and activity ratios including inventory turnover ratio (ITR), capital intensity ratio (CIR), accounts receivable turnover ratio (ARTR), and inventory-to-current assets ratio (ICAR) (Note 2). Our output variables are mainly operational profitability measures including return on equity (ROE) which measures amount of profits firm generates with shareholders investments, return on assets (ROA) which measures asset use efficiency, return on current assets (RCA) measures firm's efficiency in the use of their current assets to generate profits, operating margin (OM) measures the effectiveness of a firm's pricing strategy and operarational efficiency, and profit margin (PM) measures the firm's effiieincy in keeping their overall costs down, basically measuring the firm's ability to convert revenues into overall profit. The schematic summary of how the inputs relate to the output is presented in Figure 3. The results of our estimation scores are presented in section 4.

3.4.2 Modelling the Relationship between Financial Efficiency and Executive Compensation

For our second stage, we analyze the relationship between CEO pay and financial efficiency of the 21 publicly traded US apparel stores as presented in Equation 7.

$$\ln(\mathrm{Pay}_{it}) = \alpha_i + \beta_1 \mathrm{EFF}_{igt} + \beta_{it} X_{iht} + \varepsilon_{it} \tag{7}$$

where Pay_{it} is firm i's CEO compensation at time t, and α_i is the time-invariant unobservable firm-specific effects, such as firm-specific culture amongst others. EFF_{igt} denotes firm i's type g efficiency score at time t, X_{iht} denotes type h control variable for firm i at time t, and ε_{it} is the time varying error term.

We employ the natural log of the overall annual CEO compensation as our dependent variable. Our variables of interest are the firm level financial efficiency scores (EFF_{igt}, both static and dynamic specifications) as described in the previous section. Our static efficiency scores are the annual efficiency levels computed using both CRS ($\mathrm{EFF}_{i,CRS,t}$) and VRS ($\mathrm{EFF}_{i,VRS,t}$) assumptions. Our dynamic efficiency scores are the annual changes in firm's total factor productivity ($\mathrm{EFF}_{i,TFP,t}$) cumulated from the start of sample period (2004) to the year t. We decompose this total factor productivity change score into technical efficiency change ($\mathrm{EFF}_{i,EFFCH,t}$) and technological change ($\mathrm{EFF}_{i,TECHCH,t}$). The technical efficiency change can further be decomposed into pure efficiency change ($\mathrm{EFF}_{i,PECH,t}$) and scale efficiency change ($\mathrm{EFF}_{i,SECH,t}$). The cumulative dynamic efficiency scores are computed as follows:

$$\mathrm{CEFF}_{igt} = \left(\prod_{\tau=2004}^{t} \left(1 + \mathrm{EFF}_{igt}\right) \right) - 1, \tag{8}$$

where CEFF_{igt} is the cumulative dynamic efficiency scores, EFF_{igt} is the year-to-year changes in dynamic efficiency scores, and $g = \{\mathrm{TFP}, \mathrm{EFFCH}, \mathrm{TECHCH}, \mathrm{PECH}, \mathrm{SECH}\}$ denotes the individual efficiency categories.

We follow existing literature to select the most regularly used control variables which in our case includes firm size, CEO tenure, market performance, and firm-level risk. Following previous studies such as Bloom and

Milkovich (1998) amongst others, we use the log of total assets (TA) as the proxy for firm size. Several previous studies have indicated that firm size is one of the most critical determinants of executive compensation (e.g. Finkelstein & Hambrick, 1989; Paul & Sahni, 2017); we, therefore, expect a positive and significant relationship between firm size and CEO pay. For robustness check purposes, we rerun our models using the log of the number of employees as a measurement of firm size. CEO tenure, a proxy for work experience, is measured as the number of years the CEO has held the position with a company and is computed as the difference between the date of becoming CEO and July 1st of each firm-year. To test for non-linearity in the impact of tenure on compensation, we include tenure-squared. Some previous studies have argued that CEO tenure can serve as a proxy for CEO power, because longevity at post may lead to control over company board which may translate into entrenchment (Finkelstein & Hambrick, 1989; Berrone & Gomez-Mejia, 2009). However, CEO pay may increase with tenure for other reasons including the fact that the CEO gains valuable experience while on the job and may be compensated for that incremental gain in knowledge.

Several prior studies investigating determinants of CEO compensation including Shaw and Zhang (2010) have used stock market return as their proxy for firm performance. Since our efficiency analysis only focuses on internal operational efficiency, we didn't include any market measures of performance in our efficiency estimation. We, therefore, find it apropos to include measures of market performance as a control variable in our explanation of CEO compensation. As such, we include one-year and two-year firm stock price returns as control variables. Our one-year and two-year returns are computed from Bloomberg yearly price files. We thus calculate our one-year return as $\mathrm{R_{t1}} = (\mathrm{P_t}/\mathrm{P_{t-1}}) - 1$, and our two-year return as $\mathrm{R_{t2}} = (\mathrm{P_t}/\mathrm{P_{t-2}}) - 1$. Some previous studies have analyzed the effect of firm-risk on CEO compensation, for example from their natural experiment Gormley, Matsa, and Milbourn (2013) argues that boards respond quickly to changes in their firms' business risk by adjusting the structure of CEOs' compensation, but that the changes only slowly impact the overall portfolio incentives CEOs face. We control for firm-level risk by including idiosyncratic risk to our model which we calculate as the average annual variance of monthly returns computed over the previous 60 months (5 years). Variance is the squared error term obtained from the Carhart four-factor model. Lastly, recall that we were unable to include leverage measures in our efficiency estimations, however, since leverage is an essential component of the firm financing process, we chose to include long-term debt ratio (long-term debt/total assets) as a proxy for leverage in our CEO compensation model.

Table 1 presents the summary statistics for the analysis variables used in this study, including mean and median values. The absolute difference between the mean and median values generally indicates the skewness of a variable. For all our study variables, this difference is always less than one standard deviation (σ), and ranges between $0.01 \times \sigma$ (for Operating Margin) and $0.54 \times \sigma$ (for Long-term debt). Therefore, one can safely assume that the distributions of the variables are fairly symmetrical.

Table 1. Variable Description and Summary Statistics

	Mnemonic	Obs.	Mean	Median	Std	Min	Max
Inputs:							
Current ratio	crs	252	2.435	2.196	1.028	0.671	7.483
Quick ratio	qr	252	1.091	0.880	0.927	0.035	6.416
Inventory turnover ratio	itr	252	4.889	4.559	1.947	1.985	11.266
Capital intensity ratio	cir	252	0.536	0.510	0.149	0.235	1.150
Accounts receivables turnover ratio	artr	252	74.348	62.670	61.830	0.000	289.677
Inventory-to-Current Assets	icar	252	0.500	0.480	0.184	0.095	0.906
Outputs:							
Return on assets	roa	252	0.077	0.093	0.113	-0.415	0.326
Return on equity	roe	252	0.145	0.156	0.246	-1.181	1.054
Return on current assets	roca	252	0.125	0.147	0.214	-0.952	0.593
Operating margin	om	252	0.072	0.071	0.070	-0.173	0.230
Profit margin	pm	252	0.039	0.044	0.057	-0.246	0.146
Controls:							
Total assets (in billions)	ta	252	2.056	0.932	2.503	0.179	11.490
No. of employees (in thousands)	nemp	252	23.672	8.188	43.601	0.941	216.000
Idiosyncratic risk	idiorisk	252	0.016	0.010	0.022	0.000	0.203
One-year return	1yrret	252	0.170	0.091	0.745	-0.900	8.434
Two-year return	2yrret	252	0.409	0.272	1.059	-0.969	8.115
Long term debt/TA	ltdebt	252	0.087	0.013	0.138	0.000	0.744
Total Debt/TA	tdebt	252	0.472	0.443	0.180	0.169	1.168
Total CEO pay (in millions)	pay	252	6.997	4.865	6.608	0.368	48.069
Tenure as a CEO (in years)	tenure	252	8.452	5.232	10.283	0.000	52.496

Next, in order to check for the correlations between our input and output variables, we run pairwise correlations for our variables, results of which are presented in Table 2.

Table 2. Correlation matrix

	cr	qr	itr	artr	cir	icar	roa	roe	roca	om	pm
cr	1.000										
qr	0.879***	1.000									
	(0.000)										
itr	0.106*	0.387***	1.000								
	(0.092)	(0.000)									
artr	0.050	0.061	-0.104*	1.000							
	(0.434)	(0.334)	(0.099)								
cir	0.537***	0.587***	-0.079	-0.088	1.000						
	(0.000)	(0.000)	(0.209)	(0.165)							
icar	-0.460***	-0.746***	-0.603***	0.082	-0.498***	1.000					
	(0.000)	(0.000)	(0.000)	(0.196)	(0.000)						
roa	0.136**	0.209***	0.053	0.279***	0.030	-0.233***	1.000				
	(0.031)	(0.001)	(0.402)	(0.000)	(0.635)	(0.000)					
roe	0.020	0.094	0.070	0.227***	-0.021	-0.156**	0.876***	1.000			
	(0.750)	(0.137)	(0.270)	(0.000)	(0.740)	(0.013)	(0.000)				
roca	0.095	0.158**	0.007	0.245***	0.090	-0.212***	0.974***	0.870***	1.000		
	(0.134)	(0.012)	(0.916)	(0.000)	(0.154)	(0.001)	(0.000)	(0.000)			
om	0.263***	0.364***	0.082	0.232***	0.235***	-0.388***	0.904***	0.764***	0.896***	1.000	
	(0.000)	(0.000)	(0.192)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		
pm	0.244***	0.319***	0.026	0.222***	0.185***	-0.319***	0.950***	0.808***	0.949***	0.937***	1.000
	(0.000)	(0.000)	(0.679)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	

Note. P-values in parentheses (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

From Table 2, we can conclude that our output variables are very highly correlated, but not with the input variables. In the case of the correlation between our input variables, however, we have a mixed bag of outcomes. While we find a high positive correlation between current ratio and quick ratio, we also find a high negative correlation between inventory-to-current assets ratio and each of the following ratios: quick ratio and inventory turnover ratio.

4. Empirical Results

4.1 Productivity and Efficiency of the US Apparel Stores Industry

In our first stage analysis, we calculate DEA type annual efficiency scores for our 21 firms. We find that six out of the 21 firms including ARO Liquidation Inc., TJX Cos Inc., Bebe Stores Inc., Buckle Inc., Pacific Sunwear of California Inc., and Stein Mart Inc., were the only firms that were on the efficiency frontier at the beginning of our study period.

Next, we turn our attention to the results of the total factor productivity (TFP) estimation. Here, we must recall that the TFP can be broken down into technological change (TECHCH) and technical efficiency change (EFFCH). And, the technical efficiency change (EFFCH) can further be decomposed into scale efficiency change (SECH) and pure efficiency change (PECH). We find that for the period under consideration publicly traded US apparel stores experienced a 1.03% decline in TFP, 3.39% improvement in EFFCH ("catch-up" effect), 4.20% decline in TECHCH, 3.75% improvement in PECH and a 0.37% decline in SECH. This result is indicative of the fact that the overall decrease in the total factor productivity of these firms for the period under investigation can be largely attributed to the technological change drop. The top 5 highest average total productivity gains were experienced by Foot Locker Inc. (15.03%), Carter's Inc. (9.24%), Ross Stores Inc. (9.11%), Destination XL Group Inc. (8.06%), and Ann Inc. (4.50%). Conversely, the lowest five total factor productivity firms are Bebe Stores Inc. (-31.56%), Pacific Sunwear of California Inc. (-10.87%), Stein Mart Inc. (-9.35%), Buckle Inc. (-8.96%), and Abercrombie & Fitch Co. (-7.21%). About technical efficiency change, Foot Locker Inc. recorded the highest average growth (18.89%), whereas L Brands Inc. (3.86%) recorded the highest average technological change. Regarding pure efficiency change and scale efficiency change, Foot Locker Inc. (17.85%), and American Eagle Outfitters Inc. (1.34%) recorded the highest average growth rates respectively. The worst performing firms in each category include Pacific Sunwear of California Inc. (-8.30%) for EFFCH, Bebe Stores Inc. (-31.56%) for TECHCH, Abercrombie & Fitch Co. (-6.90%) for PECH and Pacific Sunwear of California Inc. (-3.82%) for SECH. The summary statistics of our efficiency estimates are presented in Table 3.

Table 3. Efficiency Scores Estimates Summary Statistics

	Mnemonic	Obs.	Mean	Median	Std	Min	Max
Static:							
Constant returns to scale	CRS	252	0.945	0.973	0.064	0.682	1.000
Variable returns to scale	VRS	252	0.958	0.993	0.054	0.769	1.000
Dynamic:							
Total factor productivity	TFPCH	252	0.990	1.000	0.122	0.427	1.308
∗ Technical efficiency change	EFFCH	252	1.034	1.010	0.086	0.817	1.277
· Pure efficiency change	PECH	252	1.037	1.000	0.081	0.819	1.262
· Scale efficiency change	SECH	252	0.996	1.000	0.021	0.872	1.025
∗ Technology change	TECHCH	252	0.958	0.970	0.096	0.427	1.217

To analyze how firms have performed over time in comparison to the beginning of our study period in terms of total factor productivity, we combine our DEA type CRS productivity score for each firm in 2004 with the cumulative efficiency growth in TFP for the period under consideration from which we created the 2x2 matrix (see Figure 4).

	$\sum_{t=2}^{n}\text{TFP}_i > \sum_{t=2}^{n}\text{TFP}$	$\sum_{t=2}^{n}\text{TFP}_i \leq \sum_{t=2}^{n}\text{TFP}$
$CRS_{i,t=1} = 1$	AROPQ, TJX	BEBE, BKE, PSUNQ, SMRT
$CRS_{i,t=1} < 1$	ANN, CATO, CRI, DXLG, FINL, FL, GPS, LB, PLCE, ROST	AEO, ANF, CAL, DEST, GCO

Figure 4. Comparative Efficiency Performance of firms in the sample (2004-2015)

Note. The row delineates efficient firms in 2004 from non-efficient firms, whereas, the columns separate higher than average cumulative growth firms from their lower than average growth compatriots.

The rows of Figure 4 differentiate between efficient and inefficient firms in 2004, whereas the columns measure whether a firm recorded more than sample average cumulative TFP growth for the 2004-2015 period. Thus, the firms in the upper left portion of the matrix are the ones who were efficient in 2004 and recorded a cumulative growth rate that is higher than the average for sample firms for the period under consideration. We label these firms “trendsetters.” We label the firms the top right portion of the matrix “falling stars.” These firms are the ones that were efficient in 2004 but experienced below average cumulative efficiency growth for the study period. Located in the bottom left of the matrix are firms who were inefficient in 2004 but has recorded higher than average cumulative growth rates in efficiency during our study period. We have labeled these firms “shooting stars.” Conversely, firms located in the bottom right of our matrix which we label “the strugglers” are firms who were inefficient at the beginning of our study period and recorded less than average cumulative growth rates.

4.2 CEO Compensation and Efficiency

4.2.1 CEO Compensation Base Case

We model CEO compensation with a pooled cross-sectional regression with year fixed-effects. Our main focus is to examine how efficiency (and cumulative changes in efficiency) impacts CEO compensation while controlling for firm size, firm stock price returns, CEO tenure, and idiosyncratic risk. Our main results are presented in Tables 4 and 5. Table 4 presents our estimation models without correcting for leverage, whereas Table 5 corrects for the impact of financial leverage on executive compensation, by employing total debt ratio as the leverage proxy.

Model 1 in Tables 4 and 5 presents our base models without firm efficiency. As such they control for frequently used variables in existing literature to explain executive compensation such as firm size, stock market return, executive tenure, and risks. Jensen (1986) and Williamson (1988) postulate that debt may indicate the need for additional monitoring, thus, further complicating the duties of the CEO and as such deserving additional compensation. However, interestingly we find a negative but insignificant relationship between leverage and

CEO compensation, a result which is similar to Bryan, Hwang, Klein, and Lilien (2000). Even though we find positive relationships between our stock returns proxies and CEO compensation, and between idiosyncratic risk and CEO compensation, we find that these variables do not have a significant impact on the determination of the compensation that CEOs of US apparel firms receive. The coefficient for tenure is positive and significant in all model specifications. We find between 2.08% (Table 5) and 3.25% (Table 4) increase in CEO compensation for every additional year spent in the job. This finding indicates that the firms reward longer serving executives with higher pay than newer CEOs (Gibbons & Murphy, 1992; Paul & Sahni, 2017). Alternatively, some scholars (e.g. Hermalin & Weisbach, 1998) argue that the CEO's influence over board members increases with tenure and may lead to "self-dealing."

Table 4. Total Compensation and Efficiency

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
CRS		1.7203***					
		(0.6621)					
VRS			2.1149***				
			(0.8057)				
TFPCH				0.8775*			
				(0.4892)			
EFFCH					0.3198		
					(0.5479)		
TECHCH					1.3224*		1.5701**
					(0.7481)		(0.7101)
PECH						-0.2543	-0.1720
						(0.6196)	(0.6038)
SECH						5.0399**	6.3077***
						(2.2027)	(2.1919)
Controls:							
ln(ta)	0.5660***	0.5556***	0.5588***	0.5434***	0.5285***	0.5504***	0.5014***
	(0.0446)	(0.0478)	(0.0473)	(0.0461)	(0.0448)	(0.0484)	(0.0449)
1yrret	-0.0185	-0.0314	-0.0246	-0.0564	-0.0498	-0.0433	-0.0795
	(0.1434)	(0.1457)	(0.1418)	(0.1397)	(0.1414)	(0.1524)	(0.1427)
2yrret	0.1084	0.0902	0.0898	0.0847	0.0873	0.1019	0.0791
	(0.0671)	(0.0666)	(0.0654)	(0.0638)	(0.0633)	(0.0670)	(0.0616)
idiorisk	0.7983	1.0682	0.7129	1.9285	1.4768	1.8827	2.6700
	(3.4100)	(3.5091)	(3.2918)	(3.3245)	(3.3504)	(3.7121)	(3.6094)
tenure	0.0310**	0.0323**	0.0325**	0.0278**	0.0271**	0.0290**	0.0242*
	(0.0135)	(0.0130)	(0.0137)	(0.0138)	(0.0135)	(0.0134)	(0.0129)
tenure^2	-0.0006**	-0.0006**	-0.0006**	-0.0006**	-0.0006**	-0.0006**	-0.0005*
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-3.4584***	-4.9555***	-5.3567***	-4.1409***	-4.7949***	-8.1286***	-10.6565***
	(0.3869)	(0.6140)	(0.7446)	(0.6095)	(1.0613)	(2.1114)	(2.3919)
N	252	252	252	252	252	252	252
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.4913	0.5021	0.5029	0.4994	0.5010	0.4984	0.5153

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of total assets [ln(ta)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], and CEO tenure [tenure] and its squared term [tenure^2].

We now turn our attention to our primary variable of interest - firm financial efficiency. In Table 4, we find that annual efficiency levels (CRS and VRS) are positive and significant. Specifically, we find that a one percent increase in efficiency scores translates to about 1.72% (Model 2) and 2.11% (Model 3) increase in CEO compensation. In comparison, Paul and Sahni (2017) document that a one percent increase in return on assets is associated with about 0.71% increase in CEO pay. Model 2 is used for expository purposes. For the CEO with the sample mean annual pay ($6.997 million), a one percent increase in CRS efficiency is associated with about $120 000 increase in CEO pay.

We also find that the cumulative total factor productivity (TFP) is positive and significant, indicating that a one percent increase in TFP translates to about 0.88% improvement in CEO compensation. Further, we find that a sizable impact of TFP stems from the cumulative technological change (TECHCH). Cumulative technical efficiency change (EFFCH) is not significant. Interestingly though when we disaggregate EFFCH into pure efficiency change (PECH) ("catch up effect") and scale efficiency change (SECH), we find a significantly positive relationship between SECH and CEO compensation. A one percent increase in SECH translates to between 5.04% (Model 6) and 6.31% (Model 7) increase in CEO pay.

Table 5. Total Compensation, Efficiency and Leverage

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
CRS		1.7525**					
		(0.6899)					
VRS			2.1563**				
			(0.8546)				
TFPCH				0.9450*			
				(0.4934)			
EFFCH					0.3562		
					(0.5392)		
TECHCH					1.4573**		1.6634**
					(0.7387)		(0.7675)
PECH						-0.2561	-0.1327
						(0.6173)	(0.6175)
SECH						5.0498**	6.1895***
						(2.2891)	(2.1762)
Controls:							
ln(ta)	0.5672***	0.5543***	0.5575***	0.5453***	0.5293***	0.5502***	0.5026***
	(0.0463)	(0.0472)	(0.0487)	(0.0459)	(0.0452)	(0.0471)	(0.0441)
1yrret	-0.0207	-0.0297	-0.0226	-0.0657	-0.0613	-0.0430	-0.0873
	(0.1423)	(0.1410)	(0.1453)	(0.1365)	(0.1456)	(0.1464)	(0.1447)
2yrret	0.1084*	0.0898	0.0894	0.0829	0.0851	0.1019	0.0777
	(0.0629)	(0.0656)	(0.0645)	(0.0581)	(0.0634)	(0.0660)	(0.0578)
idiorisk	0.9323	0.9506	0.5793	2.4185	2.0705	1.8642	3.0793
	(3.4124)	(3.3392)	(3.4340)	(3.2667)	(3.4184)	(3.6414)	(3.5264)
tdebt	-0.0709	0.0649	0.0698	-0.2134	-0.2754	0.0104	-0.2029
	(0.3049)	(0.3042)	(0.3115)	(0.2981)	(0.3065)	(0.3040)	(0.3064)
tenure	0.0308**	0.0325**	0.0327**	0.0270*	0.0260*	0.0291**	0.0235*
	(0.0136)	(0.0138)	(0.0134)	(0.0140)	(0.0136)	(0.0136)	(0.0134)
$tenure^2$	-0.0006**	-0.0006**	-0.0006**	-0.0005*	-0.0005*	-0.0006**	-0.0004
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-3.4355***	-5.0045***	-5.4164***	-4.1245***	-4.8462***	-8.1398***	-10.5876***
	(0.4273)	(0.6786)	(0.8468)	(0.5730)	(1.0417)	(2.2077)	(2.2787)
N	252	252	252	252	252	252	252
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.4892	0.5001	0.5009	0.4985	0.5008	0.4962	0.5143

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of total assets [ln(ta)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], total debt-to-total assets [tdebt], and CEO tenure [tenure] and its squared term [$tenure^2$].

Together, our results suggest that efficiency (profitability controlling for inputs) is a strong determinant of CEO pay indicating that a significant managerial talent is involved in efficiency improvements. All of our results hold after controlling for leverage (see Table 5).

4.2.2 CEO Compensation Robustness Check

Previous studies have sometimes used stock market capitalization, sales, net assets, and number of employees to proxy for firm size. Thus, one must consider whether the relationship between CEO compensation and efficiency is sensitive to the choice of firm size proxy. While the three accounting measures (market capitalization, sales, and net assets) are similar in spirit to total assets and captures the size effect that correlates with the firm's physical capital, number of employees captures size effect that reflects the firm's human capital. For robustness, we use number of employees. The reason for this is as follows: apparel industry, in general, is labor-intensive. Specifically, our sample of firms has an average employee strength well over 20 000, with a range of 1000 to 216 000 (Table 1). Table 6 replicates Table 4 with the number of employees as the firm size proxy.

Table 6. Total Compensation and Robustness

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
CRS		2.5080***					
		(0.7178)					
VRS			3.0281***				
			(0.8513)				
TFPCH				1.2204**			
				(0.5546)			
EFFCH					0.3944		
					(0.6881)		
TECHCH					1.9065**		2.2479***
					(0.7885)		(0.7744)
PECH						-0.4019	-0.3141
						(0.7214)	(0.7032)
SECH						7.0518***	8.7441***
						(2.3958)	(2.4393)
Controls:							
ln(nemp)	0.2661***	0.2676***	0.2725***	0.2414***	0.2199***	0.2548***	0.1964***
	(0.0385)	(0.0386)	(0.0386)	(0.0383)	(0.0363)	(0.0387)	(0.0362)
1yrret	0.0821	0.0563	0.0659	0.0288	0.0395	0.0449	-0.0052
	(0.1701)	(0.1638)	(0.1646)	(0.1609)	(0.1546)	(0.1725)	(0.1597)
2yrret	0.0532	0.0293	0.0292	0.0218	0.0260	0.0467	0.0177
	(0.0840)	(0.0793)	(0.0780)	(0.0754)	(0.0763)	(0.0783)	(0.0730)
idiorisk	-7.2363*	-6.3905	-6.9031	-5.4886	-6.1194	-5.4657	-4.0944
	(4.3149)	(4.2867)	(4.4384)	(4.3380)	(4.5922)	(4.8704)	(4.6488)
tenure	0.0204	0.0229	0.0232	0.0160	0.0148	0.0180	0.0112
	(0.0156)	(0.0152)	(0.0156)	(0.0165)	(0.0149)	(0.0154)	(0.0143)
tenure^2	-0.0065	-0.0087	-0.0085	0.0017	-0.0003	-0.0009	0.0062
$\times 10^{-2}$	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-1.7996***	-4.1097***	-4.6558***	-2.7462***	-3.6218***	-8.3432***	-11.7735***
	(0.4449)	(0.6862)	(0.8651)	(0.6692)	(1.1648)	(2.2911)	(2.5550)
N	252	252	252	252	252	252	252
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.3103	0.3352	0.3357	0.3272	0.3325	0.3272	0.3622

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of number of employees [ln(nemp)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], and CEO tenure [tenure] and its squared term [tenure^2].

Table 7 replicates Table 5 with the number of employees as the firm size proxy. In this table, leverage proxied by total debt ratio is used as an additional control variable.

In both tables (Tables 6 and 7), we find the strengthening of the original relationship between efficiency and CEO pay. Model 2 is used for expository purposes. For the CEO with the sample mean annual pay ($6.997 million), a one percent increase in CRS efficiency is associated with about $175 000 increase in CEO pay. In comparison, the same model specification in Table 4 yielded about $120 000 increase in CEO pay. The most parsimonious explanation for this result may be that the explanatory power of total assets on CEO pay is absolute, limiting the influence of other pay characteristics. As a consequence, removing total assets from model specifications may play an active role in enhancing the relative importance of different variables – in our case, the efficiency scores. Here, we can also note the relative importance of firm size proxies (book value of assets and number of employees) in explaining CEO pay. The size effect, proxied by the number of employees in Table 6 (Coefficient: 0.2661), on CEO pay is approximately half the size effect of total assets reported in Table 4 (Coefficient: 0.5660), yet highly significant.

Table 7. Total Compensation and Robustness (with Leverage)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
CRS		2.3464***					
		(0.7635)					
VRS			2.8404***				
			(0.9609)				
TFPCH				1.3858***			
				(0.5168)			
EFFCH					0.5132		
					(0.6489)		
TECHCH					2.1464***		2.4142***
					(0.7841)		(0.7661)
PECH						-0.3062	-0.1640
						(0.7341)	(0.6903)
SECH						6.6155**	8.2149***
						(2.6294)	(2.4970)
Controls:							
ln(nemp)	0.2902***	0.2832***	0.2880***	0.2698***	0.2483***	0.2740***	0.2209***
	(0.0421)	(0.0408)	(0.0408)	(0.0426)	(0.0389)	(0.0449)	(0.0398)
1yrret	0.0575	0.0420	0.0506	-0.0108	-0.0023	0.0273	-0.0353
	(0.1708)	(0.1641)	(0.1642)	(0.1596)	(0.1625)	(0.1759)	(0.1565)
2yrret	0.0553	0.0322	0.0320	0.0203	0.0245	0.0478	0.0171
	(0.0762)	(0.0775)	(0.0760)	(0.0737)	(0.0711)	(0.0799)	(0.0731)
idiorisk	-5.7980	-5.5133	-5.9724	-3.3600	-3.8851	-4.4411	-2.4559
	(4.6049)	(4.7103)	(4.2798)	(4.4504)	(4.2208)	(5.0074)	(4.8669)
tdebt	-0.5433	-0.3520	-0.3594	-0.7146*	-0.7615**	-0.4062	-0.6092
	(0.3734)	(0.3718)	(0.3946)	(0.3659)	(0.3553)	(0.3883)	(0.4056)
tenure	0.0199	0.0225	0.0227	0.0148	0.0134	0.0177	0.0103
	(0.0154)	(0.0159)	(0.0157)	(0.0158)	(0.0151)	(0.0151)	(0.0148)
$tenure^2$	0.0033	-0.0021	-0.0019	0.0157	0.0146	0.0064	0.0177
$\times 10^{-2}$	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-1.7871***	-3.9527***	-4.4705***	-2.8581***	-3.9053***	-8.0034***	-11.5177***
	(0.4559)	(0.7799)	(0.9340)	(0.6472)	(1.1527)	(2.4840)	(2.5826)
N	252	252	252	252	252	252	252
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.3147	0.3353	0.3360	0.3367	0.3437	0.3283	0.3683

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of number of employees [ln(nemp)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], total debt-to-total assets [tdebt], and CEO tenure [tenure] and its squared term [$tenure^2$].

Some may argue that the efficiency improvements either precedes or is contemporaneous with increases in CEO pay, not instantaneous. To check this, we estimated the models presented in Tables 4-7 replacing the efficiency scores with their lag values and find very similar results (see Appendix B). Our results are also robust to alternate specifications of leverage – long-term debt ratio (not reported).

Lastly, certain CEO characteristics (other than tenure) may also play a role in the design of compensation contracts, the chief of them being the CEO gender. The gender of the CEO may play a crucial role in our study. In our sample, 8 out of 51 CEOs (15.7%) were women, half of them were amongst the top five earners in the year 2015. In contrast, the proportion of female CEOs in the S&P 1500 firms has been lingering around 3% since the early 1990's, never going up higher than 5% (Paul & Sahni, 2010). Other Scholars (e.g. Smith, Smith, & Verner, 2011; Borrenbergs, Vieira, & Georgakopoulos, 2017) have reported similar proportions of female CEOs in other countries. We, therefore, re-run our pay models after including a dummy that represents female CEOs and find almost identical results (not reported).

5. Conclusions

The objective of this study was to investigate the casual relationship between static and dynamic financial efficiency of US apparel firms and CEO compensation. Our results indicate that there is a strong positive relationship between how efficient the firm is run and CEO compensation levels. Specifically, we find annual financial efficiency (CRS and VRS) and the total factor productivity changes are positive and significant to current year CEO compensation. Furthermore, we find that different aspects of efficiency have different impacts on CEO compensation – the largest pay impact arising from changes in scale efficiency. Our pay results are robust to alternate definitions of firm size and leverage, contemporaneous efficiency effects, and the inclusion of CEO gender as a control variable. Our results are largely consistent with the efficient contracting explanation and the pay-for-efficiency paradigm. We also identify our limitations: (i) our sample belongs to one industry – apparel; and (ii) we do not address the differential impact of firm financial efficiency on different pay components – cash (salary and bonus), incentive packages (short-term and long-term), and other stock-based compensation. More interesting would be the impact of efficiency on the CEO's consumption of perquisites. Future research may address these limitations.

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Notes

Note 1. CRS assumes output changes are in proportion to input changes (e.g. doubling inputs leads to doubling output). On the other hand, VRS assumes that the production technology may exhibit increasing or decreasing returns to scale.

Note 2. The inclusion of leverage ratios in the first stage (efficiency estimation stage) made our models unstable. Thus, we accounted for leverage in the second stage (CEO pay model).

Appendix A

Sample of firms included in this study.

Table A1. Company List

Ticker	Company name	Exchange	Headquarters
AEO	American Eagle Outfitters Inc	NYSE	Pittsburgh, PA
ANF	Abercrombie & Fitch Co	NYSE	New Albany, OH
ANN	ANN Inc	NYSE	New York City, NY
AROPQ	ARO Liquidation Inc	NYSE	New York City, NY
BEBE	Bebe stores inc	NASDAQ	Brisbane, CA
BKE	Buckle Inc	NYSE	Kearney, NE
CAL	Caleres Inc	NYSE	Clayton, MO
CATO	Cato Corp	NYSE	Charlotte, NC
CRI	Carter's Inc	NYSE	Atlanta, GA
DEST	Destination Maternity Corp	NASDAQ	Moorestown, NJ
DXLG	Destination XL Group Inc	NASDAQ	Canton, MA
FINL	Finish Line Inc	NASDAQ	Indianapolis, IN
FL	Foot Locker Inc	NYSE	New York City, NY
GCO	Genesco Inc	NYSE	Nashville, TN
GPS	Gap Inc	NYSE	San Francisco, CA
LB	L Brands Inc	NYSE	Columbus, OH
PLCE	Childrens Place Inc	NASDAQ	Secaucus, NJ
PSUNQ	Pacific Sunwear of California Inc	NASDAQ	Anaheim, CA
ROST	Ross Stores Inc	NASDAQ	Dublin, CA
SMRT	Stein Mart Inc	NASDAQ	Jacksonville, FL
TJX	TJX Cos Inc	NYSE	Framingham, MA

Appendix B

Robustness Checks: The relationship between CEO Pay and Lag Efficiency Scores.

Table B1. Total Compensation and Lag Efficiency

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
Lag CRS		1.4785**					
		(0.6881)					
Lag VRS			1.9522**				
			(0.8139)				
Lag TFPCH				1.1313**			
				(0.5375)			
Lag EFFCH					0.3068		
					(0.5694)		
Lag TECHCH					1.9673**		2.1296**
					(0.8631)		(0.8544)
Lag PECH						-0.2954	-0.1128
						(0.6780)	(0.6780)
Lag SECH						3.5954	4.9639*
						(2.6373)	(2.5442)
Controls:							
ln(at)	0.5672***	0.5671***	0.5702***	0.5551***	0.5320***	0.5637***	0.5065***
	(0.0462)	(0.0505)	(0.0502)	(0.0469)	(0.0478)	(0.0507)	(0.0467)
1yrret	-0.0207	-0.0618	-0.0643	-0.1137	-0.1143	-0.0575	-0.1019
	(0.1425)	(0.1524)	(0.1341)	(0.1344)	(0.1405)	(0.1709)	(0.1647)
2yrret	0.1084*	0.0927	0.0935	0.0718	0.0744	0.0977	0.0658
	(0.0654)	(0.0691)	(0.0745)	(0.0696)	(0.0658)	(0.0815)	(0.0671)
idiorisk	0.9323	1.4491	1.2199	3.5337	3.3701	1.8757	3.7359
	(3.3678)	(3.5361)	(3.6154)	(3.6868)	(3.8775)	(3.6816)	(3.9389)
tdebt	-0.0709	0.1470	0.1502	-0.0907	-0.2065	0.1028	-0.1015
	(0.3117)	(0.3364)	(0.3220)	(0.3187)	(0.3227)	(0.3301)	(0.3352)
tenure	0.0308**	0.0384***	0.0388***	0.0329**	0.0309**	0.0353**	0.0292**
	(0.0138)	(0.0144)	(0.0142)	(0.0146)	(0.0143)	(0.0146)	(0.0140)
$tenure^2$	-0.0006**	-0.0008**	-0.0008***	-0.0006**	-0.0006**	-0.0007**	-0.0006**
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-3.4355***	-4.5934***	-5.0695***	-4.1578***	-5.0732***	-6.4816**	-9.6399***
	(0.4160)	(0.7220)	(0.8049)	(0.6852)	(1.2015)	(2.5322)	(2.7169)
N	252	231	231	231	231	231	231
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.4892	0.4686	0.4711	0.4750	0.4838	0.4622	0.4918

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of total assets [ln(at)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], total debt-to-total assets [tdebt], and CEO tenure [tenure] and its squared term [$tenure^2$].

Table B2. Total Compensation, Lag Efficiency and Leverage

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Efficiency:							
Lag CRS		2.1397***					
		(0.7755)					
Lag VRS			2.6644***				
			(0.9453)				
Lag TFPCH				1.5767***			
				(0.5768)			
Lag EFFCH					0.5044		
					(0.7175)		
Lag TECHCH					2.6515***		2.8833***
					(0.8653)		(0.8645)
Lag PECH						-0.3599	-0.1518
						(0.8573)	(0.7786)
Lag SECH						5.5803*	7.3597***
						(3.0282)	(2.7556)
Controls:							
ln(nemp)	0.2902***	0.2969***	0.3025***	0.2836***	0.2568***	0.2869***	0.2275***
	(0.0420)	(0.0444)	(0.0460)	(0.0427)	(0.0415)	(0.0471)	(0.0421)
1yrret	0.0575	0.0135	0.0086	-0.0582	-0.0558	0.0224	-0.0357
	(0.1668)	(0.1749)	(0.1810)	(0.1622)	(0.1542)	(0.2030)	(0.1994)
2yrret	0.0553	0.0345	0.0363	0.0067	0.0115	0.0394	0.0018
	(0.0850)	(0.0891)	(0.0865)	(0.0809)	(0.0806)	(0.0899)	(0.0832)
idiorisk	-5.7980	-4.9994	-5.2661	-2.0557	-2.2892	-4.4285	-1.6594
	(4.4445)	(4.4611)	(4.8203)	(4.6183)	(4.5778)	(5.0549)	(4.7754)
tdebt	-0.5433	-0.2700	-0.2889	-0.5822	-0.6770*	-0.3009	-0.4647
	(0.3866)	(0.3920)	(0.4076)	(0.4006)	(0.3894)	(0.4194)	(0.4174)
tenure	0.0199	0.0289*	0.0293*	0.0212	0.0187	0.0240	0.0165
	(0.0156)	(0.0169)	(0.0172)	(0.0163)	(0.0160)	(0.0165)	(0.0153)
$tenure^2$	0.0033	-0.0153	-0.0149	0.0031	0.0035	-0.0076	0.0039
$\times 10^{-2}$	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Constant	-1.7871***	-3.6518***	-4.2007***	-2.9760***	-4.2496***	-6.7829**	-11.0030***
	(0.4466)	(0.7593)	(0.9387)	(0.7156)	(1.2671)	(2.8213)	(2.8758)
N	252	231	231	231	231	231	231
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.3147	0.2946	0.2968	0.3057	0.3210	0.2846	0.3406

Note. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Controls include the natural logarithm of number of employees [ln(nemp)], one-year stock returns [1yrret], two-year stock returns [2yrret], idiosyncratic risk [idiorisk], total debt-to-total assets [tdebt], and CEO tenure [tenure] and its squared term [$tenure^2$].

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Social Environmental Disclosure Between Gri-Sustainability Reporting and IIRC – Integrated Reporting Among European Companies

Suzila Mohamed Yusof[1]

[1]Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia

Correspondence: Suzila Mohamed Yusof, Department of Accountancy, Faculty of Economics and Business, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia.

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Abstract

This critical approach study examines the social and environmental disclosure (SED) between Sustainability Reporting (SR) and Integrated Reporting (IR) among European companies. This paper argues that IR abandons sustainability and might overlap with the functions of SR. The research questions are to examine the integration level of SED within SR and IR and look for the patterns and motifs from reviewing both reports. Applying the critical text analysis method, the GRI G3 guidelines were used to examine a sample of ten European companies. This method is applicable as it does not have rigid procedures to follow (Merkl-Davies et al., 2013). The reports for the selected companies must incorporate fully applied IR without producing any more SR in order to analyse the validity of the data. This study has discovered that there is less integration of SED in IR than SR. The analyses continued by reading and reviewing all reports to identify patterns and motifs. Company strategy and regulatory requirements, reporting style, the crucial issues of the materiality and the development of new sections in the reports were all explored. It is apparent that the IR approach is more towards the primary groups (investors) rather than other stakeholders, society and the environment as a whole. Hence, IR is only a mirror of sustainability for business strategy. Therefore, IR needs to engage reports with other stakeholders to sustain long-term growth.

Keywords: social and environmental disclosure, sustainability reporting, integrated reporting, global reporting initiative, IIRC

1. Introduction

1.1 Research Background and Motivation

Reporting on sustainability has developed significantly in the past three decades (Stubbs and Higgins, 2014). Especially in the recent ten years, there has been a momentous rise in SR amongst large multinational companies (Kolk, 2010). SR creates SED and brings great improvement of the quality of reports focusing on the Triple Bottom Line (TBL); social, environmental and financial disclosure (Bebbington, Unerman and O'Dwyer, 2014). There are, additionally, worries that SR may have been 'caught' by organisations trying to increase hegemonic power (accaglobal, 2012). The conviction that the preparation of corporate reporting on sustainability resulted from an exploration in social and environmental reporting can possibly effect on and transform corporate conduct (Bebbington and Gray, 2001). However, this sentiment usually may unable to achieve (Bebbington and Gray, 2001). Notwithstanding the important and late development in SR, the most recent confirmation concluded that almost all the world's largest 250 companies report on Corporate Responsibility (CR) and that 'Reporting is now the norm across all these sectors, with at least 62 percent of companies in every sector producing a CR report' (GRI, 2015). This shows that the practice of corporate sustainability disclosure has increased dramatically as the GRI produces according to stakeholder demand and raises awareness of the potential of disclosure towards organisation goals.

SED brings new channels of communication to influence the public. Through filling of the legitimacy gap (Archel et al., 2009) and increase legitimacy gap (Bouten et al.2011), SED delivers a positive image to companies and expands financial reporting (Bebbington, Unerman and O'Dwyer, 2014). Types of the disclosure include parts of annual reports, stand-alone reports, press releases and corporate websites (Bebbington, Unerman and O'Dwyer, 2014). Companies attempt to convince society that they have stakeholders' interest at heart and that they share common goals by using SED in social and environmental reporting as legitimising mechanism of companies to its stakeholders (Deegan et al., 2000; Deegan, 2002, 2007; and Mathews, 2004).

Development of SED has been influenced by the arrival of IR in 2010. IR contains about organization's plan, governance, performance and prospects in a brief delivery report, for its external environment through the value creation for short, medium and long-term (IIRC, 2013). IR merges SED and financial reports in a single report (de Villiers et al, 2014).

2. Literature Review

2.1 Social Environmental Disclosures (SED)

SED practices are intended to legitimise business organisations and develop strategies of legitimating (Archel et al., 2009). The existence of SED is explained by the emergence of legitimacy theory (LT) on the interaction between social value and acceptable behaviour of organisations (Dowling and Pfeffer, 1975). LT is defined by de Aguiar and Bebbington (2014) as a strategic way for an organisation to disclose good news and convince stakeholders to repair damaged legitimacy using certain legitimacy strategies. For example, SED has been used as a legitimating purpose in the CEO statements of SR. Despite expanding the standardisation of SR, the statements pinpoint management impression rather than accountability (Barkemeyer et al., 2014). The degree to which corporate SR serves as a reasonable representation of corporate sustainability-related performance involves drawing a similarity with financial reporting (Barkemeyer et al., 2014). Patten (2014) suggests that, in order to make SED a corporate legitimacy, it should become a tool of the public interest in the form of stand-alone reports rather than mandatory reports.

SED helps to manipulate social perceptions of environmental aspects by showing consistent beliefs and contributions (de Aguiar and Bebbington, 2014). However, according to Patten (2014), the practices of SED do not form the main agenda for obtaining high profit levels, as SED is more concerned with nurturing the image of environmental concern rather than catering for environmental actions. Additionally, environmental reporting has been developed to 'thicken the veil' (Patten, 2014, p. 201), covering environmental impact rather than transparency for the public interest.

According to the findings of Lu and Abeysekera (2014, p. 426), corporate SED has positive connections with firm size, profitability and industry classification. As suggested by numerous studies, other factors considered to be determinants of SED are organisational practice, participation among the pressure groups and media profile (Gray et al., 2001).

2.2 GRI Guidelines

Of all the standards that are available, the GRI guidelines are the most influential guidelines adopted by various organisations in preparing SR (Gomes et al., 2015), aiming to establish a generally accepted framework (Bebbington et al., 2014). The GRI guidelines target on the TBL by analysing information that is applicable and material to organisations for stakeholder's interest (GRI, 2013). The analysis finds that 78 percent of the best 100 organizations within 41 nations and 82 percent of the highest ranking within 250 organizations from the Global Fortune 500 use these guidelines (Gomes et al., 2015).

GRI was established in 1997 and the guidelines have been formally published since 2000 by the Coalition for Environmentally Responsible Economies (CERES) and the United Nations Environmental Programme (UNEP) (Isaksson and Steimle, 2009). The significant operator embedded within GRI guidelines enhances the quality of SR (Kolk and Perego, 2010; Perego and Kolk, 2012) and engaging most stakeholders, including the community and environment (Gray et al., 2014).

2.3 Sustainability Reporting (SR)

SR focuses on much wider attention and is intended to inform several different groups of stakeholders (Busco et al., 2013). As pointed out above, this challenges the usefulness of SR and stresses the role of materiality as to prioritize the needs of all stakeholders. SR is voluntary, with the exception of some countries, and exists in the context of a continuingly evolving situation (Busco et al., 2013). As with most widely employed standards for disclosure, the scope of SR goes beyond the legal entity and the assurance level is low, in the sense that non-financial information is more challenging to assure compared to financial information (Busco et al., 2013).

Lodhia (2014) has highlighted that SR is a new strand of accounting and a relatively new phenomenon which recognises social and environmental issues as critical and needs to be communicated effectively to stakeholders. The benchmark to measure a sustainable society can be divided into 'strong' and 'weak' criteria (Monfreda et al., 2004). Strong sustainability assumes that natural capital irreplaceable and essential for example air and water; whilst weak sustainability builds when assets total is preserved within the human well-being (Monfreda et al., 2004). In terms of natural capital, it is very difficult to maintain rather than weak sustainability as when environmental and ecological services being destroyed, technology may be capable of restoring it (Monfreda et al., 2004).

Strong sustainability can be related with the environmental impacts. The analysis of the banks past reports by Lodhia (2014) indicates that it defines its environmental risks as both direct and indirect (Lodhia, 2014). Direct environmental risks include the usage of the natural resource, emissions and waste generation, whilst indirect environmental risks occur through the financial products and services offered, suppliers and partnerships (Lodhia, 2014).

2.4 Integrated Reporting (IR)

The existence of IIRC in developing practice and policy within IR has been recognised globally (De Villers et al., 2013). However, IIRC was not the pioneer in this area as IR's guidelines have been introduced in South Africa when IIRC not yet existed(Cheng et al., 2014). IIRC introduces a pilot program that monitors the implementation of IR whereby the early implementation exists during the period between 2009 to 2012 (Ioana & Adriana, 2013). The pilot program offers to companies to demonstrate global leadership in the field of corporate reporting (unepfi.org). It involves companies as well as investors with the support of IIRC and peer group feedback from other participants (unepfi.org). The intention of the pilot program is to develop a new global standard in IR and aims to demonstrate the connection between organization's plan, financial achievement, governance, social, environmental and economic matter(unepfi.org).IR objectives to furnish a concise report that demonstrates an organisation's social, environmental and economic actions, risks, outcomes and opportunities to reflect the integration of an organisation in terms of measurement and management (de Villiers et al., 2014).

2.5 Differences between SR and IR

The difference between SR and IR can be distinguished by the capital terms. As for IR, the IIRC states that only capitals that are important and relevant to the organizations to be classified as capitals (IIRC, 2013), thus allowing for a fix application of the framework. However, Busco et al (2013) argue that IR is not able to measure the stocks for the six capitals and their variations (flows). For some capitals, IR only measures some specific aspects, employing such indicators as a proxy for the whole capital (Busco et al., 2013). Clearly, outcomes are much more difficult to measure; this may be a further evolution and one of the main challenges IR will have to face (Busco et al., 2013). While IR takes into account the measurement (in terms of stock and flow) of capitals, which have clear similarities with balance sheets and income statements respectively, SRs report on the impacts of company activities (Busco et al., 2013). Conversely, SRs, the approach of natural capital (Monfreda et al., 2004) is significant in the reports concerning the environment impacts either direct or indirect impacts (Lodhia, 2014).

Table 1. Comparison between SR and IR

Components	Sustainability Reporting (SR)	Integrated Reporting (IR)
Primary Audience	Stakeholders	Shareholders
Main Focus	Measuring impacts (value protection) – Long -Term	Value Creation –short, medium and long-term
Perspectives	Backward -Looking	Forward Looking
Capitals	Natural Capital	Multiple Capitals
Material Principle	Aspects that should be covered: • Organisation significant impacts: social, environmental and economic or • Control elements for decision-making and stakeholders' assessment	Organisations capability to create value by changing the assessments of financial capital providers

3. Research Methodology

3.1 Method Selection

This study adopts a primarily interpretative or critical approach to analyse the content of SR and, immediately, the introduction of IR. In this approach, there are three forms of textual analysis to be distirenguished (Merkl-Davies et al., 2011), starting with the scientific analysis involved in the positivist search methodological approach; for example, calculating sentences, words, coding and paragraphs and moving to 'interpretative text analysis' and 'critical text analysis' (Merkl-Davies et al., 2011). As both Global Reporting (GRI) – SR and IIRC – IR represent significant SED, this study compares the results from conducting critical text analysis and measuring the extent of reporting. Specifically, as critical text analysis approach does not adopt positive scientific research, it does not abide by fix arrangement of procedures (Merkl-Davies et al., 2011).

3.2 Research Questions and Design

This study aims to answer the research questions as below:

Research Question 1: How does the measurement of integration of SED, moving from SR to IR?

Research Question 2: What are the patterns and motifs that exist in the introduction of IR compared to SR?

Both research questions will involve two aspects of research. First, this study aims to measure the integration level of SED between SR and IR. Second, the study discusses the patterns and motifs in the process of reviewing all both reports pertaining to social and environmental consideration.

The following factors contribute to this: the gathering of data from small samples is applicable as generalisation in order to show the population (Fairclough, 2003). In order to respond to the purpose of the study, small samples can be analysed to find distinctive research perspectives (Fairclough 2003). Moreover, the demand of quasi-scientific codings is not applicable in social constructivist to textual analysis (Merkl-Davies et al., 2011). However, the analysis depends on the researcher itself on the measurement approach (Merkl-Davies et al., 2011).

Analysis of SR and IR is undertaken by deep reading and reviewing the reports of ten selected companies, interpretatively taking out elements of social and environmental information. The content of SED in the reports was analysed using a simple measurement.

The first measurement was of the integration level of SED between SR and IR. Instead of measuring using simple calculation, it highlights the development of SED in reports and checkups the spread/scope of SED throughout the reports. The process of measurement is being executed by considering the sections of each report that reported on social and environmental information, for example, the chairman's statement, risk management, corporate governance review and business review. This process is being done to escape positivist counting of 'mentions' or sentences or paragraphs. However, it generates an image of analysis by an adequate link between the social and environmental information and therefore, integration between them can be effectively recognised. This measurement adopts the GRI G3 guidelines as indicators to evaluate the results. In the analysis, measurement of SED is being done when the positive relationship occurred between the total number of elements and the integration level. When the total number of elements is increasing, it shows that the integration level is also the same. Eventually, using the approach undertaken in the analysis, several measurements have been calculated as follows:

- Accumulation difference overtime (ADOT) measures the total change (expand/diminish) in the number of sections in the reports reviewed where each element of social and environmental information appears.
- Proportion of positive difference of a number of sections measures the proportion of elements in each category (social and environmental) that are reported in an increased number of sections over the period.
- Proportion of positive and no difference of a number of sections measure the proportion of elements in each category (social and environmental) that are reported in an increased and no change in number of sections over the period.

Subsequently, in order to draw out a range of patterns and motifs, methods of interpretative and critical textual analyses of the report are beneficial. These patterns and motifs develop through the interpretative analysis by deep reading and reviewing all the reports. Through the deep reading and reviewing, the analysis detected any changes of image, figures and information as it became integrated.

3.3 Sample Selection

Ten samples of ten companies are relevant in this research, representing high social and environmental impact. As this research focuses on European companies, these selected companies have been chosen with the condition that the companies must have fully implemented IR without producing any more SR. Although most European companies have established sustainability in their businesses, the analysis undertaken by the IIRC (integratedreporting.org) indicates that only ten percent of companies have disclosed non-financial information in their reports. This shows that there is still a lack of reporting disclosures engaging in the reports.

Table 2. Summary of Samples of the Companies

Company	Industry	Year of SR	Year of IR
Deutsche Borse Group	Construction Services	2011	2012
ENBW	Electricity Energy	2011	2012
Grupa Lotos, Poland	Oil and Gas	2008	2009
Indra Spain	Telecommunication	2007	2008
Melia Hotel International	Tourism	2012	2013
Munich Airport	Transportation	2009	2010
Novo Nordisk, Denmark	Healthcare	2003	2004
Royal BAM Group	Construction Services	2013	2014
Royal DSM	Life and material sciences	2009	2010
Uralsib	Financial Services	2010	2011

4. Results and Analysis

4.1 Measuring the Integration Level

4.1.1 Interpretation of Findings: Measuring the Integration Level

Table 3 concludes the total ADOT score for each company in terms of social and environmental aspects, including the proportion positive difference and the proportion positive and no difference in the social and environment sections. In terms of the ADOT of the social aspect, this has shown that only three of ten companies increased disclosure in IR. Most of the companies disclosed around 70 percent fewer elements of social aspect in IR. On the other hand, ADOT for the environmental aspect showed that only four companies increased their environmental disclosure and only one company had no change in environmental disclosure. A justification for the lower score is because most companies have just introduced IR as new reporting and are still trying to adopt IR. Furthermore, the reports were combined with financial information and therefore, companies tried to balance between financial and sustainability/non-financial information.

In addition, the table shows that the proportion of the positive difference in social elements ranges from 0 percent to 48 percent. The justification of these results presents that companies responded to social issues for more than half of the report content instead of limiting the reporting to financial information. However, the social content represents minor parts of the report instead of other elements such as risk and governance, financial and business scopes. In the aspect of environmental information, the measures range from 0 percent to 43 percent of elements, showing a positive difference in the number of sections where they are presented. This scenario is similar to social elements as the range incurred is almost the same. The percentage shows that fewer environmental elements are reported and disclosed in IR. It seems that companies focused on other sections during the integration as more information needs to be disclosed in one particular report. This study also shows the percentage of elements in the number of sections for positive and no difference, where the interpretation further indicates the deficiency of negative change: in very few scenarios, SED were disclosed in fewer sections as IR has been introduced.

Based on the analyses undertaken, a few patterns and motifs arose: company strategy and regulatory requirements, reporting style, the crucial issues of materiality and the development of new sections in the reports.

Table 3. Summary of the sample companies measuring the integration level

Company	Type of Industry		Social Aspect	Environment Aspect
Deutsche Borse Group	Construction Services	Total ADOT	+18	0
		Proportion of positive difference in number of section	48%	40%
		Proportion of positive and no difference in number of section	88%	77%
ENBW	Electricity Energy	Total ADOT	-20	-22
		Proportion of positive difference in number of section	10%	0%
		Proportion of positive and no difference in number of section	65%	50%
GrupaLotos	Oil and Gas	Total ADOT	-11	-1
		Proportion of positive difference in number of section	0%	3%
		Proportion of positive and no difference in number of section	73%	93%
Indra	Telecommunications	Total ADOT	-7	-14
		Proportion of positive difference in number of section	18%	30%
		Proportion of positive and no difference in number of section	85%	87%
Melia Hotel International	Tourism	Total ADOT	-25	-17
		Proportion of positive difference in number of section	5%	20%
		Proportion of positive and no difference in number of section	60%	47%
Munich Airport	Transportation	Total ADOT	+6	+14
		Proportion of positive difference in number of section	43%	23%
		Proportion of positive and no difference in number of section	78%	77%
Novo Nordisk	Healthcare	Total ADOT	-1	+2
		Proportion of positive difference in number of section	10%	10%
		Proportion of positive and no difference in number of section	70%	97%
Royal BAM	Construction Services	Total ADOT	+1	+36
		Proportion of positive difference in number of section	13%	43%
		Proportion of positive and no difference in number of section	80%	100%
Royal DSM	Life and Material Sciences	Total ADOT	-9	+2
		Proportion of positive difference in number of section	10%	23%
		Proportion of positive and no difference in number of section	50%	87%
Uralsib	Financial Services	Total ADOT	-28	-11
		Proportion of positive difference in number of section	0%	0%
		Proportion of positive and no difference in number of section	58 %	63%

4.2 Company Strategy and Regulatory Requirements

The process of deep reading and reviewing all the reports showed that reporting for the scope of social and environmental issues is driven predominantly by company strategy and regulatory requirements. These results corroborate the ideas of Bouten et al. (2009) and Archel et al. (2009), who suggested that SED increases legitimacy and regulation intervention. This can be seen in the analysis, undertaken in line with CSR (corporate social responsibility) and company strategy (Grupa Lotos Group).

In terms of company strategy, for example in Deutsche Borse Group, the implementation of integrated reporting is driven by company strategy. The following CEO letter (Deutsche, 2012, p. 14) states that:

We are supporting a large number of initiatives to promote sustainability: We place particularly high value on *our membership of the United Nations Global Compact and the implementation of its principles regarding human rights, labour, the environment and anti-corruption. After focusing strongly on our own sustainability performance and reporting in the past, which was again rewarded by our inclusion in key sustainability indices in 2012, we are now turning our attention to fostering transparency for holistic investment strategies on the global capital markets.*

However, as most companies move on to IR, the application of the GRI guidelines is still applicable in the report. Some companies literally acknowledged the adoption of the GRI guidelines or other guidelines such as the TBL Indicator or the Accountability Standard AA1000. For example, Novo Nordisk's IR year 2004 states on page 58 that:

Novo Nordisk reports – and has done so since 2002 – in accordance with The Global Reporting Initiative's (GRI's) 2002 Sustainability Reporting Guidelines. The Guidelines require reporting in accordance with 11 principles and against a list of 97 sustainability performance indicators, of which 50 are core indicators that must be reported on. On the website is a GRI index with an overview of the full 'in accordance' reporting.

This is also similar to the case of Melia Hotel, when their first IR was introduced:

'This first Integrated Report on Meliá Hotel International is intended to comply with the core idea of the most innovative international standards: to report on the relevant information for the stakeholder groups' (Melia Hotel, p. 11).

Interestingly, in the case of Novo Nordisk, business strategy for the short and long-term looks forward to the diabetes care programme. Most topics in Novo Nordisk reported the issues of diabetes in terms of prospects and interviews with diabetes patients. The result of this report is similar to the case of Islam and Deegan (2010), which mentions that topics that received greater amounts of negative media coverage affect the corporation but that reaction involved provision of positive disclosure on the topics. Although both results are different in terms of topics, the greater coverage of Novo Nordisk had a significant impact on the readers of the report, encouraging them to be aware of the importance of curing diabetes patients.

4.3 Reporting Style

For Royal DSM, the use of images for IR brings a new scope of SED (Royal DSM, 2010 pp. 16–27). This result can be justified by the fact that images explain people, community, health and environment, showing that stakeholders create value for companies, aligning with the purpose of IR. A previous study undertaken by Duff (2011) on evaluating images observed inconsistent results on whether images are portrayed as producing value for clients and society. The analysis done by Duff (2011) classifies the insufficiency of gender and race in the annual reviews. Duff (2011) finds that the job functions and locations represented inequality and stereotyping even though the annual reviews show the firm's build value for its clients and society. These findings may help to understand that images give significant indicators to the readers on how well the companies are doing at being transparent to their stakeholders.

In the case of Munich Airport's IR, the reporting style moves to IR, not only integrated for the focus of corporate strategy and for diverse business. However, this combined report focuses on the expansion of the airport's infrastructure and efforts to protect the environment, fights against climate change, advance and retain employees and engage with local communities and the wider encompassing region.

4.4 The Crucial Issues of the Materiality

Materiality issues are the main concern for organisations to disclose in IR. This can be seen in the IR of Melia Hotel, as stated on page 11 and further explained on page 77:

Its production was based on the results of the materiality analysis for 2013. An attempt has been made to adapt the content of the information most relevant to the Company and to its Stakeholder Groups, bearing in mind where this information is relevant (location and setting).

In 2013, and in order to reinforce the integrated reporting model, Meliá proposed to its different stakeholder groups the analysis of materiality. The results can be consulted in this annual report; using the model of dialogue with stakeholder groups.

These results further support the idea of materiality discussed by Hsu et al. (2013); this explains materiality issues in IR. Materiality represents a concept deriving from financial reporting that the organisation's financial statements and investors being controlled by the economic decisions (Hsu et al., 2013). Furthermore, materiality performs a significant role to report information (Hsu et al., 2013). In addition to quantitative and qualitative aspects, materiality can fix an inaccuracy or misrepresentation of annual reviews reports (Hsu et al., 2013).

However, it is crucial to determine the magnitudes of materiality in the aspects of external and internal standard (Hsu et al., 2013). The company should, therefore, consider disclosing the materiality criteria in accordance with 'significance to stakeholders and organization' in deciding the priority of reporting (GRI, 2011).

A different case; that of the Royal BAM Company, states that:

In BAM's aim to create an integrated approach that concentrates on matters that are critical to achieving BAM's goals and managing its impact on society, the Group has conducted a materiality assessment. Material motifs are those that substantively affect BAM's ability to create value over the short-, medium- and long-term (Royal BAM, 2014, p. 18).

The Materiality Matrix displays the prioritisation of matters based on their relative importance to BAM and to BAM's stakeholders. It should be noted that opinions of various stakeholders and appreciation in BAM's home markets may differ. Table 4 shows the high and very limited materiality concerns of Royal BAM's stakeholders.

Table 4. Materiality Components in Royal BAM

Materiality Component	
High Materiality	**Very Limited Materiality**
• social compliance	• freedom of association
• local communities	• collective bargaining
• diversity	• labour practices grievance mechanisms
• equal opportunity	• human rights assessments
• energy emission	• supplier assessment for impacts on society
• employee performance	• supplier human rights assessment
• waste	• environmental compliance
• transparency	• equal remuneration
	• human rights grievance mechanisms
	• social public policy
	• grievance mechanisms for impacts on society

4.5 Development of New Sections

This section discusses the development of new sections being analysed by looking at sections that involve social and environment categories correspondence with the GRI G3 guidelines. According to the Table 5, as IR being introduced, the number of sections has shifted throughout the period. This change has decreased the number of sections for all companies except Uralsib, which shows no difference in the number of sections.

Regardless, the reporting content of the section titles has changed and emerges to show an adjustment with the later introduction of IR. Although sustainability information has been integrated with more sections of the later reports, IR has less variety of sections that prioritize sustainability related issues. For example, in the Uralsib reports, there is a 'Charity' section in SR, while in IR it is called 'Social Investment and Charitable Programs'. Additionally, SR includes 'Personnel Training', while IR calls this 'Personnel Management and the Internal Social Policy'. A possible explanation for this might be that the combination of financial and non-financial disclosures tends to shorten all information in one specific report. Furthermore, the company intention might be to disclose only relevant information to stakeholders. These results differ in the case of ACCA (2012), which examines annual reports and integrated reports. However, as both cases represent different phenomena, sustainability issues are raised here. Sustainability issues are driving the company to engage with their stakeholders.

Looking at different perspectives, IR is more focused on CSR sections rather than environmental aspects. For example, in the analysis of Deutsche Borse Group, sections for 'acting for climate change protection', 'social commitment' and 'education and research' are included in SR but not in IR. According to Carrol and Shabana (2010), businesses currently have sufficient power to sustain themselves, so there is no reason to wield additional power such as social and environmental power. Generally, CSR refers to company obligation to deal with their impact on the community at large and respond ethically and does not necessarily incorporate sustainability. On the other hand, sustainability concerns long-term focus and preservation of resources.

Surprisingly, Royal BAM IR found the development of new sections derived from the additional sections in the assurance part. This finding was unexpected and suggests that these procedures were intended to fulfil the rational objectives as disclosed by the company.

Table 5. Summary of development of new sections

	Number of sections		Number of Section Expand (+) or Diminish(-)
Company Name	**SR**	**IR**	
Deutsche Borse Group	24	15	-9
ENBW	34	15	-19
Grupa Lotos	68	33	-35
Indra, Spain	22	20	-2
Munich Airport	23	16	-7
Melia Hotel International	34	16	-18
Novo Nordisk	30	19	-11
Royal BAM Group	44	25	-19
Royal DSM	20	12	-8
Uralsib	16	16	0
Total	**315**	**187**	**-128**

5. Conclusion

5.1 Findings and Implications

This study has found that the majority of the ten European companies being examined disclose less SED when moving to IR. As regards integration, SEDs which matches with the GRI G3 guidelines do not appear in the main reporting. In earlier IR reports, sustainability of SED information is being reported into specific sections such as 'sustainability reports' and also mentions in the Chairman's statement. It can be seen that obvious deficiency of integration level of social and environmental information. Yet, most reports exhibited on SED were repeated with different phrasing and often exaggerated in the report. Therefore, it can be possibly justified that most of the companies' reports showing relatively less information of SED.

On the other hand, the companies might have a limited knowledge about IR's approaches. Consequently, the companies are ambiguous as to exactly what an IR 'should' include and what it 'should' look like.

Furthermore, the second analysis reviews the patterns and motifs arising from deep reading both reports, with respect to social and environmental consideration. This study found that most companies' moves to IR are driven by company strategy and regulatory requirements, reporting style, the crucial issues of materiality; and the development of new sections. As conclusions for overall patterns and motifs, the reports formulate a discussion about stakeholder accountability eloquence, focusing on investors. From the results, the report trends focus on the value of investors rather than the value of society, as mentioned in the previous literature. With regard to the analysis of section's reports (titles) solely demonstrates a particular shift in the intensity of the reports, with companies utilising more towards investor-approach titles as narratives help investors to sustain their businesses. The introduction of IR gives priority to directors to express through reporting, for example, directors' opinions about climate change, changed to reflect growing business strategy. Such a movement could demonstrate that companies try to legitimise themselves to society. Additionally, the introduction of IR seems to focus on shareholder decision making rather than society and the environment as main priorities. Although the concept of sustainability has already been embedded in IR, this does not necessarily guarantee that IR produces solely empty rhetoric as reporting will achieve its capability to alter corporate behaviour.

5.2 Recommendations

This study suggests that one way of improving SED in IR is to expand the information disclosed in the reports. Rather than merely repeating the same information in the reports, the way in which significant or material information is reported could be briefer, avoiding exaggerated repetition. Repeating important information in the report merely increases the quantity of SED and does not contribute an enhancement in the quality of reporting or represent more 'integrated reporting' of information. Nonetheless, the integration of SED could be increased by a number of sections in the reports to improve non-financial information within the corporate reporting.

More broadly, research is also needed to improve the quality of IR in relation to SED (all basic practices and policies) for organizations to seek the opinions of their major stakeholders that they report; these views could be included within the reports – for example, major stakeholders' views in relation to the activities incorporated in IR, such as disease (diabetes, AIDS, HIV), employee training, climate change, waste reduction and biodiversity. In turn, these would improve the new dimension of IR that is currently lacking. Additionally, this would assist companies to build an energetic integration between reporting and behaviour as IR does not want to become externally 'good' but internally 'bad' by transforming corporate behaviour in relation to social and environmental issues.

Another recommendation is for IR to include an assurance statement by an independent assurer in order for SED to convince investors and other stakeholder groups. This can be done by hiring assurance practices in order to secure the information to be transparent and accountable to all stakeholders including environment and community.

5.3 Suggestions for Further Research

It would be interesting to assess the reaction of users' views of sustainability in IR, including primary groups (investors) as well as other influential stakeholders (clients, employees, local communities, government and suppliers). The research could ask the primary group (investors) whether the reports improve companies' accountability to them as shareholders. Furthermore, investors could ask which parts of IR represent weakness to them and how to counter any problems. Eventually, further research could also relate to other stakeholders' engagement when moving from SR to IR.

Lastly, further studies could also be conducted in terms of examining the media agenda and setting theory implementation in SED, as well as whether media coverage gives good opportunities to represent positive disclosure to stakeholders.

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The Impact of Organizational Culture and Performance Work System on Employees' Performance

Amirreza Salehipour[1], Abdollah Ah mand[2]

[1]Department of Project Management, Postgraduate Studies Centre, Limkokwing University of Creative Technology, Malaysia

[2]Department of Economics, Faculty of Economics and Management, University Kebangsaan Malaysia, Malaysia

Correspondence: Amirreza Salehipour, Department of Project Management, Postgraduate Studies Centre, Limkokwing University of Creative Technology, Malaysia.

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Abstract

Necessity of improving employees' performance in ministry of education in Iran was the reason of conducting this research. Authors are focused on the impact of High Performance Work System (HPWS) and the culture of organization on employees' performance in Iran ministry of education. By conducting specified study based on distributed survey questionnaire to 162 members of ministry of education in Iran, this study aims to provide answer to the given research questions of study. The outcome of hypotheses testing illustrate HPWS significantly effects ministry members' performance and shows strong relation between variables. Likewise, organizational culture demonstrates significant affirmative impact on Iran ministry of education members and employees' performance. Findings of current research indicate that the ministry of education in Iran requires immediate action toward improving performance of members to obtain desired outcome. Accordingly, to the result of present study, current research attempts to provide practical concepts and illustrate limitations, suggestions for improvement of ministry and future study in this field.

Keywords: High Performance Work System HPWS, Performance Management System PMS, selective training and development, individual roles and employee performance

1. Introduction

Competitiveness among the private and public organizations with customers and shareholders' demand demonstrate desire economic continuing improvement and change. According to Tsui et al (2013) in order to tolerate this competitive environment organization required to highly improve and develop performance of employees. Refer to the mentioned issue, employees need to involve and improve their operations to achieve organizations' objectives. This is because staffs 'perform is believed to operate significant role in influencing organizational achievement of required initiatives, which described by Sparrowe et al.(2001) as a key factor that lead the organization into desired performance.

This study is motivated from the importance of employee's performance on fulfilling the objectives of organizations and lacking of such research for organizational culture and performance work system in Iran. Generally, organizations' objectives such as service quality, customer satisfaction and loyalty, etc. are depend on employee's performance Tsui et al. (2013).Thus, firm's' objectives are likely achievable by paying attention to individual performance synchronization toward organizations' goals.

Anitha (2014) defined performance of employees as the financial or non-financial consequence of the employee that directly connected with both the operation of the firm and its success. In a changing work environment, members of organizations may have various tendency and behavioural action, which will result to noticeable inconsistency in their performance Chen and Wang (2014). This is due to the accepted expectation that performance of an individual will highly relay on the strategy and execution that has been embraced by an organisation Anitha (2014).

However, some support improvement performance indicators directly related to knowledge gains Wu et al. 2013. The transfer, creation and use of knowledge require the existence of an organizational culture in which individuals and groups tend to cooperate with each other and share their knowledge in a manner that is mutually beneficial Kuchaki and Siahkhale (2012). As a result, a major priority was giving to developing the skills of the country labour force in order to meet the country needs Ministry of Information (2008). Furthermore, performance management system is another problem hindering employee's performance in the ministry. For instance, Hilal (2012) argued that teachers cannot be efficiently productive, unless the evaluation is accomplished attentively with significant consideration to all evaluation process aspects.

Thus, employee's influence with respect to culture of employees on the performance of companies is crucial issue and there is urgent need to investigate about it. Additionally, evidences on Iran are very rare on the culture of employee's and performances of companies.

2. Theory Literature

2.1 Employee Performance

2.1.1 Defining Employee Performance

Business researchers and management scholars are mainly concerned in identifying the most significant definition of employee's performance. Even though employee's performance has become a common phenomenon in management studies and makes its definition and structure reliable and explicitly justified March and Sutton (1997). Additionally, as mentioned earlier, Anitha (2014) defined employee performance as the financial or non-financial outcome of the employee that has a direct link with both the performance of the organisation and its success.

2.2 Dimensions of Employee Performance

Organizational researchers have made performance a definitive dependent variable of importance Richard et al. (2009). In a nutshell, the most significant criterion to examine employee's performance, organizations, their environments, and actions is through organizational performance Richard et al. (2009). Due to inability to identify dimensional of employee's performance, researchers have resulted to multi-dimensional system of performance measurement.

2.3 Issues on High Performance Working System

Over the past decades, academic scholars and practitioners have argued on the ways in which human resource practices of an organization are used in such a way that the employer attain the maximum achievable advantage from their abilities and the employees equally achieve material and psychological benefit from exerting their energy Graham (1978). This argument has led to the formulation of wide range of theories or models that link human resource management strategy with the general organizational strategy Schuler and Jackson (1987).

2.3.1 Defining High Performance Working System

Scholars and practitioners explored that both employees and organizational operation can be significantly enhancing by its human resource practices that influence human capital by acquiring, developing and encouraging the best talent Posthuma et al. (2013). The system was originated back to the American tradition of human resource management, based on the argument that involvement of employee is significant to organizational performance Ferreira et al. (2012). They also defined HPWS as systems of managerial practices that facilitate the increasing employee empowerment and increase the incentives and skills that will motivate and enable them to benefit from this better empowerment.

2.3.2 Dimensions of High Performance Working System

There is no generally acceptable element in measuring HPWS. Rather, researchers have used different dimensions suitable to their context Edwards et al. (2006). In order to understand HPWS, it is imperative to know how HPWS have been measured previously by various researchers in order to understand why the researcher chooses to measure HPWS in multidimensional approach.

2.3.2.1 Performance Management System

At the heart of organizational management, effort have been made to change some of the difficulty facing organization, one fundamental reform approach is to promote performance management (OECD, 2005). According to Moynihan (2008), performance management is a system that link performance information to organizational decision making. In a study, Ferreira and Otley (2009) defined performance management system as defining, controlling and managing both the attainment of outcome or ends and the means in achieving the result at a societal and organizational level rather than individual level. It has also been argued that PMS involve steps that include strategic planning, setting goals, progress measurement in the form of objectives, and using performance feedback to improve operational efficiency of the system, enhance policy making, encourage better resource allocation and increase accountability (Moynihan, 2008).

Ezati Mitra (2017) categorizes the barriers in employees' performance within the ministry into two categories external and internal. The external constraints include, lack of training and information, lack of authority, financial challenges, as well as the relationship between school and General Directorate (General Directorate Intervention), while the internal challenges include, lack of information and collaboration, lack of teacher's participation in decision making process, stress initiated from overload work, and lack of budget or unfixed amount of financial support (Ezati M. 2017).Researchers also identified lack of implementation of high performance work system as one of the most important problems facing employee's performance in the ministry (Ezati M. 2017).

2.3.2.2 Selective Training and Improvement

Training is one of significant and unfailing human resource method to improve employees 'efficiency (Bhatti & Kaur, 2009). In an effort to achieve organizational task and enhance employee performance, training and development program ought to be selectively schemed in a way that create a win-win situation for both employee and the organization in general (Bhatti, & Kaur, 2010). Selective training develops employee's knowledge and personality, as a result compatibility to working environment increase and their performance accordingly improves. Therefore, recognizing the accurate employees to be trained would shrink down organizational cost of training and development (Vlachos, 2011). This demonstrated that training and development are keys to organizational success and help sustain competitive advantage and employee retention (Ahmad & Schroeder 2003; Atteya, 2012). It provides employees with the needed knowledge, skills to effectively perform the required task and permit the organization to update modern work practices (Atteya, 2012).

2.3.3.3 Individual Role

Progressively, organizations are in search for members who not just believes working in nice and flexible environment but looking for people who committed to their organization and believe that their destiny depends on the organization's destiny (Epitropaki & Martin, 2005). Therefore, individual's operation on overall employees 'performance of the organizational has been to a great extent under-researcher, (Mollick, 2012), even though conceptual work had recommended that individual role can possible link to the achievement of better performance (e.g de Waal, 2007). Particularly, in an established organization where economic of scale and scope are significant such as the Iran Ministry of Education there certainly appears to be little need to take into account the role of individual in enhancing the overall performance of employees in the organization (Mollick, 2012).

2.4 Organizational Culture

2.4.1 Defining Organizational Culture

The term culture originated from a Latin world colure or culture meaning cultivating, growing as well as caring (Yuksel, 2006). There have been numerous views about organizational culture this has resulted to different definitions. For instance, Scott, Mannion, Davies and Marshall (2003), defined organizational culture as a wide range of social phenomena that help to define an organization's character in addition to norms, customary dress, language, behaviour, beliefs, value, assumption, symbols of status with authority, myths, ceremony along with rituals, and form of respect and subversion. Again, Eroglu (2007), defined culture as the overall information, belief, art, ethics, law, custom, habit and the skills brought by individual to the society in which they belong. Similarly, Aksoy et al. (2014), described organizational culture as the value of an institution, created not only by the manners and behaviours of every single person in the organization, but the joint attitudes and behaviour of the organization in general. A study by Armstrong (2006), defined organizational culture as the pattern of values, norms, beliefs, attitudes as well as assumptions that may not have been expressed but shaped the ways in which people in an organization conduct themselves and get things done.

2.4.2 Dimension of Organizational Culture

A major argument among cultural theorists has been the question of whether should be studied in homogeneous or heterogeneous approach (Alavi et al. 2006). For instance, Cameron and Rohrbaugh (1983), developed the famous competing value framework (CVF) that categorize organizational culture into four types such as clan, adhocracy, market, and hierarchy. Thereafter, Cameron and Quinn (2011),explained these four dimensions of culture as: A clan culture is a family type of culture that works closely together with commitment and loyalty to each other; adhocracy culture is self-motivated, innovative and entrepreneurial, placing value on creative innovation in addition to allowing employees to take risks; While market culture place emphasis on output in addition to results oriented and competition for customers, contractors, and regulators; Finally they defined hierarchy culture as unwavering controlled by rules, guiding principle, scheduling, in addition to lowering costs. Furthermore, in a most recent study by Ovidiu Iliuta(2014), put organizational cultural dimension into adaptability, mission consistency and involvement. The researcher therefore argued that notwithstanding the organizational cultural dimensions, an organization should align its core value with its overall performance. That a negative and non-transparent culture leads to high rate of agitation (Ovidiu Iliuta 2014). This is why it better for an organization to only focus on the type of culture that will create better employee's performance and that will help employees who do not achieve their objective before looking for a better match for the employee position (Ovidiu Iliuta 2014).

2.5 Relation between HPWS and Employees performance

Wright and Nishii (2012) argued that employee attitudes and behaviours will be influenced by perceived HR practices. Similarly, it is only the perceived HPWS which configures employees' attitude and the behaviour and making them to put in their best (Guest 1999). Using a sample of 700 of organization's member in China Zhang, Di Fan and Zhu (2014) found that HPWS which satisfies employees and provides effective loyalty and greater voluntary efforts toward performance improvement.

Scholars conceptualize HPWPs as a set of distinct but interrelated HR practices that incorporate, select, develop, retain, and motivate a workforce (Huselid, 2017).

2.6 Relation between Organization Culture and Employee Performance

The linkage among organizational culture and performance has received great deal of attention from scholars in the field of organizational culture (Ogbonna and Harris, 2000; Henri, 2006). Stoica et al. (2004) asserted that the relationship between culture and performance is influenced by the way organizations search for and use information. Therefore, comprehending the correlation between organizational culture and employee's task performance is an important research subject because detections of various studies have demonstrated that an individual's work performance is vital element toward the success of organizations (Shahzad et al.2013).

2.7 The Possible under Pinning Theory

This study predicted that resource base view (RBV) and contingency theory will be use for the purpose of this study.

2.7.1 Resource Base View Theory

The resource base view of a firm provides the understanding underlying performance among organization: the possession of inimitable organizational practices direct organizations to outperforming others as a result illustrates the major source of stable competitiveness advantage (Alegre et al. 2011). Hence, the HPWS of an organization performs as a competitive advantage for the organization as functions of complex inimitable resources well-established within the organization (Alegre et al. 2011).

According to Peng and York (2001), the RBV help to determining performance at organizational level and it's extensively regarded as a major advantage for an organization, and provide a platform that link HPWS and organizational culture with employee's performance. HPWS and unique culture of the organization will serve as rare resources if organization is able to employ it in a unique way (Peng and York 2001). Drawing on this, it has generally been theorized that high performance work system stimulate high performance by increasing the degree of human and social capital within the firm (Lepak et al. 2007) and at the same time motivate employee behaviours that creatively use organizational resource toward organizations' scheme (Appelbaum et al. 2000).

3. Research Method

This study is intended to examine the high performance work system impact and organizational culture on performance of employees in the Iran Ministry of Education. In order to achieve this objective, key element such as research framework, research design and method that have been used in this research will be discuss.

3.1 Research Framework

The research framework presented below comprises of three key variables. They include high performance work system (HPWS), organizational culture and employee's performance. HPWS which is the major element that the present study is aimed to examine in public organization has three dimensions. These variables will be investigated in an effort to establish their impact on public organizations. The study adopted a research framework recommended by Messersmith and Guthrie (2010), which investigate HPWS among a sample of young high technology firms in United States. This study expands their framework by including the role of individual to the framework. In the same way by examine this framework different context and sector such as

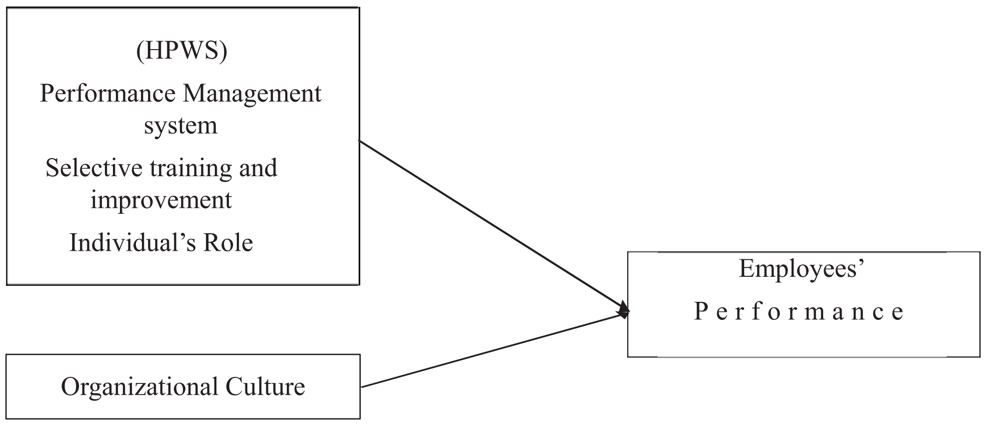
Iranian Ministry of Education.

3.2 Research Hypothesis

This study aims to examining the relation between HPWS, organizational culture and the performance of employees in Iran Ministry of Education. Therefore, the followings are the research proposed hypotheses to be tested.

H1: High performance work system has a positive relation with employees' performance.

H1a: Performance management system has positive relation with employees' performance.



H1b: Selective training and improvement has affirmative relation with employees' performance.

H1c: Individual role has affirmative correlation with overall employees' performance of Iran ministry of education.

H2: Organizational culture has affirmative relation with employees' performance.

3.3 Research Design

The researcher classifies research approach into two, such as: quantitative and qualitative research (Neil 2009). In this study, the researcher adopted a quantitative approach in an effort to test the relationship between the research variables (Kreuger and Neuman 2006).

3.4 Population and Sampling Design

3.4.1 Population

Population refers to group of people that share common characteristic (Zikmund 2003). Based on the available statistic provided by the Directorate General of Human Resource Development in the Iranian Ministry of Education, there are more than one million employees in the Iranian Ministry of Education (Ministry of Education 2017).

Considering that, it is not practically realistic to conduct a survey on all the employees in the Ministry of Education (Zikmund 2003), two hundred and eighty-two (282) employees in the Directorate General of Human Resource Development form the population for this study. This is due to the employees in this directorate evaluate development and provide training for all other directorates, yet employees within the HR directorate lack performance management system. This has also weakened the performance of employees within this ministry as majority of the employees have no feedback about their performance. The list was obtained from the Directorate General of Human Resource Development which serves as best source regarding employment information. The list combines all the employees in the Ministry of Education including the teachers.

3.4.2 Sampling Size

A sample is the subset of a population (Zikmund 2003). Considering it is not completely reasonable to obtain all the data from this population, for this reason it is very important to decide the sample size (Zikmund 2003). Determining sample size Roscoe (1975), recommended a sample between 30 and less than 500. In the same view, Krejcie and Morgan (1970) a sample size of 162 to be a good sample. Therefore, to avoid problem of response bias and to increase the response rate for this study, the researcher decides to use a sample of 200 as a sample size for this study.

3.4.3 Sampling Techniques

In this study, a simple random sampling technique was utilizing to select 200 employees from the Directorate General of Human Resource Development. This is because it provides researchers the freedom to include all elements in the population (Zidmud 2003). The list and the names of the employees were obtained from the secretary of the head of the director's office. This list contains the number of employees in each department and their job title. Thereafter, researchers put all the names into a basket and continuously starring the basket in the process selecting every element out of the large population until the researcher achieve the required number of sample size that was suitable for this study.

3.5 Instrument of Study

3.5.1 Employees Performance

In this study, employee's performance is the outcome variable that HPWS practices and organizational culture will influence. Hence organizational performance is operating as the action or behaviours that are significant to organizational goal and that can be measured in terms of every individual level of contribution (Mohrman et al.1989). In this study employee's performance was measured by eight items developed by (Jelinek et al. 2006). Previously, studies have reported that these items have satisfactory internal consistencies with a Cronbach alpha of 0.7 and above (Goldston 2007; Mansor et al. 2012).

3.5.2 High Performance Work System

A high performance work system is operating in this study as a set of distinct but interrelated HR practices that, taken together, select, develop, retain, and motivate a workforce (Becker and Huselid 1998; Guthrie 2001). High performance work system was measure with three dimensions, all items in these dimension were adopted from previous studies and were found to have a high validity and reliability.

3.5.2.1 Performance Management System

Performance management is operating in this study a process of delivering strengthened success to organizations by improving capabilities of individual and team (Mansor et al. 2012). In this study performance management was measure with six items adopted from a study by Mansor et al. (2012).

3.5.2.2 Selective Training and Development

Selective training and improvement refers to organized improvement and skills acquisition, also required attitudes and knowledge by employee's to effectively improve their operation in the organization environment (Goldstein 1993). In this study, ten items were used to measure selective training and development and they were adopted and modified from a study by Ahmad and Schroeder (2003); Jensen et al. (2013); Vlachos (2011).

3.5.2.3 Individual Duty

Organizations' function significantly impacts by individual performance. Employees must be persuaded, compel or obligated to take part in the organizational operation. Strong attraction identified amongst employees' motivation and their organizational identification. Organization member's identification level is subject to character and passion or their reason of taking part in that firm. The member's relation with organization will improve if their individual's requirements pleased in it. In this study the role of individual is measured with seven items adopted from (Goldston 2007).

3.5.3 Organizational Culture

Organizational culture is operating in this study as a common view of workplace practices within an organizational unit that differentiate it from other organization (Van den Berg and Wilderom 2004). As shown in Table 3.1 organizational culture was measured by ten (10) items developed by (Van den Berg and Wilderom 2004). These items have been used by other researchers and they show to be valid and reliable for measuring organizational culture (Aksoyet al. 2014; Wilderom et al. 2012). All items in this study are subject to seven point likert scale from strongly disagreeing to strongly agree. Table 3.2 shown items on organizational culture.

Table 3.1. Organizational culture Scale

Variable	Operational definition	items	Authors
Organizational Culture	A common view of workplace practices within an organizational unit that differentiates it from other organization.	1. Individuals working in different departments have common view. 2. We have ethical values which help us to differentiate right from wrong and guiding our behavior. 3. We have a value system that determines the manner of business that has clear and consistent value. 4. My organization gives freedom to employees to deviate from the rules. 5. Our employees have the chances of introducing their ideas before management makes decisions. 6. There is an ethical code that guides our behavior and tells us right from wrong. 7. My organization have a very strong culture 8. In my organization it is easy to reach an agreement, even on difficult issues 9. In my organization there is a clear agreement about the right way and the wrong way to do things. 10. People from different parts of this organization share a common view.	Van den Berg & Wilderom (2004).

Table 3.2. Individual role Scale

Variable	Dimension	Operational definition	Items	Author
HPWS	Individual role	The contribution of made by individuals toward the fulfillment of organization goals.	1. Every individual believes that he or she can have a positive impact on the organization. 2. Jobs are designed around individual skills and ability. 3. My organization ensure that the role perform by one person are not duplicated by others. 4. Every individual look for opportunity to improve the organization. 5. Individual take initiative to improve on their day to day task. 6. Every individual knows what is required of them in order to achieve long term goal. 7. Work is organized in a way that every individual can see the relationship between his or her job and the goal of the organization.	Goldston, (2007).

3.6 Layout of Questionnaire

The questionnaires in this study was first developed in English, but latter translated to Farsi because all the employees in the Iran Ministry of Education medium of communication is Persian, hence translating the questionnaire to Persian will give the respondents more understanding in answering the questionnaire. The translation was done by one of the directors in charge of training.

The questionnaire covers 6 pages close ended question to obtain information about HPWS dimensions such as performance management, individual role, and selective training and development.

3.7 Pilot Test

It is very important for a researcher to conduct a pilot study so as to know the internal reliability (Litwin 1995), in order to provide a solid foundation for the main study. Consistent with this claim, the Cronbach coefficient alpha was conducted in order to measure the internal consistency reliability of the items used in this study.

3.8 Technique of Data Analysis

The normality and outliers was first conducted prior reliability analysis. Statistical Package for the Social Science (SPSS) used to analysing the data version 20. Five following techniques were employed in the process of analysing the data for the main study using SPSS; cleaning and screening of data, descriptive statistics, factor and reliability analysis, Pearson correlation analysis, multiple regression analysis.

4. Result and Discussion

4.1 Response Rate

To conduct the study data collected from employees in the rank of managers, directors and other employees in the Human Resource Management Development of the Ministry of Education in Iran. In an effort to increase the response rate, telephone calls and send message short (SMS) were put across to those employees who the enumerator or the secretary could not be able to collected their response. Due to this attempt 162 questionnaire were retrieved out of 200 survey distributed. This makes a response rate of 81 percent (%). Giving the recommendation by Hair et al. (2010) a response rate of 30% and above is satisfactory for a survey. Table 4.1 below indicate the total number of survey distributed, collected from the employees and the number of questionnaire that had been completely filled by the respondents.

Table 4.1. The total number of survey distributed

	Number	%
Distribute	200	100%
Responded	162	81%
Completed	156	78%

From the above table, this study recorded a response rate of 81%. Therefore, a response rate of 81 percent (%) recorded in this study is believed to be a great achievement. Again out of the 162 questionnaire that returned 6 questionnaires i.e. (3%) could not be processed as they were partially filled, consequently they were removed (Bell and Bryman 2007).

4.2 Descriptive Analysis

Literature has argued that descriptive analysis is conducted following data screening and cleaning. Accordingly, Pallant (2007) avowed that descriptive analysis helps to explain the characteristics of the respondents who have involved in a study. It explains the characteristics of the sample in addition to addressing some specific research issues. The information is presented in Table 4.2.

Table 4.2. Demographic

Category	Items	No. Of Respondents	Percentage
Gender	Male	65	40.1
	Female	97	59.9
Age	18-20	1	0.60
	21-30	12	7.40
	31-40	75	46.30
	41-50	63	38.90
	More than 51 years old	11	6.80
Designation	Director	2	1.20
	Deputy Director	6	3.90
	Head Section	16	9.90
	Others	138	85.2
Educational Qualification	Doctorate Degree	17	
	Master Degree	73	
	Bachelor	57	
	Diploma	15	
Work Experience	Less than one year	3	1.90
	1-5 years	7	4.30
	6-10 years	17	10.50
	More than 11 years	135	83.30
Department	Director Office	27	16.70
	School performance Development	31	19.10
	Educational Supervision	23	14.20
	Main training Centre	43	26.50
	Training and Upgrading	22	13.60
	Evaluation of Training	16	9.90
Total		162	100

The above table is the demographic profile of respondents that participated in this survey from Directorate of Human Resource Development in the Iran Ministry of Education. With deep respect to the sex of the respondent it is evident from the above (Table 4.2) that majority of the respondents in the ministry are female (59.9%), followed by 40.1% responders which are male. These results support the notion that female employees constitute majority in nearly everyone public institutions. The response represents employees that were categorize into five different age grade 18-20 (0.6%), 21-30 (7.4%), 31-40 (46.3%), 41-50 (38.9%) and 51-61(6.8%). Although there exist contract employees in Iran education ministry which are not considered as member of the organization. If no prediction is made for replacement, it is likely going to be a great vacancy in this organization while the big number of employees in the ministry seems to be retired soon.

As for the designation of those that participate in the survey from this ministry. A total number of 2 (1.2%), 6(3.9) directors and deputy directors respectively personally participated in the survey. It is very rare for directors in this ministry to be fully involved in a survey as the researcher had witness in the past survey because of their busy nature. Their desire to be involved in the survey further shows the importance of this study to the ministry. Only 9.9% on the position of the head section constitute the respondents for this study. Furthermore, 85.2% of the employees in this study are within the rank of other positions as at the time of collecting data for the study, this informs the researchers that the sample is a true representative.

The table above also shows that majority of respondents in the Ministry of Education holds master degree and above (doctorate degree 10.5%, master degree 45.1%). The reason could be heathen by the current need by people to upgrade their knowledge irrespective of the position held in the organization. Also in this study, bachelor degree form 35.2% this may be influenced by the assumption that bachelor degree is gradually turning to be the minimum qualification for any organization whether public or private. While only 9.3% of employees that participated in this survey had diploma as at the period of this study.

In terms of employees work experience in the Ministry of Education in Iran that takes part of this study. The researcher found that 83.3% have eleven years' experience of working in the ministry. The above result justifies that most employees that participated in the survey tend to be experienced in the ministry hence; they are believed to have expertise and experience about human resource practices in the organization. This followed by employees with six to ten years (10.5%). While employees between 1-5 years' experience constitute 4.3 of this study, only 1.9% of the employees that have less than one year were engage in this study.

Concerning the department that employees that participate in this survey, Main Training Centre have the majority forming a total of 26.5%. While 19.1% are from School Performance Development. Another 16.7% were representative from the director's office. While 14.2%, 13.6%, 9.9% are representative from Educational Supervision Department, Training and Upgrading Department and Evaluation Training Impacts Department respectively. The above statistics justify that most all the department in the ministry were fully represented.

4.3 Reliability Analysis after Factor Analysis

It is vital for scholar to study and make sure that utilize reliable measurement for the sampling in a research. As a result, Sekaran and Bougie (2010) defined reliability as a measuring instrument that measures the consistency of an instrument. Drawing on this assertion, it is vital for the present study to review the internal consistency of the measurement that utilized. Cronbach's Alpha indicator adopted to evaluate the study as predictor of the internal consistency. According to Pallant (2007) a Cronbach alpha coefficient of 0.50 and above is suitable for a study. Fornell and Larcker (1981) also recommended that a composite reliability of 0.70 and above is acceptable. Hair et al. (2010) assert that a loading above 0.50 is significant.

Table 4.3. Reliability Analysis of performance management system, selective training and improvement, individual duty, organizational culture and employee's performance after factor analysis

Variables	Items number	Cronbach's Alpha Scores
Employees performance	6	0.821
Performance management system	5	0.743
Selective training and development	7	0.801
Individual duty	6	0.857
Organizational culture	8	0.872

4.4 Hypotheses Testing

In this study, correlation analysis was conducted through linear regressions. Particularly, the Pearson correlation analysis was adopted in order to examine and offer a more understanding of the strength of the linkage between HPW, organizational culture and employee's performance. In the same way, regression analysis applied to establish the direct relation between the explanatory and response variables.

4.5 Correlation Analysis Test

The correlation analysis was done in order to compare and know how related these items are. Literature has argued that the value of correlation is to assist the researcher in establishing issues of multi-collinearity (Mayers et al. 2006). Considering issues of multi-collinearity, Cooper and Schindler (2003) affirmed that no precise standard in establishing the level of correlation between variables that have multi-collinearity cases. They argued that a correlation that is 0.80 and above may be problematic for this reason, a lower correlation is acceptable.

The result of the correlation analysis shows in table 4.4 revealed that performance management system has a value of - 0.329 with a significant level of 0.000. This demonstrated that, there is no founded or negative relation amongst performance management system and employee's performance. Again, the result of the correlation analysis showed that selective training and development has a correlation coefficient of 593 at 0.000 a significant level. This suggests that, there is a significant positive relation between selective training and development and employee's performance. More so, it is evidence in the correlation analysis result in Table 4.4 that the role of individual is correlated with employee's performance at a value of 0.686 with 0.000 significant levels.

This showed that, there is a significant positive relationship between individual role and employee's performance. Finally, the result demonstrated a correlation of 0.684 between organizational culture and employee's performance at 0.000 significant levels. It signifies that there is substantial affirmative correlation amongst organizational culture and employee's performance. Table 4.4 showed the analysis summary of the correlation between HPWS dimensions, organizational culture and employees performance.

Table 4.4. Correlation result of HPWS dimension to employee's performance

Independent variable	Dependent(Organizational performance)	Significant level
Performance management system	- .329**	000
Selective training and improvement	.593**	.000
Individual duty	.686**	.000
Organizational culture	.684**	.000

**P<0.05

In accordance with Cooper and Schindler (2003), this study concluded that there is a relationship between HPWS dimensions, organizational culture and employee's performance. According to Zikmund (2003), correlation does not involve cause and effect no matter how satisfactory significant it is. This provides the basis for further analysis.

4.6 Regression Analysis

The multiple regression analysis was carried out in order to determine the variable or dimension that has stronger or weaker relationships to employee's performance. The regression analysis in Table 4.5 shows that 59.1% (R square =0.591) the variance of employee's performance have been significantly explained by HPWS dimensions and organizational culture. This is due to the high value of beta they enclose in explaining employee's performance. Individual role seems to have the highest contribution to the overall performance of employees in the Ministry of Education with beta value of (ß=0.370), followed by organizational culture (ß=0.324), selective training and development (ß=0.179) and performance management system contributing the least value to employee's performance (ß=0.028). The result is showed in Table 4.5 below.

Table 4.5. Regression Analysis

Variables	Beta (ß)	Sig
Performance management system	0.028	0.626
Selective training and improvement	0.179	0.000**
Individual duty	0.370	0.001**
Organizational culture	0.324	0.000**
R-squared=.591 F= 53.457		

*P<0.10, **<0.05, ***p<0.001, Sig =Significant, NS = Not Significant

Table 4.5 above demonstrates the multiple regression analysis of HPWS dimensions, organizational culture to employee's performance. In order to confirm the model presented in this study, via testing of the main hypothesis, a multiple regression analysis results were presented at the significant level of $p < 0.05$. The first task before the researcher is to confirm the hypotheses as regards to the relation amongst high performance work system dimensions, organizational culture and employee's performance. The next subsection shows the hypothesis decision from the regression result.

Findings of this are similar to the findings of other developing country in the region. Shahzad et al. (2013) in a software houses conducted in Pakistan found that there is a positive relationship between organizational culture and employee's job performance. Consequently, they recommended that it is very useful to increase the performance of the employees by embracing a strong organizational culture (Shahzad et al. 2013). Therefore, in order to improve effectiveness, organizations must improve on their managerial aspect such as developing a suitable organizational culture and enhance efficiency by further flattering the organizational structure (Weiet al. 2011).

4.7 Recommendations

Based on the findings of this study, the researchers recommending that, ministry to should adopt a performance management system so as to achieve a high performance staff, rather than the traditional methods of performance evaluation. This is because PMS will help the ministry to address performance deficiencies and provide appropriate and specific feedback that will help in employee's career development. It will also provide a more dynamic system that will express the actual level of individual employee performance that will correspond with the nature of the jobs in the ministry.

5. Conclusion

This study was conducted in the Iran Ministry of Education which is a public service sector. Thus the result of the study is significant and applicable to the public sector or other organizations that have comparable characteristics. Additionally, this study represents one of the first steps toward understanding the relationship between HPWS, organizational culture and employee's performance in the context of public sector in Iran. Therefore, this unparalleled research highlights the significance of HPWS and organizational culture toward improving employees' performance. The research provides evidence that certain HPWS dimensions are associated with employee's performance. It is imperative to note that today organizations must excel to meet stakeholder's expectations; hence, the level of organizations awareness on HPWS and the ability to promote a better culture is vital to the survival of the organization.

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Job Insecurity, Organizational Commitment, Financial Responsibility, and Turnover Intention, a Test of Three-Way Interaction

Faris Alghamdi[1]

[1] Business School, Albaha University, Albaha, Saudi Arabia

Correspondence: Faris Alghamdi, Business School, Albaha University, Albaha, Saudi Arabia.

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Abstract

Job insecurity as a hindrance stressor has a negative effect on behavioral outcomes. The current study investigates the association between job insecurity and turnover intention among fixed-contract employees in Albaha province, Saudi Arabia. Additionally, it examines the moderator role of organizational commitment and financial responsibility in the association between job insecurity and turnover intention. 105 fixed- contract employees working in pubic organizations participated in the study. Pearson correlation analysis and hierarchical regression analysis revealed that job insecurity was positively and significantly related to turnover intention, as well as job insecurity, organizational commitment and financial responsibility interact in the predication of turnover intention (3-way interaction).

Keywords: job insecurity, organizational commitment, financial responsibility**,** turnover intention

1. Introduction

Job insecurity is a work stressor that scores among the most prominent psychological risks at the workplace. Comparing to unemployment, job insecurity can equal and sometimes even surpass the effect of unemployment (De Witte, Pienaar, and De cuyper, 2016; Leka and Jain, 2010; De Witte, 1999). It is a stressful experience aggravated by increasing in global competition, fast technological development, conflicts in the Middle East, and economic recession, i.e. lower oil prices. Theory of job adaptation explained that employees would seek out to relieve job dissatisfaction through different job adaptation responses, for instance, withdrawing themselves from the stressors (Hulin, 1991). Nowadays, the likelihood of losing one's job is a very big concern for many temporary or contract employees (Låstad, Elst, and De Witte, 2016; Greenhalgh and Rosenblatt, 2010; Lübke and Erlinghagen, 2014).

It was estimated that 59% of the Saudi population is younger than 29 years old. The unemployment rate in 20 to 29 age bracket remains high at more than 39 % in 2015. According to Saudi Arabia Labor Market Report (2016), Saudi rapid economic growth, cultural traditions, and young population generate five specific challenges, namely the lack of competitive and fulfilling private sector jobs, the reliance on foreign labor, high youth unemployment, inefficient job matching, and the low rate of female participation in the workforce. These critical labor market conditions seem to be linked to a higher fear of losing one's job, a higher experience of stress, and negative work-related outcomes (Jiménez, Milfelner, Zizek, and Dunkl, 2017; Anderson and Pontusson, 2007). A meta-analysis on the association between job insecurity and possible outcomes revealed that job insecurity is related to negative consequences for both employees and employers, together with short- and long-term effects. For employees, job insecurity is linked to poorer mental and physical health, lower satisfaction, and lower job involvement. For employers, it is associated with stronger turnover intentions and less organizational commitment (Låstad, Elst, and De Witte, 2016; Cheng and Chan, 2008; Sverke, Hellgren and Naswall, 2002). According to General Authority for Statistics, Saudi Labor Market Report showed that a total of 53, 997 mass layoffs events occurred in the third quarter of 2017. All these factors have led to a heightened sense of job insecurity among Saudi workforce, yet no empirical studies regarding the impact of job insecurity and its potential job-related consequences have been conducted in the context of Saudi Arabia, particularly in southern region. Moreover, Lee and Jeong (2017) claimed that even though scholars have documented the relationship between job insecurity and employee attitude toward the organization and between job insecurity and mental/ physical health, less is known about the relationship between job insecurity and behavioral outcomes such as turnover intention. They emphasized that few researchers have examined the relationship between job insecurity and turnover intention outside of Western countries (Hur and Perry, 2014).

In response to these challenges, the main aim of current study is to investigate the association between job insecurity and turnover intention among fixed-contract employees in Albaha province, Saudi Arabia. Additionally, it examines the moderator role of organizational commitment and financial responsibility in the association between job insecurity and turnover intention.

2. Literature Review

2.1 Job Insecurity

Researchers have studies widely the construct of job insecurity and its consequences, yet many different definitions of job insecurity exist in the literature. In their seminal study, Greenhalgh and Rosenblatt (1984) defined job insecurity as a "perceived powerlessness to maintain desired continuity in a threatened job situation" (p. 438), while Vuuren, Klandermans, Jacobson, and Hartley (1991). defined it as a "discrepancy between the level of security a person experiences and the level she or he might prefer" (p. 7). That is, it is a difference between the preferred the perceived level of security at workplace settings, such that threat of job loss are perceived by employees, and therefore worry about it.

Scholars have conceptualized job insecurity utilizing different dimensions such as objective-subjective (De Witte and Näswall, 2003), cognitive-affective (Pienaar, De Witte, Hellgren, and Sverke, 2013), and quantitative-qualitative (Hellgren, Sverke, and Isaksson, 1999). Given that , Erlinghagen (2008) and Jiménez *et al.* (2017) explained that subjective insecurity is the individual subjective feeling of insecurity about keeping the job in the future, whereas objective insecurity is the consequence of economic situations that may impact the perception of individuals regarding job insecurity. Borg and Elizur (1992) linked cognitive insecurity to the possibility of losing one's job, and linked affective insecurity to the fear of losing one's job. Shoss (2017) defines job insecurity as "a perceived threat to the continuity and stability of employment as it is currently experienced"(p. 1914). He, therefore, differentiated between two types of job insecurity, namely quantitative and qualitative. The former refers to perceived threats to the job itself, while the latter refers to perceived threats to features of the job, involving the loss of job privileges such as pay raise and promotion.

		Focus of reaction	
		Individual	**Organizational**
Type of reaction	**Immediate**	**Job attitude** Job satisfaction Job involvement	**Organizational attitude** Organizational commitment Trust
	Long-term	**Health** Physical health Mental health	**Work related behavior** Performance Turnover intention

Figure 1. Types of consequences of job insecurity. Adapted from "No security: A Meta-Analysis and Review of Job Insecurity and Its Consequences", by Sverke, M., Hellgren, J., and Näswall, K., (2002), Journal of Occupational Health Psychology, 7, p. 244.

Sverke, Hellgren, and Naswall (2002, 2006) argued that the followings consequences are as a function of job insecurity: frustration and stress that occurs when someone feels his needs threatened by a perceived insecure employment condition, stress reactions are due to uncertainty and ambiguity about a job, health-related consequences such as psychosomatic symptoms, attitudinal consequences such as job satisfaction, and behavioral consequences that happens when employees feel insecure about their job's condition. The last consequence may lead employees to leave an organization. Finally, these consequences can be categorized as presented in Fig. 1 in terms of immediate or long-term reactions, and whether the focus of reaction is at an individual level or an organizational level.

2.2 Turnover Intention

Turnover intention is a key concern for leaders and managers across organizations. It can seriously damage workplace morale, prevent employees from developing any commitment or identification towards their organizations, and reduce job satisfaction (Lin, Tsai, and Mahtma, 2017; Lutgen-Sandvik, Hood, and Jacobson, 2016). Turnover intention is a deliberate and conscious willfulness of employees to leave an organization within a predictable future (Ertureten, Cemalcilar, and Aycan, 2013). The conservation of resource theory postulated that when employees do not have enough resources to effectively deal with job related issues, their long-term effect of anxiety and pressure may be developed and enhanced (Houkes, Janssen, Jonge, and Bakker, 2003). Stress theory (Lazarus and Folkman, 1984) is complementary to the pervious theory, explaining that a state of emotional or psychological strain such as anxiety and pressure can substantially trigger turnover intention.

Researchers pointed out that turnover intention is an accurate predictor for actual turnover. Employee decisions to quit are typically deemed and made with respect to their present job satiation. It argued that an intention gives a better explanation for the actual turnover and a clear idea regarding employee perception about turnover (Gregory, Way, LeFort, Barrett, and Parfrey, 2007; Mowday, Steers, and Porter, 1979). Mobley's (1977) intermediate linkages model delineated the steps to turnover— the psychological process: job dissatisfaction, thinking of quitting, assessing of job seeking/expected utility and costs of quitting, intention to search for alternative, search for alternative, assessing for alternative, comparison of alternative against current job, and finally decision to be made to quit or stay.

Having individual nature of psychological processes, it is, according to this model, not necessary to follow the steps in sequence, and it may miss steps as a whole. The significance of the model in question is the identification of the behavioral process that goes form dissatisfaction to turnover. Turnover intention can be voluntary or involuntary. The former can exist when employees make a decision to leave at their discretion. It often happens when employees recognize another opportunity that is better than their existing position, have to leave for health or family reasons, and/or plan to voluntarily retire. On the other hand, the latter occurs when an organization deices to remove an employee from a position. This is more likely to happen when an organization is not happy with an employee job performance, productivity, and/or behavior, hence fire him or her. It may also occur when an organization change strategy and process, and undergo mergers and acquisition, as well as restructure or downsize, due to, for instance, economic factors (Çınar, Karcıoğlu, and Aslan, 2014).

2.3 Organizational Commitment

Organizational commitment is a complex and multifaceted construct. It is a positive attitude of employees representing a significant determinant of employee retention, leading to a psychological connection and identification with an organization (Meyer, Allen, and Smith, 1993; Vujičić *et al.,* 2015). Three-component model of organizational commitment (Meyer and Allen, 1991) has received by far the most attention (Culpepper, 2011; Meyer, Stanley, Herscovitch, and Topolinytsky, 2002; Solinger, van Olffen, and Roe, 2008). They identified three distinct components, namely commitment as an affective attachment to the organization, commitment as a perceived cost related to leave the organization, and commitment as an obligation to remain in the organization (Meyer, Allen, and Smith, 1993).

Affective commitment (desire-based) is defined as how much employees identify with, are involved in, and enjoy relationship in an organization. Continuous commitment (cost-based) is as a result of perceived leaving cost or side-bets as mentioned in Becker's (1960) side-bet theory. Normative commitment (obligation-based) is a feeling of employees of obligation to remain in an organization, thinking that it is the right and morel thing to do. It is argued that these three components are likely to develop in various ways and have various implications for job behavior. Affective commitment, for instance, was likely to be mostly sensitive to work experiences. Continuance commitment was likely to develop in response to conditions that rise the cost to leave an organization. Normative commitment was supposed to develop in response to social pressure. Finally, employees who have a strong affective commitment stay with an organization because they want to, employees who have a strong continuance commitment stay with an organization because they need to, and employees who have a strong normative commitment stay with an organization because they believe they should do so (Powell and Meyer, 2004; Meyer, Allen, and Smith, 1993).

3. Hypothesis Development

Most presented research on job insecurity has concentrated on its negative consequences on employees and organizations alike. Attitudinal reactions, i.e. turnover intention, reduced organizational commitment, and reduced satisfaction are related to job insecurity. Moreover, negative effects on family interactions (e.g., household income) have been reported. As such, theory of job adaptation (Hulin, 1991) postulated that employees are likely to mitigate job dissatisfaction through different job adaptation responses. For example, employees might withdraw themselves from the stressor through being less satisfied with the job and less committed to the organization, hence having a stronger intention to quit the job (Davy, Kinicki, Scheck, 1997; Probst, 2000, 2002; Cheng and Chan, 2008). The model of conservation of resources (Hobfoll, 1989) posited that employees strive to reduce loss of resources due to stress, end hence when they fear that they may lose their job, one option employees may take to lessen this risk is to search for and accept a new job that provide a higher level of job security. This situation of a high level of job insecurity was manifested in longitudinal study over 1 year (Blau, 2007). Employees turnover intention associated with their job search activity, hence explained through job insecurity. In the same vein, job search and voluntary turnover model (Direnzo and Greenhaus, 2011) suggested that employees perform job searches so as to increase their career chances, career competences, employability, and to be ready for job loss during times of high job insecurity (Tschopp and Grote, 2014; Lebert and Voorpostel, 2016).

Social exchange theory (Blau, 1964) explained the norm of reciprocity between employer and employees, in which the former party provides support to the latter party as to job security in return for its identification, loyalty, and commitment to an organization. When an organization undergo some organizational strategies such as restructuring, downsizing, and reengineering, employees are more likely to perceive that long-term job security is threatened. Likewise, the mainstream of occupational stress models claimed that stressors occupational settings produce negative changes in employees, physical, psychological, and behavioral aspects (Beehr, 1995; Lee and Jeong, 2017; Adebayo, 2006). Having said that, employees perceived job insecurity arising from a workplace setting feel that a given organization does not treat them well. Hence, they may respond through showing more negative attitudes including less organizational commitment.

Podsakoff, LePine and LePine (2007) conducted a meta analysis study with 183 independent samples and confirmed that job insecurity considers a hindrance stressor since it is directly linked to increased levels of job and organizational withdrawal. Employees feel insecure about the future and continuance of their job will lead to lower organizational commitment, and hence quit the job. Applying job demands resources model (Schaufeli and Taris, 2014), it found that job insecurity had a direct and an indirect effect, by burnout, on organizational commitment and turnover intention (Hu and Schaufeli, 2011; Schaufeli, 2016).

Sinclair and Cheung (2016) explained that direct measures capture economic deprivation via an assessment of one's total income i.e., either from annual salary or one's total household income. Riggotti, Mohr, and Isaksson (2015) found that financial responsibility strengthened the negative association between job insecurity and organizational commitment. Rosenblatt, Talmud, and Ruvio (1999) argued that male-breadwinner made male more vulnerable then female to job loss because female may not consider financial matters to be their main responsibility.

Lebert and Voorpostel (2016) claimed that the household's financial situation impacts employee career decisions. In their study, they concluded that economic hardship increased probabilities of voluntary turnover. Some scholars argued that spouses are responding to their partner's job loss through increasing their own participation in paid work (Starr, 2014). Career decisions are not taken in isolation, hence depending to a varying degree of the household situation. Sora, Caballer, and Peiró (2010) conducted a study in Spain on 942 employees and concluded that job insecurity associated negatively to organizational commitment and positively to turnover intention. Moreover, the interaction between economic need (responsibility) and job insecurity predict organizational commitment and turnover intention, such that employees who perceive job insecurity and experience high job dependence will have lower organizational commitment and a stronger intention to leave the organization. Finally, Chirumbolo and Areni (2005) undertaken an empirical study on 425 employees to examine the impact of job insecurity on two indicators of organizational behavior, i.e. job performance and absenteeism, and the moderator role of job satisfaction and organizational commitment. The results showed that job insecurity was negatively associated with work related behavior, i.e., job performance and positively with absenteeism; nevertheless job attitude, i.e. job satisfaction and organizational attitude, i.e. organizational commitment moderated only the effect of job insecurity on job performance. They argued that higher levels of job satisfaction and organizational commitment moderate the effects of job insecurity on the long term organizational consequences. Based on the discussion above, the first hypotheses are formulated:

H1: there is a significant negative correlation between job insecurity and organizational commitment.

H2: there is a significant positive correlation between job insecurity and turnover intention.

H3: there will be three-way interaction between financial responsibility, organizational commitment, and job insecurity in predicting turnover intention, such that employees who feel less commitment to the organization, experience high financial responsibility, and perceive high job insecurity will have a stronger intention to leave the organization.

4. Method

4.1 Participants and Procedure

Data were collected in 2017 from a sample of employees with fixed-term contract working in public organizations in Albaha province. The questionnaire was distributed in paper form accompanying by a cover letter illuminating the aim of the study and an assurance of confidentiality and anonymity. In the letter, there were instructions for completing and handing back the questionnaire to the principal researcher within two weeks. Excepting demographic variables, the questionnaire was translated from English language to Arabic language, which is the official language for all potential subjects, using a back-translation technique (Werner and Campbell, 1970). Hence, a professor at Albaha university translated the original questionnaire into Arabic language and then another professor at the same university translated back to English language without references to the original English version. Both professors are fully bilingual. After that, the researcher went carefully over both versions and made revisions necessary for ensuring a complete and accurate meaning of the original text of the questionnaire, which, in turn, enhancing ease of use, readability, and an appropriate level of formality.

The present study applied a self-report questionnaire administered to 115 employees on a fixed-term contract at the end of November 2017. Of the distributed questionnaires, 105 responses were received and useful for analysis, with a response rate of 91%. There were 57 male in the sample (54.3%) and 48 female (45.7%). The majority of respondents (45.7%) were in the range from 29-39 years old, and most of respondents (56.2%) received a bachelor's degree. Finally, majority of respondents (40%) had family members of 4 and above. **Table 1** shows the demographic composition of the respondents.

Table 1. Demographic variables of the respondents (N= 105)

Variable	Category	Number of respondents	Percentage
Gender	Male	57	54.3
	Female	48	45.7
Age	18-28	41	39
	29-39	48	45.7
	40-50	15	14.3
	> 50	1	1
Education	Less than high school	12	11.4
	High school	23	21.9
	Undergraduate	59	56.2
	Graduate	11	10.5
Family members	1	23	21.9
	2	12	11.4
	3	10	9.5
	4	18	17.1
	> 4	42	40

5. Measures

The current study utilized a descriptive cross-sectional design. The survey used in this study is structured, self-administered, and consists of four parts. The first part included items regarding demographic characteristics of participants, namely age , gender, educational level, and number of family members. Participants reported their age in years, their gender (0= female and 1= male), educational level (1= less than high school, 2= high school, 3= undergraduate, 4= graduate), and number of family members (1= 1, 2=2, 3=3, 4=4, 5= more than four members).

The second part includes job insecurity and financial responsibility variables. The former was measured using the Job Insecurity Scale (JIS). This scale includes 4-item originally coined by De Witti (2000). One of these items was reveres coded, hence using computer command in SPSS to transform data before running the analyses. Participants were asked to rate theses items on a 5-point Likert type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alphas for this scale in the current study were .72. The later was measured using the question developed by (Hoffmeyer-Zlotnik and Warner, 1998). The question is "what is your contribution to the household's income?". Partcpaintas were asked to choose one of the following potential responses: sole earner (100%), main earner (> 50%), joint earner (≈ 50%), and contributory earner (< 50%).

The third part is organizational commitment which was measured a set of four items developed by Cook and Wall (1980). These items have been used to assess affective commitment (desire-based) which is defined as how much employees identify with, are involved in, and enjoy relationship in an organization (Meyer and Allen, 1991). Participants were asked to rate theses items on a 5-point Likert type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alphas for this scale in the current study were .78.

The last part is turnover intention. It is measured with the scaled coined by Cammann, Fichman, Jenkins, and Klesh (1979), including three items planed to measure employees' tendency to quit the job in the near future. Participants were asked to rate theses items on a 5-point Likert type scale, ranging from 1 (strongly disagree) to

5 (strongly agree). Cronbach's alphas for this scale in the current study were .74.

6. Data Analysis

Preliminary analyses of the data were descriptive statistic (means, standard deviations) along with correlations of study variables, as shown in Table 2. Next, hierarchical multiple regression analysis was carried out to examine study hypotheses. Based on Cohen and Cohen (1983), variables of lower order were introduced first, and the higher order terms later. Hence, control variables were entered in first step (gender, age, educational level, and family members) followed by predictor variables (job insecurity, organizational commitment, and financial responsibility). In step 3, second-order interaction terms, i.e. all possible pairs of three predictors (job insecurity , organizational commitment, and financial responsibility) were entered. In the last step, the three -way product (job insecurity × organizational commitment × financial responsibility) was introduced. It should be noted that predictor and moderator variables were centered so that possible problem of multicollinearity can be solved, as well as interpretability can be maximized (Wu and Zumbo, 2008). Graphical representation was plotted to visualize the nature of interactions by means of the Excel sheet provided by Dawson and Richter (2006).

7. Result

Table 2. shows an overview of correlations between all variables included in the further analyses and main descriptive statistics.

Table 2. Means, standard deviations, and correlations among variables (*N*= 105)

	Mean	SD	1	2	3	4	5	6	7
Age	1.8	.72							
Edu	2.7	.82	-.07						
Gen	.54	.50	-.13	-.11					
FiR	2.3	1.1	-.20*	-.00	.10				
FaM	3.4	1.6	.08	.04	.04	.18			
JoI	3.6	.74	-.01	-.04	-.15	-.11	-.33**		
OrC	4.4	.63	.10	.05	-.19	-.14	.08	.14	
TuI	2.5	1.1	-.12	-.06	-.05	.22*	-.36**	.33**	-.36**

Note. Age= age in years; Edu= education; Gen= gender; FiR= financial responsibility; FaM= family members;; JoI= job insecurity; OrC= organizational commitment; TuI= turnover intention.

**P* < 05; ***P* < 01, 2-tailed significance.

Financial responsibility associated negatively and significantly with age (r = - .20, *P*< .05). Family member related positively and significantly to job insecurity (r = 033, *P*< .01). Lastly, turnover intention related positively and significantly to financial responsibility (r = 022, *P*< .05) and job insecurity (r = 033, *P*< .01), as well as related negatively and significantly to family member (r = - 036, *P*< .01) and organizational commitment (r = - 036, *P*< .01). Given that, hypothesis 1 stating that there is a significant negative correlation between job insecurity and organizational commitment has no initial support. Nevertheless, the positive and significant relationship found between job insecurity and turnover intention provides initial support for hypothesis 2.

In order to test study hypotheses, Pearson correlation analysis and hierarchical multiple regression analysis were carried out. Confirming the initial results, Pearson correlation analysis revealed that there was no significant negative correlation between job insecurity and organizational commitment (β=.14, *P* >.05). Therefore, hypothesis 1 was not supported. As for hypothesis 2, the result of Pearson correlation analysis indicated that there was a significant positive correlation between job insecurity and turnover intention (β=.33, *P* < .01). Therefore, hypothesis 2 was supported.

Finally, hierarchical multiple regression analysis were performed to test the third study hypothesis. Substantial support was shown for three-way interaction (see Table 3). The combination financial responsibility and organizational commitment moderated the relationship between job insecurity and turnover intention (β=.33, *P* < .01). The positive relationship between job insecurity and turnover intention turned out to be weaker under the condition of lower financial responsibility and higher organizational commitment— the regression slop is steeper under that condition (see Fig. 2). Facing a high level of job insecurity, employees with high financial responsibility and low organizational commitment present a greater increase in intention to leave the organization than those with high organizational commitment. Therefore, hypothesis 3 was supported.

Table 3. Hierarchical regression analysis in predicting turnover intention

		Step 1	Step 2	Step 3	Step 4
		Std. β	Std. β	Std. β	Std. β
Step 1					
	Age	-.10	-.04	-.00	.01
	Edu	-.06	-.02	.01	.03
	Gen	-.05	-.04	-.01	-.00
	FaM	-.35**	-.25**	-.25**	-.22**
Step 2					
	FiR		-.17*	-.18*	-.15
	OrC		-.37**	-.45**	-.33**
	JoI		.30	.39**	.44**
Step 3					
	JoI × FiR			-.12	-.08
	JoI × OrC			-.14	-.03
	OrC × FiR			.18*	-.03
Step 4					
	JoI × FiR × OrC				-.31**
	ΔR^2	.14	.21	.05	.04
	R^2	.14	.35	.40	.44
	ΔF	4.16**	10.40**	2.33*	6.83**

Note. The results of variance inflation factor (VIF) did not show any problems of multicollinearity. Predictor variables were centered.

**P*<05; ***P*<01

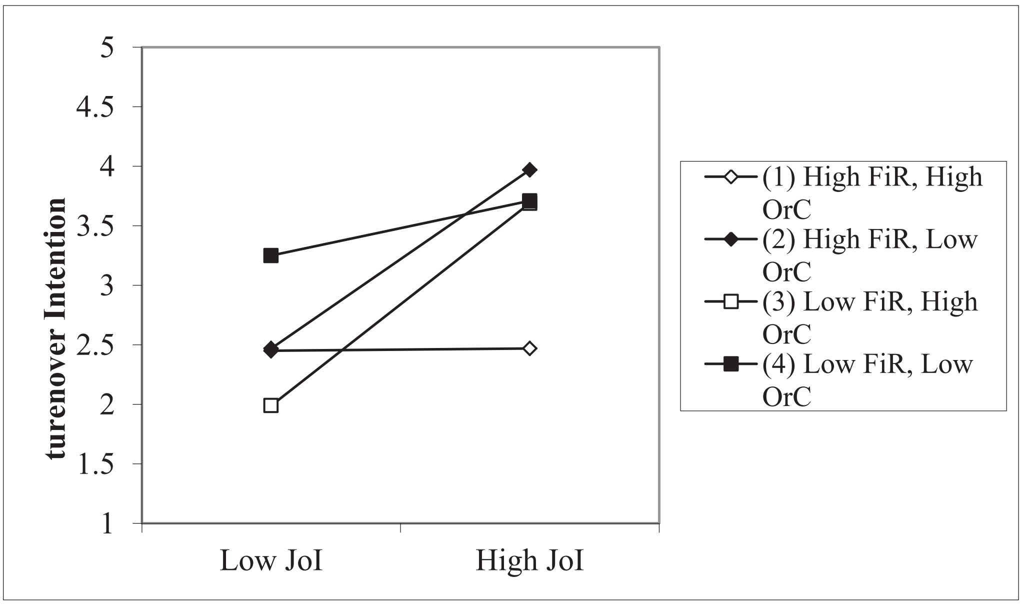

Figure 2. Interaction between JoI, OrC, and FiR in predicting turnover intention

Note. JoI= job insecurity; OrC= organizational commitment; FiR= financial responsibility.

8. Discussion

The goals of the present study were to examine the main effect of job insecurity on organizational commitment and turnover intention, as well as the moderating roles of financial responsibility and organizational commitment on the association between job insecurity and turnover intention. The first hypothesis, which stated that there is a significant negative correlation between job insecurity and organizational commitment, was not supported by the analysis. This finding is in line with previous studies (De Witte and Näswall, 2003; Guest and Conway, 2000; De Cuyper and De Witte, 2006; De Cuyper, Notelears, and De Witte, 2009). Transactional psychological contract explanations for the results of fixed-contract employees— the sample of the current study— accounted for why this study did not find support for the association between job insecurity and organizational commitment. Psychological contract theory (Rousseau, 1995) postulates that job insecurity effects are because of a violation of the relational psychological contract, hence permanents comparing to temporaries engage more in relational psychological contracting. Job insecurity is likely to be problematic in terms of its outcomes for permanents, but not for temporaries.

The second study hypothesis, which stated that there is a significant positive correlation between job insecurity and turnover intention, was confirmed by the analysis. The result is consistent with previous studies (Lee and Jeong, 2017; Jiménez *et al.,* 2017; Sora, Caballer, and Peiró, 2010; Lebert and Voorpostel, 2016; Çınar, Karcıoğlu, and Aslan, 2014; Staufenbiel, and König, 2010; Chirumbolo and Hellgren, 2003). This relationship has been confirmed in Western and non-Western contexts— one of which is the current study.

The third study hypothesis, which stated that there will be three-way interaction between financial responsibility, organizational commitment, and job insecurity in predicting turnover intention, such that employees who feel less commitment to the organization, experience high financial responsibility, and perceive high job insecurity will have a stronger intention to leave the organization, was supported by the analysis. The finding concurs with previous study (Lebert and Voorpostel, 2016; Rigotti, Mohr, and Isaksson, 2015; Sora, Caballer, and Peiró, 2010; Belgley and Czajka, 1993). Job insecurity considers as hindrance stressor, hence organizational commitment protects employees from the negative effects because it allows them to attach direction and meaning to their work (Leong, Furnhan, and Cooper, 1996). In the currrent study, organizational commitment and financial responsibility as moderating variables showed buffering effects on the relationship between job insecurity and intention to leave the organization.

9. Conclusion

This study is likely to further debate with regard to the relationship between job insecurity and organizational commitment. The fixed contract type, of employees in the current study, did not need to be problematic regarding psychological outcomes. Fixed- contract employees perceive fewer promises from organizations, i.e. employers than their colleagues on a permanent contract, experiencing less negative effects because they have a narrower but fulfilled contract. They see the two significant psychological features of job insecurity, i.e. unpredictability and uncontrollability unimportant. Therefore, job insecurity does not act as a stressor for these employees concerning organizational commitment. Moreover, another explanation is that fixed-contract employees may want to raise their opportunities to become a permanent contract by showing favorable attitude such as organizational commitment. It is recommended that organizations let their fixed-contract employees know in advance regarding some important entitlements— e.g., job security and advancement in the internal labor market— of their contract type. Hence, they can be more committed to their jobs and have no a spillover effects to life satisfaction and self-rated performance.

Job insecurity triggers an intention to leave an organization. The higher the level of job insecurity, the greater the level of turnover intent. Employees who experience a higher level of job insecurity incline to leave organizations more than those with a lower level of job insecurity. It is believed that the way to cope emotionally with job insecurity as a hindrance stressor— induces undesirable strain reaction— is to use distancing strategies that enable employee to withdraw from the situation in the form of turnover intention. It is recommended that organizations and managers should provide supportive work environment, i.e. from supervisors and colleagues for those employees with fixed-contract so that such negative effects can be mitigated. This support can also be done through clarifying organizational goals and promoting trust among management, following the premises of job demand-resource theory. Another intervention strategy that organizations and managers can implement for alleviating such negative effects is to improve employees' employability through training programs, which, in turn, can give them coping skills to deal with unpleasant feelings generated by job insecurity.

The results of three-way interaction implied that a higher level organizational commitment and a lower level of financial responsibility mitigated the relationship between job insecurity and turnover intention. These two moderating variables play a determinant role in the three-way interaction predicting turnover intention. When employees have a higher level of organizational commitment and a lower level of financial responsibility, their intent to leave the organization became weaker. It is recommended that managers should pay more attention to help employees generate positive attitude through organizational support and organizational justice, which, in turn, resulting in a high level of organizational commitment. Along with that, a lower level of economic need, i.e., financial responsibility can be achieved through encouraging on fixed-contract employees to enhance their employability and make more efforts to find other sources of household income.

There are some limitations in the current study that need to be acknowledged and should be addressed as an important avenue for future research. The first limitation is a cross-sectional design, which is not able to determine causal effects. Longitudinal studies would be better suited for causal studies with certain constraints. The second limitation is the possible biases from common methods variance in the self-report measure applied. However, when sample size and reliability of measure are sufficient, true interaction effects are not buried by common methods variance. The third limitation is the data used in the current study were gathered and interpreted by the author, hence increased the probability of overestimating the importance of the examined variables. Different sources, e.g. interview and observation can help overcome this issue. The final limitation is that the current study was limited to fixed-contract employees. Hence, including other types of temporary employees, e.g. on call employees, day-to-day employees, or subcontract employees may introduce more variance in the heterogeneity indicators.

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The Effect of Information Content of Integrated Business Reports on the Credit Decision Making at Jordanian Commercial Banks

Hasan Mahmoud Al-Shatnawi[1] & Ahmad Adnan Abo Al-Haija[1]

[1]Department of Accounting, Irbid National University, Jordan

Correspondence: Hasan Mahmoud Al-Shatnawi, Department of Accounting, Irbid National University, Jordan.

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Abstract

The current paper tested the effect of the information content of integrated business reports in enabling credit officers at Jordanian commercial banks to assess the company's capability to create value, and the effect of the so mentioned on credit decision making in the Jordanian environment. To achieve this objective, the researcher presented one of Jordanian companies' financial reports through a proper comprehensive questionnaire, distributed over a sample of credit officers at Jordanian commercial banks, through three alternatives of accounting disclosure which include: traditional financial reports that express financial disclosure only, traditional financial reports in addition to non-financial information in the form of separated reports, and then integrated business reports (consolidated financial and non-financial information). The number of the analyzed questionnaires was 95. Arithmetic means, standard deviations, Simple Liner Regression analysis and One Way ANOVA analysis have been applied to test the research hypotheses and achieve its objectives. The results showed that there is an effect for the disclosure of (only financial information through traditional financial reports, non-financial information through separated reports, and consolidated financial and non-financial information through integrated business reports) in order to take the decision of credit at Jordanian commercial banks. The research also showed that there are significant differences between the variables of the decision of granting loans according to the three disclosure alternatives. It is noted that the information content of the integrated business reports had the greatest effect than the other two alternatives on the decision of granting credit.

Keywords: integrated business reports, accounting disclosure, financial information, non-financial information, credit decision and value creation

1. Introduction

The current practices of financial reports focus only on the financial performance, which in turn does not contribute to deliver the company's aspiration and doesn't meet the stakeholders' needs of information. Many studies showed that traditional financial reports don't provide sufficient information to their users, thus, depending solely on the financial information of these reports leads to presenting an uncomplete image of the company's reality. Therefore, the financial disclosure only is not enough to fulfill the needs of stakeholders (Al-sha'ar et al., 2015).

Thus, many companies started disclosing non-financial information in the form of an independent report that includes the environmental and social aspects within the company's financial report. However, this did not meet the stakeholders' needs of information as it does not present an integrated image of the economic, social and environmental aspects, and it does not provide a comprehensive view about the company's financial performance. Based on this, the idea of integrated report came to light; it depends on consolidating between the financial and non-financial information within a homogeneous context that provides an integrated comprehensive view about the economic, social and environmental performance's aspects at the same time (Ghosh & Anne, 2012; Vanzyl, 2013).

Integrated business reports are considered as a tool for the disclosure of financial and non-financial performance of companies', as they include all the information related to the environmental, moral, economic and social concepts, in addition to commitment to governance, clarifying strategic plans and the board of directors' orientations. The information content of integrated reports help to create new opportunities for investment and increase company value on short and long terms (Abbas, 2017).

To grant banking credit has a great role in activating different economic and social sectors as it has become impossible for the production, distribution and trading operations to be done without credit. This requires banks to provide the suitable credit through a rationalized credit policy in which they balance between the returns and risks, it also takes into account achieving the aspired profitability, as well as fulfilling these sectors' needs such as the industrial sector (Al-Barzanji & Husain, 2017).

Deloitte (2012), Monterio (2013) and Owen (2013) indicated that the Insufficiency of the traditional reports or even the separated reports in assessing companies' performance, predicting their potential future performance, and assessing their ability to create value was the main reason to apply and prepare integrated business reports that meets the needs of stakeholders. Whereas, Cohen et al. (2012), Latridis (2011) and Barakeh (2017) indicated that the disclosure of financial information only in not enough to make decisions, this led to the importance of the availability of additional non-financial information that helps in making decisions that cannot be expressed financially, and should be included within the financial report such as the information about the company's sustainability.

Ismail (2016) pointed out that the information content of traditional financial reports does not meet the needs of stakeholders for decision-making. Thus, resent developments that came along with the emerge of integrated business reports were accompanied with the occurrence of several practices of financial reports, among which we can recognize three types: First includes traditional financial reports limited to financial disclosure only. Second is represented by financial reports with addition of non-financial information in the form of a separated report, in other words, unconsolidated with the non-financial information. Third is about the integrated reports that include non-financial information consolidated with financial information.

All what have previously been mentioned shows the importance of information content of integrated business reports, therefor; accounting disclosure of integrated business reports contents for sake of highlighting fulfill stakeholders' needs of information. The research problem is represented by studying and testing the effect of each of the previously mentioned types over the credit decision making at Jordanian commercial banks, and the contribution of these reports in enabling credit officers at Jordanian banks to build an integrated image about the company's performance and assessing its capability of creating value, moreover; measuring the ability of these companies creation of cash flows that enables the company to repay the loan and meet the credit's commitments within the legal period.

Due to the growing of integrated business reports importance about the traditional financial reports for various stakeholders, especially for credit officers at the Jordanian banks when taking the credit decision, the current research aims at measuring the effect of information content of integrated business reports in improving the decisions made by different stakeholders especially credit officers at commercial banks through identifying the faults in traditional financial reports, identifying the concept and nature of integrated financial reports, and identifying the effect of (the disclosure of financial information only through traditional financial reports, the non-financial information through a separated report about the traditional financial reports, and the financial information consolidated with non-financial information through integrated financial reports) in credit decision making at Jordanian commercial banks.

The importance of this research comes from the need of the Jordanian environment for improving the financial reports' quality and presenting sufficient integrated information about the financial and non-financial performance within a strategic perspective that meets the benefits of all parties, which in return will increase the awareness of the concerned members and companies about the importance of the commitment toward issuing such reports and testing the effect of informational content of integrated business reports in enhancing the decisions made by credit officers in Jordanian commercial banks.

The remaining parts of this paper are organized as follows: section 2 presents a review of the recent, related literature. Section 3 is about the theoretical framework and the research's hypotheses while section 4 describes the research methodology and tests the hypotheses. Then, the last section underlines the main conclusions of the present study and gives recommendations.

2. Previous Studies

Many previous studies handled the issue of information content of the integrated business reports as well as taking the credit decision. Nevertheless, there was scarcity in attending their mutual relationship. Musa (2010) sought recognition of accounting information role in rationalizing credit policies whereupon the study was applied on the commercial banks working in Gaza Strip. This study showed that banks inquire about clients through banking risk program and identify the expected sources of financing and income of the client before acquiring the credit. It also showed that some banks do not ask for accounting information in some cases for not being reliable in the presented reports or because of unavailable or insufficient accounting information.

Azácrate et al., (2011) pointed out the role of the integrated business reports in presenting the indicators of achieving sustainable development. This study counted on the content analysis approach where it revealed the existence of a group of integrated indicators that should be explained by the board of directors about the concept and nature of achieving sustainable development. The study also stressed the necessity of showing the business company ability to connect among the economic, environmental and social capitals through linking the indicators of each division and its nature.

Al-Zibdiyeh and Al-Thnebat (2012) tested effect of the external auditor's report in taking credit decisions at Jordanian commercial banks. In order to realize the objectives of this study, a questionnaire and the experimental study approach were used whereby 132 questionnaires were distributed on the credit officers working at Jordanian commercial banks in addition to virtual data attached to the different types of auditor report. For the sake of analyzing the study data the tests of Chi-Square, Wilcoxon and Kruskal-Wallis were used. The study indicated that the auditor's report is one of the important information sources on which the credit officer relies in taking credit decisions. The study also revealed statistically significant differences among conservative auditor's report types in affecting the credit decision.

Al-shikhli (2012) identified the main factors of the banking credit decision at Jordanian commercial banks in addition to analyzing those factors, assessing their relative importance and identifying the obstacles that affect taking the credit decision. This study pointed out that there is a significant role of the factors of (client's financial status, his personal traits, and the pattern of credit policy of the lending bank) in taking the banking credit decision at Jordanian commercial banks. The study of Isabel et al. (2013) aimed at recognizing and comprehending the content of the integrated business reports in the light of the societal culture level to identify their effect among the users of financial statements in recognizing and comprehending the content of the integrated business reports. The study followed the content analysis approach where it presented several results such as, there is an effect of the national culrtural system which represents the values and attitudes of those reports users of stakeholders, and that integrated business reports provide significant information about the strategic plans, governance, level of commitment to its principles and the environmental commitment in addition to the financial performance, personnel data, wages, and sustainability.

Rensburg and Botha (2014) revealed the effect of integrated business reports on the financial and non-financial performance through the information provided by those reports. This study showed the existence of a positive effect of integrated business reports in the state of South Africa on the financial and non-financial performance. It also stated the ambiguity of using those reports by all the stakeholders. The study assured that there is a limited number of stakeholders who care for those reports as a main source of information as some stakeholders believe that traditional reports are still the core and reference of decision. Havlová (2015) examined the general trend in the adoption of integrated business reports over the years (2010 – 2014). This study depended on the analytical approach to measure general trend toward using the integrated business reports through the companies under research. It showed an increasing importance for those reports in all those companies because of their significance in providing a ground for comparison and decision support.

Ismail and Ismail (2015) investigated the necessity of improving the measurement and the control of the credit risks for borrowers through placing a suggested accounting model which may help to measure and assess the creditworthiness of the client accurately and then identifying the credit risk of the client correctly which develops the process of taking the decision of granting the banking credit. This study depended on (Panel Data Analysis) which studies the data of several companies that wish to receive loans from an Egyptian bank. It revealed the presence of a direct correlation between the creditworthiness level of the applicant client and each of the client's industrial organization stability, competitive capacity of the client's organization, operational performance results of the client's organization, cash flow of the client's organization, financial attitude of the client's organization, internal management and control of the client's organization, financing and facility structure of the client's organization and the due balances of the client's organization.

Ismail (2016) studied and tested the effect of the information content of the integrated business reports in enabling credit officers to assess the company's capability to create value and the effect of this process on the credit granting decision in the Egyptian environment. The research included a theoretical and experimental study to achieve this goal. In this study ANOVA is used to investigate the presence of a significance difference in the loan granting decision according to the three alternatives. The researcher also used Kruskal-Wallis test to verify the difference in the three cases. As well as it pointed out the presence of significant differences in the credit granting decision according to the different disclosure cases. It also revealed the existence of significant differences among the variables of the loan granting decision according to the three disclosure alternatives.

Rivera et al., (2017), showed the sufficiency and inclusiveness of disclosure of the integrated business reports in terms of providing the required information for users. The level of the disclosure level included in the integrated business reports content was studied through looking into the international experimental program of the international council of the integrated business reports which was distributed upon 91 companies. This study pointed out that disclosing the internal audition was of the most important items included by the integrated business reports reaching a high disclosure level and that it differed from one company to another due to the difference of the kind of industry. While Abbas (2017) showed the dimensions of the information content of the integrated business reports, as well as handled the suggested dimensions and indicators that could be added to develop the dimensions of the balanced score card of performance after modifying its dimensions to suit the goal of using it to assess the accounting disclosure of the integrated business reports content after dividing this content to several dimensions or aspects to assess the disclosure of each of the integrated business reports out of a set of multiple reports. This study resulted that: there is argument concerning the mechanism of preparing and publishing the integrated business reports making them compulsory as they need more organizational controls in different countries to make the integrated business reports of international practices in all the companies listed in stock markets throughout the coming years.

Mahmoud (2017) studied and identified the nature and objectives of the integrated reports and their contents as well as their accommodation to the Iraqi environment, in addition to studying and testing the effect of the information content of the integrated reports on the competitive capability of the industrial establishments in Iraq. This study pointed out that using the integrated reports realizes important benefits in the business environment including creating improvements in operations, reducing costs, increasing the potentiality of the establishment to receive a capital with reasonable cost, ensuring the commercial license and better management of the risks related to the reputation of the establishment in addition to enhancing the transparency and organizational clarity of the establishment which contribute in supporting the competitive capability.

Muhammad (2017) studied and revealed the importance of accounting information in the process of credit decision rationalization and showed the reasons and treatment of delinquency in banking credit. To achieve this study objectives, the analytical descriptive approach and depended on a random sample of the employees of Khartoum Bank incorporating a sample of (63) employees are used. This study showed the availability of significant and beneficial accounting information which may lead to rationalizing the credit granting decision. Moreover, the provision of information in time leads to rationalizing the credit granting decision.

The above mentioned studies indicate the importance of information content of the integrated business reports as most of them agreed on the presence of an effect of the disclosure of financial and non-financial information in creating value for the company and consequently influencing different stakeholders. Therefor the researcher believes that there is a gap in the studies that handled using the effect of information content of the integrated business reports in credit granting decisions. This research is attempting to cover this gap by conducting a field study to investigate the viewpoints of credit officers about the importance of information content of the traditional financial reports and the integrated business reports when granting the credit in addition to studying the differences in the importance of those reports through the variables of loan granting decision represented in the acceptable maximum limit of loans, the ratio of the loan to assets and equipment, the minimum interest rate and the average granted credit period, taking into consideration that the Jordanian environment lacks similar studies about integrated business reports, thus, what gives distinction to this research is being applied in a different environment and that it sought to achieve additional objectives different from said studies.

3. The Theoretical Framework of the Study and the Hypotheses Development

To develop the hypotheses of the research, this section handled the clarification of the integrated business reports and their information content and analyzing their relationship to credit granting decision.

3.1 Integrated Business Reports

The financial accounting aims at extracting and communicating information to the stakeholders in companies to help them take the decisions that achieve their wishes. Although such information is usually financial in nature and has all the qualitative features, it does not provide sufficient vision to the overall performance of the company (Ali, 2012). Therefor; there is a need to develop the traditional disclosure practices as the traditional financial statements alone are inadequate to communicate information to the stakeholders to measure the comprehensive performance of the company because they do not provide much information useful and appropriate for the different stakeholders and do not include the information related to the social and environmental aspects in addition to many other different information as they simply focus on the information related to the financial aspects (Hussainey & Najjar, 2011; Sharaf, 2015).

Abbas (2017), Ismail (2016) and Al-Sha'ar et al., (2015) pointed out that the traditional financial reports lost their ability as a tool to disclose all the information that fulfills the needs of the stakeholders, therefor; they do not reflect the actual performance of the company. Those reports have to be changed to include non-financial information beside the financial information especially those related to social responsibility and sustainable development to realize the purposes of the stakeholders whether lenders or investors. Consequently, disclosing non-financial information will lead to producing high quality information reports and creating value for stakeholders.

Therefor this requires a consensus of all data users interested in producing, communicating and using accounting information on the necessity of changing the contents of the traditional financial reports to provide information about performance in its three aspects; the economic, the social and the environmental, through increasing the disclosure of non-financial information to improve the quality of the reports and to increase their reliability in addition to the development of the form and content of the financial report through incorporating the strategic dimensions, sustainability and governance which contribute in providing comprehensive information about the company's performance and presenting an integrated view about the company's capability to create value for the stakeholders (Aji &Hossain, 2016; Hahn & Michael, 2013; Bachoo et al., 2013).

Therefore, there was a need to create intrinsic modifications in the form and content of the financial report to achieve the wishes of stockholders by means of a report through which the financial and non-financial information can be consolidated. This report appeared through what is called integrated business reports. The idea of these reports depends on collecting the separated reports related to the dimensions of strategy, sustainability and governance in one report with the traditional financial reports consolidating between the financial and the non-financial information (Blesener, 2011).

The idea of integrated reports received an increasing approval from companies in many countries. Therefore, many companies started producing integrated reports about their performance and the companies' contribution in value creation. Those reports also received wide acceptance from stakeholders and in this frame the International Integrated Reporting Committees (IIRC) was established in August 2010 including in its membership each of the International Accounting Standards Board (IASB), International Federation of Accountants (IFAC), World Business Council For Sustainable Development (WBCSD) and Global Reporting Initiative of Sustainability which asserted that integrated reports combine financial and non-financial information which relate to the environmental, social and economic control and performance (Adams, 2015 ;IIRC, 2011).

The International Integrated Reporting Committees (IIRC, 2013) defined the integrated business reports as concise and brief communication about the know-how of organization, governance, performance and future expectations strategies in the course of the external environment which leads to create value on the short, medium and long term. As well as Mahmoud (2017) indicated that integrated thinking is the basis of building the future of preparing integrated reports in establishments as a transformation in the methodology of establishments in connection to business modules and value creation.

The researcher believes that the traditional financial reports are subject to international accounting standards and legal legislations in the country where they are prepared and that they organize the methods of recognition, exhibition, measurement and disclosure of the information they include and that the methods of their preparation, form and content are subject to an organized method among all companies. As for the non-financial data in the integrated business reports, they do not go under any standards and legislations that govern and organize the methods of their exhibition, measurement and disclosure as well as identifying the quality of information which should be included, therefor; their methods of exhibition, measurement and disclosure are affected by personal judgments and differ from one company to another.

To reduce the variation in preparing integrated reports, the IIRC report established a set of general rules that may contribute in shaping an agreeable framework among all the parties producing and using the integrated business reports as the IIRC report confirmed that the integrated reports are based on two basic pillars which are: (Ismail, 2016; Eccles & Daniela., 2014; IIRC, 2013).

1) Six guiding principles that govern preparing and publishing integrated business reports:

- Strategic focus and future orientation to show the company's capability to create value.

- Combining information (communicating information) and linking between work and results to highlight the company's ability in creating value.

- Response to stakeholders through responding to their needs and legal interests.

- Relative importance and conciseness by providing concise information to concentrate on the important issues related to the company's capability to create value.

- Credibility through listing all the intrinsic issues whether positive or negative.

- Comparability and consistency which means presenting information in a way that makes it comparable with other companies consistently from year to year.

2) The elements of information content of integrated business reports:

- Governance – business model – external environment – risks and opportunities – performance

- The foundations of preparation and assessment - risks and opportunities – organization.

Therefor; these principles must be consistent with International Financial Reporting Standards, so that integrated business reports are presented in a consistent manner as in traditional financial reports. These reports provide an overview of how the company works and help stakeholders to assess the company's capability to create value in the short, medium and long term.

Although many of those interested in the field of integrated business reports agree on the importance and necessity of including non-financial information in the financial report, they didn't agree on the nature and the concept of this information due to differences in the vision, strategy and goals in addition to the differences in the nature of operations.

Jahjouh (2017), Isabel et al., (2013), Al-Fouli (2005) and Abdulkareem (2003) focused on different types of non-financial information that can be included within the integrated report such as: information about the company's policies and objectives, information about products design and development, information about the company's market quota, stakeholders, factors that affect the company's activity, the company's future situation, the company's board of directors, the company's future vision, the number of workers within the company, wages' volume, research and development costs, information about the company's performance, expansion plans and product development, important information about the company's strategic plans, governance, its commitment to its principles, the environmental commitment in addition to the financial performance, employees' data, wages and sustainability.

South Africa is considered the first who imposed on companies listed in the stock market submitting integrated business reports. In the light of this experience, integrated business reports must include the following (Ismail, 2016; Abu Jabal, 2014; Deloitte, 2012):

- Financial information disclosure through: traditional financial reports, interpreting the factors that affects the companies' revenues, accounts auditor report, abnormal items, segmental financial information, financial investments related to the expected energy, in addition to capital expenditure and research and development expenses.

- Non-financial information disclosure: includes information related to the company's sustainability such as:

- The company's strategy (Report of the company's CEO, clarifying opportunities, benefits and risks).

- The company's features register (the company's vision and mission, the brand, the company's main products, values and believes, the markets in which the company operates).

- The involvement of stakeholders (a list of the dominant stakeholders, the key issues for the stakeholders).

- Governance (the governance structure of the company, board of directors' committees, delegation of authority to senior executives, the selection of the board of directors and its committees, the role of the board of directors in identifying economic, environmental and social impacts, risks and opportunities, wages' policies).

- Economic performance indicators (the financial statements prepared according to IFRS standards, economic values like revenues, operation costs, detained profits and payments of shareholders, accounting policies, wage rates, market and future quota of the company, report about the company's ability to future investment and investment plans).

- Environmental performance indicators (commitment to environmental laws and legislations, the operation costs of environment reservation activities, the used amounts of water and energy, the size of the waste produced by the company, the environmental certificate granted to the company, discovering new sources of energy).

- Social performance indicators (advantages granted to workers, policy of wages, the employees' health and safety, pension and health care payments fund, the rate of annual training hours for each employee, the efforts exerted to support charity in the local community, the safety and quality of products, sorting out social problems).

As a result, the researcher believes that providing the financial and non-financial information within one report and the adoption of companies to the integrated business reports are necessary for stakeholders including creditors and the assessment of the company's capability to create value. Consequently, predicting the future value of the company needs non-financial indicators in addition to the financial indicators.

3.2 analyzing the relationship between the information content of the integrated business reports and the credit granting decision and deriving the research's hypotheses:

Ismail (2016) and Al-zibdiyeh & Al-Thnebat (2012) indicated that credit decisions are of the most important operations at the commercial banks, whereas the importance of granting credit is at the level of the bank itself, where the banking credit is considered to be the riskiest investment but, at the same time the most attractive investment to the bank's management. Despite the high risks that characterize the banking credit, it is deemed to be of the important sources of revenues and profits of the bank, without which banks lose their role as a financial mediator in economy. Considering the risks encountered by banks when granting credits to companies, the creditors have to do sufficient investigations for all the company's information and analyzing such information before taking the lending decision. Integrated business reports provide financial and non-financial information that may help creditors to judge the company's capability to create value and consequently to specify it ability of remittance on due dates.

Campbell & Richard (2011) and Al-Ardi (2009) showed that the information content of the integrated business reports including financial and non-financial performance indicators help stakeholders and creditors to assess the company's ability to maximize its value and assess the company's management efficiency in exploiting and operating the available economic resources to maximize the value. The main role of management is not only working to achieve profit but the goal should be maximizing the value. These studies asserted that creditors turned to be more interested in non-financial information especially the information related to the different aspects of the company's sustainability. Such information provides them with indicators about the potential growth of the company in the future; it also helps in better predictions of the future cash flows. Therefor; banks should depend on non-financial information connected to the risks faced by the company and the impact of those risks on future cash flows, growth opportunities and profit levels.

Chakrabarty (2011), Campbell & Richard (2011) and IIRC (2013) indicated that the indicators and measurements of the company's capability to create value from the commercial banks perspective are represented by a set of financial indicators and non-financial indicators and consequently, the financial indicators are represented in profitability, return on investment, level of liquidity, ability to remittance and improvement in financial performance, while the non-financial indicators are represented in information about the company's sustainability including information about governance, risks, the environmental, social and moral aspects, in addition to the development and classification of workers and risks and methods of risk management.

Dhaliwal et al. (2012) pointed out that banks are more prepared to grant credit to companies with easy terms according to their reputation and their environmental and social performance level. These factors increase the value of the company because of their impact on different values such as sales and finance, and are connected to litigation risks. Whereas, Steyn (2014) and Ngwakwe (2012) indicated that it is better to disclose non-financial information away from the annual financial reports because of the difference of the nature and goals of each of the financial and non-financial information. Companies deal with huge amounts of economic, social and environmental information and it is hard to extract good indicators to judge performance considering the diversity and enormity of information.

Eccles & Daniela (2014), Bebbington & Larrinaga (2014) and gurvitsh & Sidorova (2012) studies prefer consolidating financial and non-financial information through integrated reports with the justification that this will provide a comprehensive image of the overall performance of the company. Melloni et al. (2017) and Morhardt (2010) showed that the integration of the financial and sustainable discloser positively affects the decisions of stakeholders compared to the disclosure of each of the financial, environmental, social and governing performance separately.

Eccles & Daniela (2014) and Mio & Marco (2013) asserted that disclosing non-financial information in separation from financial information does not provide a comprehensive framework to the report users as it does not connect between the companies strategy and its financial, social, environmental and governing performance and so risks cannot be assessed which negatively affects the credit decision, furthermore; consolidating the financial information with the non-financial information limits the ability of stakeholders to predict the company's capability to create and maintain value.

As a result of the argument related to the discloser methods, the importance of this research stems in studying and testing the effect of information content for each alternative of disclosure alternatives according to the information content of the integrated business reports in taking credit decision at Jordanian commercial banks. The three hypotheses of the research can be stated as follows:

First hypothesis: there is a statistically significant effect of disclosing the financial information only through traditional financial reports in taking credit decision at Jordanian commercial banks.

Second hypothesis: there is a statistically significant effect of disclosing the non-financial information through separate reports in taking credit decision at Jordanian commercial banks.

Third hypothesis: There is a statistically significant effect of disclosing the financial information consolidated with non-financial information within integrated financial reports in taking credit decision at Jordanian commercial banks.

Al-Berzenji & Husain (2017) limited the factors that affect the credit granting decision with the following:

- Factors related to the customer: represented by the personal factors, capital, his ability to meet obligations, the guarantees provided by him, and circumstances surrounding his activity.

- Factors related to the credit: that can be limited by the following: the size and the type of the required credit, duration, the type of the required credit, the program and sources of payment, the amount of credit, and the interest rate.

By Analyzing Ismail (2016), Eccles & Daniela (2014) and Mio & Marco (2013) studies, it became clear to the researcher that there are significant differences in the effect of three previous cases over the credit granting decision's variables, especially when it comes to consolidate the financial information with the non-financial information in the form of an integrated business report. Therefor; the forth hypothesis can be stated as follows:

Forth hypothesis: there are statistically significant differences among the information disclosure alternatives (traditional financial statements, traditional financial statements and non-financial separated information, consolidated financial and non-financial information (integrated business reports)) attributed to the credit granting decision's variables.

4. Research Methodology and Hypotheses Testing

To achieve the research objectives, the research methodology presents the applied tools and procedures, the research's population and sample, the statistical analysis results and testing the research's hypotheses.

4.1 Applied Tools and Procedures of the Research

The research depended on the method of applied study in collecting data. The research's questionnaire was designed based on Abbas (2017), Yusof (2017), Ismail (2016) and Milhem (2010) studies The questionnaire is composed of the following three sections:

The first section: This section includes items that measure some of the demographic and general information of the participants in this research, such as personal data, specialization and scientific qualification.

The second section: includes questions related to the hypotheses from (1 – 3). This section is composed of three parts: the first part includes (5) questions that measure the first independent variable; the disclosure of financial information. The second part includes (6) questions that measure the second independent variable; the disclosure of non-financial information. The third independent variable; the consolidated financial and non-financial information is measured by all of the questions through combining the items of financial and non-financial information together. The third part includes (6) questions and they measure the variable related to credit granting decisions.

The third section: includes questions related to the forth hypothesis along with information about the company of ready-made concrete and construction supplies. The researcher presented the company's financial reports within a questionnaire through the three alternatives of accounting disclosure. They include:

- Traditional financial reports expressing financial disclosure together with the supplementary notes of the financial statements, and the auditor's accounts report.
- Traditional financial reports, in addition to non-financial information in separated report.
- Integrated reports (consolidated financial information and non-financial information).

The researcher presented the questions to the credit officers at the end of each of the previous cases as follows:

In the light of the previous financial report, and as a credit officer, knowing that the company has presented its previous data for the purpose of obtaining a loan of 10 million Jordanian Dinars with the guarantee of property, machinery and equipment, please express your opinion in the following:

- What is the maximum amount of the loan that can be accepted?
- What is the ratio of loan to assets and equipment?
- what is the minimum interest rate required?
- What is the credit period for the repayment of the loan?

4.2 Population and Sampling

The research population is represented by all credit officers at Jordanian commercial banks. A questionnaire has been distributed over the commercial credit departments; (110) questionnaires have been distributed over the research population (the credit officers at Jordanian commercial banks) in order to reach the sample's aimed size. (98) Questionnaires have been retrieved (89%). Three questionnaires have been excluded due to incomplete answers. As a result, the number of the questionnaires used for the research analysis purposes were (95) questionnaires.

4.3 Validity and Reliability Test

To verify the research's tool validity, the questionnaire was arbitrated by experienced professors specialized in this domain, and consensus observations were taken into account. To test the research's tool reliability in testing the research hypotheses and achieving its objectives, Cronbach's Alpha coefficient was used. Cronbach's Alpha coefficient is usually used to measure the research's tool reliability in order to test the hypotheses.

Table 1. Results of the reliability analysis

Domain	Reliability coefficient
Traditional financial reports expressing the financial disclosure	0.88
Traditional financial reports, in addition to non-financial information in a separated report	0.85
Integrated reports (consolidated financial and non-financial information	0.90
Credit granting decision	0.82
The instrument as a whole	0.92

The previous table shows that the reliability coefficients of the research areas and the instrument as a whole were greater than (0.70) (Hair et al., 2006), this indicates a high level of reliability of the research instrument, which means the possibility of depending on the questionnaire results and reassurance to its credibility in achieving the study goals.

4.4 Data Analysis and Hypotheses Testing

4.4.1 Sample Characteristics

Table 2. Demographic characteristics of the research sample

Variable	Scale	Frequency	Percentage
Educational Level	Diploma	4	4.2%
	Bachelor	64	67.3%
	Post-graduate studies	27	28.5%
	Total	95	100%
Scientific Specialization	Accounting	45	47.4%
	Financial and banking sciences	28	29.5%
	Business management	12	12.6%
	Other	10	10.5
	Total	95	100%
Experience in Credit Field	< 5 years	12	12.6%
	5-10 years	18	18.9%
	11-15 years	42	44.2%
	> 15 years	23	24.3%
	Total	95	100%

- **Educational level**: Table (2) shows that the highest percentage of respondents is of those who hold a bachelor degree; (64) credit officers with a percentage of (67.3). The number of respondents who hold post-graduate certificates was (27) credit officers. In other words, (95.8) percentage of credit officers hold a degree of bachelor or more advanced certificates. This indicates that credit officers have a sufficient academic qualification which enables them to answer the questionnaire's questions properly.

- **Scientific specialization**: From the table we see that the highest percentage of respondents is of those who are specialized in accounting and financial and banking sciences; (73) credit officers with a percentage of (76.9%). This is a high logical percentage as for most of the workers in the field of credit are specialized in accounting and financial and banking sciences. This indicates that the study sample acquires the needed knowledge that enables them to read and understand the integrated and traditional financial reports.

- **Experience**: The table shows that the highest percentage of respondents is for those who have ten years of experience and more; (65) credit officers with a percentage of (68.5%). This is a high percentage and it indicates that most of the workers in the credit field have good experience in granting loans, in other words; credit officers are well qualified to answer the questionnaire's questions properly.

4.4.2 Descriptive Analysis

Tables (3 – 6) Tables provide a descriptive presentation of each of the research questions, showing the mean, the standard deviation and rank of each individual question. The results of these tables can be presented as follows:

Table3. Descriptive statistics for the questionnaire items related to the level of the importance of only financial information disclosure through traditional financial reports for the credit decision-making.

No.	Item	Mean	SD	Rank	Level
1	The disclosure of financial position items such as (properties, investments, intangible assets, current assets, and minority rights)	4.14	0.75	1	High
2	The disclosure of income statement items such as (revenues, cost of sold goods, finance costs, and tax expenses, …)	3.73	0.89	5	High
3	The disclosure of the statement of changes in equity's items (The items of the other comprehensive income, dividend, reserves, …)	3.89	0.98	2	High
4	The disclosure of the statement of cash flows items (operational, financial and investment cash flows)	3.77	1.07	3	High
5	The disclosure of the items of clarifications, explanations and notes (Stock valuation methods, consumption methods, potential liabilities, …)	3.76	1.13	4	High
Total Means		**3.86**	**0.34**	**-**	**High**

Table (3) shows that the means of the sample members' approval on the items related to the level of the importance of the disclosure of financial information only through traditional financial reports in order to make the credit decision ranged from (3.73 – 4.14). Item (1) concerning "the disclosure of the financial position items" was ranked first with mean of (3.14) and with a high level. Item (2) concerning "The disclosure of income statement items" was ranked last with mean of (3.73) and with a high level. The total mean of the level of disclosure of financial information only through traditional financial reports was (3.86) and with a high level.

Table (4) shows that the means of the sample members' approval on the items related to the level of the importance of the disclosure of non-financial information through separated reports ranged from (4.14 – 4.68). Item (4) concerning "economic performance indicators" was ranked first with mean of (4.68) and with a high level. Item (5) concerning "environmental performance indicators" was ranked last with a mean of (4.14) and with a high level. The total mean of the level of disclosure of non-financial information through separated reports was (4.45) and with a high level.

Table 4. Descriptive statistics for the questionnaire items related to the level of the importance of the disclosure of non-financial information through separated financial reports for the credit decision-making.

No.	Item	Mean	SD	Rank	Level
1	The company's strategy (Report of the company's CEO, clarifying opportunities, benefits and risks)	4.63	0.74	2	High
2	The company's features register (the company's vision and mission, the brand, the company's main products, values and believes, the markets in which the company operates)	4.43	0.86	4	High
3	Governance (the governance structure of the company, board of directors' committees, the selection of the board of directors and its committees, the role of the board of directors in identifying economic, environmental and social impacts, risks and opportunities)	4.41	0.87	5	High
4	Economic performance indicators (the financial statements prepared according to IFRS standards, economic values like revenues, operation costs, revenues)	4.68	0.69	1	High
5	Environmental performance indicators (commitment to environmental laws and legislations, the operation costs of environment reservation activities, the used amounts of water and energy, discovering new sources of energy …)	4.14	1.22	6	High
6	Social performance indicators (advantages granted to workers, policy of wages, the employees' health and safety, the rate of annual training hours for each employee, charity activities, sorting out social problems)	4.45	0.94	3	High
	Total Means	**4.45**	**0.36**	**-**	**High**

Table 5. Descriptive statistics for the questionnaire items related to the credit decision-making

No.	Item	Mean	SD	Rank	Level
1	There is a written credit policy for the bank for granting credit	3.83	1.17	4	High
2	The bank sets a limit for the credit easy terms granted to customers and shall not allow to exceed it	3.71	1.18	6	High
3	There is a committee for easy terms for granting the credit decision	3.80	1.12	5	High
4	The procedures applied to analyze the credit application differs from one type to another	4.02	1.03	3	High
5	The speed of credit decision-making and the reduction of the work's routine in studying the credit application is related to the type of credit	4.04	0.97	2	High
6	The decision of credit granting and its success depend on the credit personnel capability to understand the credit policy instructions and its application within the commercial banks	4.09	0.96	1	High
	Total Means	**3.92**	**0.69**	**-**	**High**

Table (5) shows that the means of the sample members' approval on the items related to the level of credit granting decision ranged from (4.09 – 3.71). Item (6) concerning "the decision of credit granting and its success depend on the credit personnel capability to understand the credit policy instructions and its application within the commercial banks" was ranked first with a mean of (4.09) and with a high level. Item (2) concerning "the bank sets a limit for the credit easy terms granted to customers and shall not allow to exceed it" was ranked last with a mean of (3.71) and with a high level. The total mean of the level of credit granting decision was (3.92) and with a high level.

Table 6. Descriptive statistics for the variables of the credit decision-making

Variables	**Traditional financial statements**		**Traditional statements and separated non-financial information**		**Integrated business reports**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
The acceptable maximum limit	7400000	174.47	7870000	154.51	8300000	173.30
The ratio of loan to assets and equipment %	49.6	1.55	52.7	1.82	56.6	1.47
The minimum interest rate required %	8.9	0.42	8.47	0.27	8.38	0.29
The loan average period	4.6	0.25	4.8	0.25	4.9	0.33

Table 6 shows the increase in the acceptable maximum limit upon the availability of traditional statements and consolidated non-financial information (integrated business reports) with mean of (8300000) and a standard deviation of (173.30). The ratio of loan to assets and equipment increased according to the three cases with the values of 49.6 , 52.7 , 56.6 respectively, whereas the minimum interest rate decreased in the case of the availability of integrated business reports with mean of (0,8.38) and a standard deviation of (0.29). The loan average period increased according to the three cases with the values of 4.6, 4.8, 4.9 respectively.

4.4.3 Hypotheses Testing

The firs, the second and the third hypotheses of the research were subjected to the Simple linear Regression (SLR) at ($\alpha \leq 0.05$) and the results were as follows:

First hypothesis: "There is a statistically significant effect of disclosure about the financial information only through traditional financial reports in taking the credit decision at Jordanian commercial banks".

Table 7. Simple Linear Regression results for first hypothesis

Independent variable	R	R^2	T	Sig. T*	Beta	F	Sig. F*
Disclosure of financial information through traditional financial reports	0.423	0.179	4.498	0.000	0.423	20.232	0.000

The results show that the correlation coefficient (R=0.423) indicates the presence of a positive correlation between the disclosure variable about financial information through traditional financial reports and the variable of taking the credit decision, and that there is an effect of the independent variable (disclosure about financial information through traditional financial reports) on the dependent variable (taking the credit decision) which is statistically significant where the calculated value of (F) reached at (20.232) which is statistically significant at (sig=0.000) that is less than (0.05). They also show that the value of (R^2=0.179) indicates that (17.9%) of the variance in (taking the credit decision) can be explained through the variance in (disclosure of financial information through traditional financial reports), which proves the validity of the first hypothesis.

This agrees with the Muhammad (2017), Rensburg & Botha (2014) and Al-Zibdiyeh & Al-Thnebat (2012) studies which affirmed that the availability of accounting information through traditional reports is still the core and reference of the decision and the main source of information for stakeholders bringing importance and utility that may lead to rationalizing the decision of credit granting. However, this disagrees with the study of Musa (2010) which stated that some banks do not ask for just accounting information for the reason that they do not trust the submitted statements.

Second hypothesis: "There is a statistically significant effect of non-financial information disclosure through separate reports in taking the credit decision at Jordanian commercial banks".

Table 8. Simple Linear Regression results for second hypothesis

Independent variable	R	R^2	T	Sig. T*	Beta	F	Sig. F*
Disclosure of non-financial information through separated reports	0.364	0.132	3.764	0.000	0.364	14.170	0.000

The results show that the correlation coefficient (R=0.364) indicates the presence of a positive correlation between the disclosure variable about non-financial information through separated reports and the variable of taking the credit decision, and that there is an effect of the independent variable (disclosure about non-financial information through separated reports) on the dependent variable (taking the credit decision) which is statistically significant where the calculated value of (F) reached at (14.170) which is statistically significant at (sig=0.000) that is less than (0.05). They also show that the value of (R^2=0.132) indicates that (13.2%) of the variance in (taking the credit decision) can be explained through the variance in (disclosure of non-financial information through separated reports), which proves the validity of the second hypothesis.

This agrees with the Steyn (2014), Dhaliwal et al., (2012) and Ngwakwe (2012) studies which indicated that banks have become more prepared to grand credits to companies with easy terms according to their reputation and the level of their environmental and social performance. Such factors increase the value of the company where it is better to disclose the non-financial information in separation from the annual financial reports because of the difference between the nature and objectives of each of the financial information and the non-financial information.

Third hypothesis: "there is no statistically significant effect of the disclosure about the financial information consolidated with the non-financial information (integrated financial reports) in taking the credit decision at Jordanian commercial banks".

Table 9. Simple Linear Regression results for third hypothesis

Independent variable	R	R^2	T	Sig. T*	Beta	F	Sig. F*
Disclosure about the financial information consolidated with the non-financial information with in integrated financial reports	0.498	0.248	5.536	0.000	0.498	30.648	0.000

The results show that the correlation coefficient (R=0.498) indicates the presence of a positive correlation between the disclosure variable about financial information consolidated with non-financial information through integrated financial reports and the variable of taking the credit decision, and that there is an effect of the independent variable (disclosure about financial information consolidated with non-financial information through integrated financial reports) on the dependent variable (taking the credit decision) which is statistically significant where the calculated value of (F) reached at (30.648) which is statistically significant at (sig=0.000) that is less than (0.05). They also show that the value of (R^2=0.248) indicates that (24.8%) of the variance in (taking the credit decision) can be explained through the variance in (disclosure of financial information consolidated with non-financial information through integrated financial reports), which proves the validity of the third hypothesis.

This agrees with the Melloni et al., (2017), Havlova (2015), Sharaf (2015), Bebbington & Larrinaga (2014), Isabel et al., (2013), Sidorova (2012) and gurvitsh & Morhardt (2010) studies which indicated that, the integrated business reports provide important information about strategic plans, governance, commitment to principles and environmental commitment and in addition to the financial performance and the data of employees, wages and sustainability. Thus, banks became more prepared to grant credits to companies with easy terms according to their reputation and the level of their environmental and social performance as such factors increase the value of the company and consequently consolidating the financial information and the non-financial information through integrated reports has positive effect on the stakeholders' decisions.

Forth hypothesis: "There are no statistically significant differences between the alternatives of information disclosure (traditional financial statements, traditional financial statements and separated non-financial information, consolidated financial and non-financial information (integrated business reports))" attributed to the variables of credit granting decision.

In order to test the forth hypothesis and identify the presence of differences at (α≤0.05), One Way ANOVA test was used. Table (10) shows the results.

Table 10. One Way ANOVA Results

Granting Decision Variables	Source of Variance	Sum of Squares	DF	Mean Squares	F	Sig.
Acceptable Maximum limit	Between Groups	12769910136002.410	2	6384955068001.200	98.092	0.000
	Within Groups	5988418956477.740	92	65091510396.497		
	Total	18758329092480.150	94			
Ratio of Assets and Equipment	Between Groups	774.073	2	387.037	147.206	0.000
	Within Groups	241.887	92	2.629		
	Total	1015.961	94			
Minimum Interest Rate	Between Groups	4.901	2	2.451	21.429	0.000
	Within Groups	10.521	92	.114		
	Total	15.422	94			
Average loan Period	Between Groups	1.475	2	.738	9.505	0.000
	Within Groups	7.140	92	.078		
	Total	8.615	94			

*The effect is statistically significant at (α≤0.05)

Table 10 shows the significance of the difference among the three cases according to the variables of the loan granting decision at a significance level of 5% through F values and (Sig=0.000) values. To investigate any of the three cases of those differences, Multiple Comparisons and Least Significant Difference (LSD) test were calculated.

Table 11 shows significant differences between the variables of the loan granting decision according to the disclosure alternatives (traditional financial statements, traditional financial statements and separate non-financial information, consolidated financial and non-financial information (integrated business reports)). The third disclosure alternative realizes the best effect on the credit granting decision whether in terms of the acceptable maximum limit of the loan or in terms of the ratio of the loan to assets and equipment, and also in terms of the interest rate and the average loan period, which proves the validity of the forth hypothesis.

This agrees with the Ismail (2016), Elsaldt & Worthington (2013), Mio & Marco (2013), Al-shekhali (2012), and Thompson & Cowton (2004) studies which indicated that, credit officers need extra information to assess the risks that may affect the companies' ability to repayment and that disclosing the financial, strategic, economic, environmental and social information enhances the decisions of credit officers when taking the credit decision, and that there is a significant role to the variables of credit granting decision in taking the banking credit decision at Jordanian commercial banks.

Table 11. Multiple Comparisons Results

Granting Decision Variables	(I)g	(J)g	(I-J)	Std. Error	Sig.
Acceptable Maximum limit	1	2	-469999.9688*	63782.59480	0.000
		3	-899999.6462*	64294.91303	0.000
	2	1	469999.9688*	63782.59480	0.000
		3	-429999.6774*	64294.91303	0.000
	3	1	899999.6462*	64294.91303	0.000
		2	429999.6774*	64294.91303	0.000
Ratio of loan to Assets and Equipment %	1	2	-3.1000*	.40537	0.000
		3	-7.0000*	.40863	0.000
	2	1	3.1000*	.40537	0.000
		3	-3.9000*	.40863	0.000
	3	1	7.0000*	.40863	0.000
		2	3.9000*	.40863	0.000
Minimum Interest Rate	1	2	0.4300*	.08454	0.000
		3	0.5200*	.08522	0.000
	2	1	-0.4300*	.08454	0.000
		3	0.0900	.08522	0.294
	3	1	-.05200*	.08522	0.000
		2	-0.0900	.08522	0.294
Average loan Period	1	2	-0.2000*	.06965	0.005
		3	-0.3000*	.07021	0.000
	2	1	0.2000*	.06965	0.005
		3	-0.1000	.07021	0.158
	3	1	0.3000*	.07021	0.000
		2	0.1000	.07021	0.158

*Statistically significant at ($\alpha \leq 0.05$)

5. Conclusions and Recommendations

The theoretical study reveals that the integrated business reports meet the needs of the financial reports users as they increase the levels of disclosure and transparency which limits the mismatch of information and helps all the financial reports users in the best assessment of the company's performance and its ability to sustainability and expansion. Moreover, the theoretical study exhibited the concern of creditors with the financial indicators such as profitability and the investment revenue, and the non-financial indicators such as governance, risks and environmental, social and moral aspects.

The applied study revealed the effect of disclosure about the financial information only through traditional financial reports in taking the credit decision at Jordanian commercial banks, and the presence of an effect of the disclosure about the non-financial information through separate reports in taking the credit decision at Jordanian commercial banks, and the presence of an effect of the disclosure about the financial information consolidated with the non-financial information within integrated financial reports in taking the credit decision at Jordanian commercial banks. In addition, it showed that the information content of the integrated business reports (consolidated financial and non-financial information) had the greatest effect than the other two alternatives (traditional financial statements, traditional financial statements and separated non-financial information on the variables of the credit granting decision. This is clear through the rise of the acceptable average maximum limit of the loan, the increase of the ratio of the loan to the assets and equipment, the decline of the minimum level of the interest rate and the increase in the average loan period.

This study recommended that market organizers to issue instructions in the light of the recommendations and guide lines of the local and international vocational and academic organizations to expand the annual report of the company through incorporating the company's strategy and the environmental and social factors and risk management (integrated business reports), which could lead to improving communication with stakeholders and helping in taking different decisions of which are the investment and finance decisions, in addition to the concern with spreading awareness among all the parties of producers and integrated business reports users about the contents and objectives of those reports considering their significance in maximizing the market value and creating value for companies. Furthermore, it recommends that accounting curricula at the business faculty should include detailed segments that contain the nature and content of the integrated business reports and their relationship to financial accounting, administrative accounting and auditing, and their role in creating value to different stakeholders. The researcher also recommends conducting more studies in relation to the integrated business reports and linking them to the investment decision, maximizing the shareholders fortune, improving the company's performance or account auditing.

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Risk of Material Misstatement in Fluctuated Economic Environments: The Case of Greece

Stamatios Dritsas[1] & George Petrakos[1]

[1]School of Economics and Public Administration, Panteion University, Athens, Greece

Correspondence: George Petrakos, Dept. of Public Administration, Panteion University, Athens, Greece.

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Abstract

The aim of this paper is a) to investigate the relationship between the business risk and the risk of material misstatement at an overall financial level and b) to determine the dependencies between the risk of material misstatement and selected risk factors affecting pervasively the financial statements and many assertions. The study was based on data collected from a statistical survey among experienced statutory auditors employed by the five largest international audit firms in Greece. The research suggests a statistically significant relationship between the business risk and the risk of material misstatement at the overall financial statements level. Furthermore, although the majority of the survey participants believes that the recent financial crisis in Greece affected their assessments on going concern risk and the risk linked to accounting estimations substantially, the dependencies between those two risks and the risk of material misstatement at an overall financial statements level are not validated by the survey data.

Keywords: audit risk, financial statements, risk assessment, risk of material misstatement

1. Introduction

Audit risk is a function of the risk of material misstatement and the detection risk. Risk of material misstatement may exist both at the overall financial statements level and at the assertions level. During the planning phase of the audit, the auditors perform risk assessment of risks of material misstatement at the financial statements and assertion level in order to decide about the audit strategy and approach. The main purpose of this study is to quantitatively examine the relationship between the business risk and the risk of material misstatement at an overall financial level through a large scale empirical survey among Greek auditors. Furthermore, the paper reaches a quantitative assessment of the level and discusses the nature of the relationship between the risk of material misstatement and selected risk factors, which affect pervasively the financial statements as a whole and they have a potential effect on many assertions. These factors, selected with the criteria mentioned above, are the appropriateness of the "going concern" assumption, the material misstatement due to fraud, the related parties transactions and the accounting estimates.

The dramatic changes in the business environment due to the recent financial crisis in Greece served as the natural experimental basis for a statistical assessment of these relationships. The quantitative part of this study was based on the empirical research designed to gather documentation regarding the changes in risk assessment at an overall financial statements level. The statistical survey was evaluated by experienced statutory auditors employed by the big five international audit firms in Greece, in the course of financial statements audits of commercial and manufacturing entities located in the country, during the period before and after the financial crisis.

Audit planning and audit procedures have been empirically researched as to several issues. Many prior studies (Dusenbury, Reimers & Wheeler, 2000; Messier & Austen, 2000; Ritchie & Khorwatt, 2007; Bloomfield, 1995; Quadackers, Mock & Maijoor, 1996; Quick, 2012) studied the functional relationship among the variables of the Audit Risk Model (ARM) or examined the dependencies between the entity's environment as it is reflected in the business risk and in the designed and implemented audit approach. However, most studies regarding the interrelations of audit risk components have been focused on ARM variables at the assertions level and they mainly examine the inherent and control risk as two different risk components. In addition, a significant volume of prior research on ARM studies (Dusenbury et al., 2000; Messier & Austen, 2000; Ritchie & Khorwatt, 2007; Bloomfield, 1995), has been based on US professional standards of auditing and the US GAAS approach. After

1983, when SAS No 47 was published, replacing SAS 39 (AICPA, 1983), both approaches, US GAAS and ISAs, converged at a quite similar approach regarding risk components and their assessment. Furthermore, since 2006, when SAS 47 was replaced by SAS 107 (AU – 312), even the remaining differences between US GAAS and ISAs were eliminated (AICPA, 2012).

Given the aforementioned clarifications regarding the relevancy of prior studies, the experiment of Dusenbury et al. (2000), conducted in US environment, has to be noted. The authors of this study tested the conditional dependencies among the assessed audit risk components (inherent risk, control risk and detection risk). For the purposes of their study, they developed a sequential linear modeling process in order to add previously assessed risk components to the audit risk model and they have finally concluded on the conditional nature of audit risk components assessment. Messier and Austen (2000) supported the existence of a positive relationship between inherent and control risk. Their conclusion was based on the indirect US GAAS guidelines as well as on other causal relationships related to entities' environment, internal controls and potential misstatements. They also claim that a number of identification factors related to inherent and control risk are common in both risk components.

Following the positive relationship between inherent and control risk concluded by Messier and Austen (2000), Ritchie and Khorwatt (2007) conducted an empirical study regarding the understanding of the AR components and their application by professional Libyan auditors in practice. This study focused on Libyan auditors' assessment regarding the inherent and control risk and has also been based on US GAAS guidelines regarding ARM. The evidence gathered in the course of this study reinforced the view that inherent and control risk were assessed independently. Further on, it was noted that auditors in Libya were aware of the risk differentials depending on the level of account and were cognizant of factors normally associated with potentially high and low risk levels. Bloomfield (1995) suggested that an accurate assessment of inherent risk is crucial for an efficient and effective audit. Further, he concluded that the accuracy of the auditor's risk assessment is influenced by the risks of unintentional errors, the players' incentives, the precision of the auditor's data and regulatory bounds on detection risk.

In the European environment, Quadackers et al. (1996) examined the variability in audit risk and audit programs using data from eight clients of four Dutch audit firms. This study reports substantial variation in audit risk factors both between audited entities and among the audit risk factors per entity. In addition, the research identified some degree of risk variation over time. Furthermore, it suggested that variability of risk factor assessments over time is higher than variability of risk model variable assessments over time. Finally, the authors concluded that audit programs (which in our research are considered the "auditors' responses to assessed risks") differ substantially between audited entities and (to a lesser extent) over time.

Quick (2012) examined the potential effects of selected proposals on audit quality in the light of prior research findings, with audit procedures strictly based on ISAs. Among others, the author concluded that when increased emphasis is given on substantive audit procedures, this means that they give up the business risk audit approach, at least in parts, or they increase the level of assurance. This procedure may not be beneficial to audit quality. Tsipouridou and Spathis (2014) studied the relationship between the audit opinions and earning management by taking into consideration the economic environment in Greece, since the financial crisis in the country became visible in 2009. Their research examined two categories of qualified audit opinions (qualified for the going – concern uncertainty and qualified for other issues) in a sample of Greek Listed Companies for the period 2005 – 2011. The authors reached the conclusion that the auditors' decision to issue qualified opinions for other reasons could be explained by the type of audit opinion issued in the previous year.

The aim of this paper is to make a twofold contribution to the literature. First, the study is designed so as to quantitatively examine the relationship between the business risk and the risk of material misstatement at an overall financial level. Second, it tries to determine the existence, level and nature of the relevance of the risk of material misstatement with selected risk factors affecting pervasively the financial statements and many assertions. In this respect, the study assesses the direct and indirect relationship of the selected risk factors with the business risk as well as with the risk of material misstatements at the overall level. The selected risk factors under examination refer to: a) the appropriateness of "going concern" assumption (GC), b) material misstatement due to fraud (F), c) related parties transactions (RPT) and d) accounting estimates (AES).These factors have been considered key risk factors in the case of Greece and they have been selected due to their pervasive effect on the financial statements as a whole and their potential effect on many assertions.

The paper focuses on the external business risk (BR) that is limited and corresponds only to the business and economic environment of an entity. The empirical survey investigates the audit practicing in Greece and approaches the overall business risk and its changes, due to the factual financial conditions of the local economic and business environment, before and after the occurrence of the recent financial crisis. It should be highlighted that, for the purposes of this study, business risk has been considered tobe the risk which is entirely related with the factual economic and business environment in Greece and as such reflects the key changes due to the recent financial crisis. Changes or fluctuations of other components of business risk in Greece, during the period under examination, are not considered as key or material factors and thus they are not investigated as additional variables.

The remainder of the paper is structured as follows: Section 2 presents the abstract model used as well as the main hypotheses tested. Section 3 outlines the design of the survey, the target population, the sampling methodology and the questionnaire structure. In addition, this chapter discusses the methodology of the statistical data analysis and summarizes its results. Finally, section 4 briefly discusses and concludes the research findings.

2. The Model and the Research Hypotheses

The theoretical and conceptual framework used for the purposes of this study has been based on ISAs issued by IFAC and adopted as the unique professional standards framework for audit practice in Greece since 2004.The examination of the sensitivity of the assessment of RMM to BR and its interrelation with specific risk factors has been examined based on a model of seven variables tailored to the needs of the research. This model constitutes an abstract of a generic model developed in the course of a broader empirical research investigating the interrelations of the assessments of audit risk components in Greece (Dritsas, 2014). This abstract model considers RMM as a dependent variable while BR and the four selected risk factors (GC, F, RPT, AES) have been treated as independent variables. The model adopted for the purposes of the specific study is illustrated in figure 1.

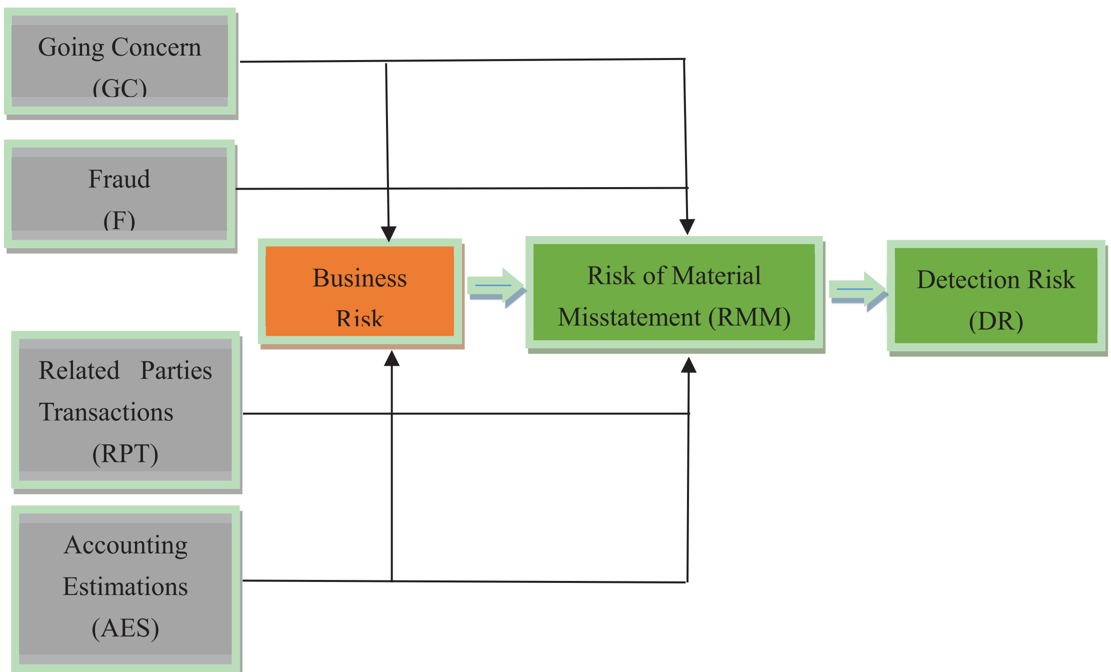

Figure 1. The abstract model

Two main groups of research hypotheses are tested in this paper using the collected survey data. The first group (A) consists of hypotheses regarding changes in the level of risk of all examined factors before and after the occurrence of the economic crisis. Each research hypothesis is expressed in a standard statistical hypothesis form as

H_{A1}: The majority of auditors report an increase in risk of material misstatement and of the x factor assessment after the occurrence of the financial crisis, where x= {GC, F, RPT, AES}

The second group (B) consists of hypotheses regarding the pairwise relationship of the selected risk factors with RMM. These research hypotheses are expressed as

H_{B1x}: The assessment of the risk of material misstatement at an overall level and the risk of x factor assessment are statistically dependent on the auditors' population, where x = {GC, F, RPT, AES}

The corresponding null hypotheses (in the A and B group) are expressed as "no increase in RMM and risk of x factor" and "RMM and the risk of x factor assessment are independent", respectively.

3. Statistical Survey Design and Results

The target population of the survey consists of all auditing practitioners holding the licence of statutory auditor according to the national legislation (adopting the respective EU Directive), employed by the five large international firms, PWC, EY, Deloitte, KPMG and Grand Thornton in Greece. The official register of the population under study was made available by the Hellenic Accounting and Auditing Oversight Board (HAASOB) and it was properly updated. A stratified random sample was drawn from this population so that results could be generalized for the whole population. Ordinal type of measurement was used in a structured questionnaire of 5 barrel questions for data collection. These questions have been designed so as to draw conclusions regarding the structural relationships of the variables RMM, BR, GC, F, RPT and AES.

The data gathered refers to the assessments of RMM, BR, GC, F, RPT and AES in the course of financial statements audits performed under ISAs to Greek commercial and manufacturing companies, for the period before and after the financial crisis in Greece. Therefore, it was also suitable for individually identifying any significant changes in the risk factors between the two time periods. The pilot survey conducted prior to the main one, the low non-response rate and the validation routines executed in the final database ensured the quality of the data in hand. Specifically, the pilot survey consisted of numerous extensive interviews with highly experienced domain experts and resulted in significant changes and improvements in the questionnaire structure and content.

Initially, we investigated the effect of the financial crisis in RMM and the other four risk factors under study, namely GC, F, RPT and AES. The primary data was handled in a way that differences in risks before and after the occurrence of the financial crisis were calculated and coded in three levels. Consequently, this effect was measured in a 3-point ordinal scale as decrease (1), unchanged (2) and increase (3) for all five variables reflecting the estimated changes in the level of risk. Statistical Analysis was performed using *R programming language and software environment for statistical computing and graphics*, *version 3.2.2.* The main descriptive analysis results are briefly summarized in table 1.

Table 1. Effect of the financial crisis in RMM, GC, F, RPT, AES

Relative Frequencies per risk factor			
Variables	Decrease(1)	Unchanged(2)	Increase(3)
RMM	0.04	0.27	0.69
GC	0.00	0.10	0.90
F	0.10	0.50	0.40
RPT	0.05	0.49	0.46
AES	0.01	0.18	0.81

Regarding the Risk of Material Misstatement, the majority (69%) of the auditors participating on the survey believe that the financial crisis caused a measurable increase in RMM. The percentage of auditors in the sample who report increasing risk after the occurrence of the crisis becomes even larger for GS (90%) and AES (81%). On the other hand, auditors were almost equally divided in those who state an increase in the level of the remaining risk factors (F and RPT) and those who report no effect of the financial crisis on them. Trying to make inference regarding the auditors' population, we constructed the confidence intervals for the three variables RMM, GC and AES as presented in Table 2. The results of our analysis clearly support the hypothesis that the majority (more than 50% of the total population) of the auditors believe that the risks associated with RMM, GC and AES have been increased in the years of financial crisis, at a 95% level of confidence. The same results are produced from the binomial test for proportions, at a 5% significant level.

Table 2. 95% Confidence Intervals for RMM & AES

Interval Estimation at 0.95 confidence per risk factor			
Variables	Increase %	Marginal Error	Confidence Limits
RMM	0.69	0.105	(0.585 – 0.795)
GC	0.90	0.068	(0.832 – 0.968)
AES	0.81	0.089	(0.721 – 0.899)

Searching for dependencies among risks, we paired RMM with all the remaining risk variables. Specifically, for each pair we construct a contingency table with r rows and c columns, consisting of rxc cells, where n_{ij}, i=1,…,r and j=1,…,c are the counts in the ij cell. Next, we perform χ^2 test for independence by first calculating the χ^2 statistics as

$$\chi^2 = \sum_{ij} \frac{\left(n_{i,j} - \frac{n_{i.}\, n_{.j}}{n_{..}}\right)^2}{\frac{n_{i.}\, n_{.j}}{n_{..}}} \quad (1)$$

and then we calculate the corresponding p-value. Finally we calculate Cramer's V as a function of χ^2 statistics

$$V = \sqrt{\frac{\chi^2 /n}{\min(c,r)-1}} \tag{2}$$

in order to measure the association between the two risk factors. Cramer's V take values from 0 to 1 with values closed to one referring to strong association. Summarizing the results of all four chi-square tests for independence, we record chi-square statistics, p-value and level of significance, reported in table 3. For those variables found to be significant at any level, we further calculate Cramer association coefficient.

Table 3. Test for independence and Cramer association for RMM

Variables	χ^2 statistics	p-value	sig.	Cramer's V
GC	2.6177	0.1057	-	
F	10.5962	0.005001	***	0.3709627
RPT	10.0291	0.001541	***	0.3608984
AES	1.2849	0.257	-	

* sig. at 0.1, ** sig at 0.05, *** sig at 0.01, - no sig

According to these results RMM shows a statistically significant association with F and PRT at 0.01 level, measured by Cramer's V as 0.37 and 036 respectively. The other two variables GC and AES do not show a statistically significant association with RMM at either 0.05 or 0.1 significant level.

4. Summary and Conclusion

Based on the survey data, the majority (69%) of the participants have declared that the recent financial crisis in Greece affected substantially (evidently shifted in a higher level) the risk of material misstatement, as it is assessed in the course of the financial statements audits for commercial and manufacturing Greek companies, after the occurrence of the crisis. Furthermore, the documentation gathered would support the conclusion that the risk of the material misstatement at an overall financial statement level and the risk of the material misstatement due to fraud as well as due to related parties transactions could not be considered pairwise independent variables. It could be noted that the above- mentioned outcome is consistent with the framework of ISAs regarding the relationship between the assessment of material misstatement at financial statement level and the risk of fraud (IFAC, 2014), as well as the risk of significant misstatement due to related parties transactions. However, the empirical data gathered do not provide sufficient evidence to conclude the statistical relevance between the financial crisis in Greece (business risk) and the above-mentioned risk factors.

In addition, the survey does not provide sufficient documentation in order to draw the same conclusion regarding the relevance between the risk of material misstatement at an overall financial statement level and the risks related to going concern assumption and accounting estimates. Nevertheless, the vast majority (90%) of the participants believe that the recent financial crisis affected directly and substantially the assessment regarding the risk of an inappropriate adoption of the going concern assumption. Accordingly, a large majority (81%) of the participants supported the argument that the recent financial crisis affected directly and substantially the assessment of the risk related to accounting estimations. In both cases, evidently these risks are considered higher after the crisis occurrence.

The majority of the survey participants declared that the recent financial crisis in Greece affected their assessment of the inappropriate adoption of the going concern assumption and the risk of material misstatement due to accounting estimation substantially. However, the survey data did not provide sufficient documentation in order to conclude pairwise statistically significant dependency between those two risks and the risk of material misstatement at financial statements level. It seems that the auditors tend to concentrate on specific risk factors with pervasive effect on the financial statements because of their dependency on the risk of material misstatement and not necessarily because of their direct sensitivity to business risks.

It should be noted that, in terms of planning and execution of audit procedures, this ascertainment does not necessarily mean that the assessment of risk of material misstatement at financial statement level would be considered as independent from the risks of inappropriate adoption of going concern assumption as well as the risks of potential misstatement arising from accounting estimations. It should be highlighted that our research provided sufficient empirical data regarding the relevance of these two factors and the assessed business risk while at the same time the relevance of business risk with the assessment of the risk of material misstatement has been already sufficiently documented.

Additionally, our work has not been extended into investigating the audit procedures designed or performed based on the above-mentioned assessments, in order to draw conclusions thereon (DR). Eventually, it could not be appropriate to conclude that in case of risk factors affecting pervasively the financial statements and at the same time being sensitive to business risks, the audit strategy tends to be limited only to those factors that are directly related to the assessment of risk of material misstatement.With regard to the relevance between the other two risk factors (fraud and related parties transactions) and the assessments of risk of material misstatement as well as the business risk, the statistical analysis showed that although these two risk factors are not substantially relevant to the business risk, their relationship with the assessment of risk of material misstatement could be proved to be statistically significant.

The empirical documentation gathered from our research in Greece sufficiently supports the statement that the significant changes in business risks would affect the assessment of specific risk factors with pervasive effect on financial statements. In the latter case, the indirect effect is related to the assessment of the risks of material misstatement. Based on the discussion above, we reasonably conclude that the recent financial crisis in Greece, as it is reflected in business risk associated with audited entities, affected substantially the risk of material misstatement at the overall financial statements level, assessed in the course of their financial statements audits that have been performed after the occurrence of the crisis. In addition, this financial crisis affected directly or indirectly (through its relevance to the risk of material misstatement) main risk factors with pervasive effect on the financial statements.

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